

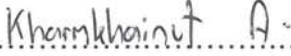
**ACCEPTANCE EVALUATION IN INFORMATION  
TECHNOLOGY SERVICE MANAGEMENT: CASE STUDY IN  
BANKING ORGANIZATION**


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**A THEMATIC PAPER SUBMITTED IN PARTIAL  
FULFILLMENT OF THE REQUIREMENTS FOR  
THE DEGREE OF MASTER OF SCIENCE  
(TECHNOLOGY OF INFORMATION SYSTEM MANAGEMENT)  
FACULTY OF GRADUATE STUDIES  
MAHIDOL UNIVERSITY  
2015**


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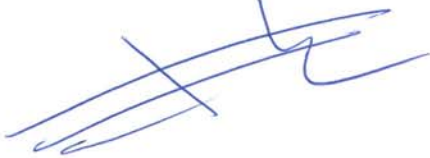
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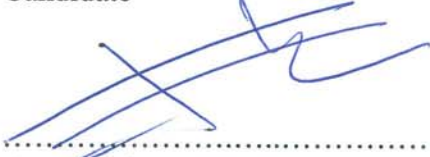
  
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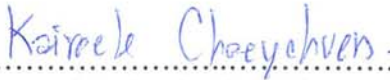
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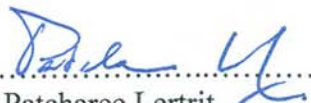
  
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ACCEPTANCE EVALUATION IN INFORMATION TECHNOLOGY SERVICE  
MANAGEMENT: CASE STUDY IN BANKING ORGANIZATION

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ABSTRACT

This research aims to study the acceptance evaluation in the ITSM of the Ayudhaya Capital Services' employees in terms of factors affecting the acceptance evaluation in technology. This research applies the external factors and main factors from the technology acceptance model.

The researcher has submitted the questionnaires as the research instrument to 226 employers using the ITSM system. Then, the results are analyzed into ANOVA, Correlation, and Regression Analysis in order to evaluate the relationship of variables and the effects of factors on the behavior of ITSM system usage.

In conclusion, the factors of the perceived ease of use, computer skill, output quality, system support, and system quality are affective to the perceived usefulness, when job relevance and the perceived ease of use are not affective to the perceived usefulness. Moreover, the perceived usefulness does not affect the attitude of using the system and the intent to use, while the attitude of using the system does not effect on the behavior intent to use. Therefore, in order to contribute to the employees to using the system, the organization should make the employees acquire knowledge about the importance of using the system and the easy format to understand. Finally, there should be the course seminar for training the employees to learn about using the system leading to the more effectiveness for the organization in the future.

KEY WORDS: ACCEPTANCE / AFFECTING / ITSM / TAM

83 pages

การประเมินผลการยอมรับในการจัดการการให้บริการด้านเทคโนโลยีสารสนเทศ กรณีศึกษาในธนาคาร

ACCEPTANCE EVALUATION IN INFORMATION TECHNOLOGY SERVICE MANAGEMENT:  
CASE STUDY IN BANKING ORGANIZATION

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บทคัดย่อ

การวิจัยครั้งนี้มีจุดมุ่งหมายเพื่อศึกษาปัจจัยการยอมรับการใช้งานระบบ ITSM ของพนักงานบริษัท อยูรยา แคมป์ปิตอล เซอร์วิสเชส เพื่อศึกษาปัจจัยที่มีผลต่อการยอมรับการใช้งานเทคโนโลยี โดยนำปัจจัยภายนอกมาใช้ในการทำวิจัยร่วมกับปัจจัยหลักซึ่งนำมาจากแบบจำลองการยอมรับเทคโนโลยี

ผู้วิจัยได้ส่งแบบสอบถามความคิดเห็นเป็นเครื่องมือในการวิจัยกับกลุ่มตัวอย่างของพนักงานที่ใช้งานระบบ ITSM จำนวน 226 คน แล้วนำมาวิเคราะห์ความแปรปรวน (ANOVA) การวิเคราะห์สหสัมพันธ์ (Correlation) และการวิเคราะห์ถดถอย (Regression Analysis) เพื่อทดสอบความสัมพันธ์ระหว่างตัวแปร และทดสอบผลกระทบของปัจจัยต่างๆที่มีต่อพฤติกรรมในการใช้ระบบ ITSM

สรุปได้ว่า ปัจจัยในการรับรู้ถึงความง่ายในการใช้งาน ด้านทักษะด้านคอมพิวเตอร์ ด้านคุณภาพของผลลัพธ์ ด้านการสนับสนุนการใช้งานระบบและคุณภาพของระบบ ส่งผลต่อการรับรู้ถึงประโยชน์ ส่วนปัจจัยด้านความเกี่ยวข้องกับงานที่ทำและการรับรู้ถึงความง่ายในการใช้งาน ไม่ส่งผลต่อการรับรู้ถึงประโยชน์ การรับรู้ถึงประโยชน์ที่ได้รับ ไม่ส่งผลต่อทัศนคติในการใช้งาน การรับรู้ถึงประโยชน์ที่ได้รับ ไม่ส่งผลต่อพฤติกรรมในการใช้ และทัศนคติในการใช้งาน ไม่ส่งผลต่อพฤติกรรมในการใช้ ดังนั้นเมื่อองค์กรต้องการให้พนักงานใช้งานระบบ จึงควรสร้างความเข้าใจ ความสำคัญในการใช้งาน รูปแบบการใช้งานที่เข้าใจง่ายและควรจัดให้มีการอบรมให้ผู้ใช้งาน ได้เรียนรู้ใช้งาน เพื่อประสิทธิภาพสูงสุดต่อองค์กรในอนาคต

## CONTENTS

	<b>Page</b>
<b>ACKNOWLEDGEMENTS</b>	<b>iii</b>
<b>ABSTRACT (ENGLISH)</b>	<b>iv</b>
<b>ABSTRACT (THAI)</b>	<b>v</b>
<b>LIST OF TABLES</b>	<b>viii</b>
<b>LIST OF FIGURES</b>	<b>xii</b>
<b>CHAPTER I INTRODUCTION</b>	<b>1</b>
1.1 Rationale	1
1.2 Objective of Research	3
1.3 Scope of Research	3
1.4 Benefit of Research	3
<b>CHAPTER II LITERATURE REVIEW</b>	<b>4</b>
2.1 Concept and Related Theory	4
<b>CHAPTER III RESEARCH METHODOLOGY</b>	<b>17</b>
3.1 Population and Sample	17
3.2 Tools of Research	18
3.3 Data Collection	18
3.4 Data Analysis and Meaning	19
3.5 Accuracy and Reliability of the Questionnaire	20
3.6 Data Analysis	24
3.7 Research Model	25
3.8 Hypothesis	26
3.9 Research Schedule	28
<b>CHAPTER IV RESULTS AND DISCUSSION</b>	<b>29</b>
4.1 Analysis of demographic data	29
4.2 Level of opinions on the factors relating to use of the system ITSM	39
4.3 One Way Anova	47

**CONTENTS (cont.)**

	<b>Page</b>
4.4 The results of analysis on the hypothesis of factors related to the use of the ITSM	54
4.5 Conclusions of the Regression Analysis	68
<b>CHAPTER V CONCLUSION AND RECOMMENDATIONS</b>	<b>70</b>
5.1 Conclusions	70
5.2 Limitation Recommendation for future research	73
<b>REFERENCES</b>	<b>74</b>
<b>APPENDIX</b>	<b>76</b>
<b>BIOGRAPHY</b>	<b>83</b>

## LIST OF TABLES

<b>Table</b>	<b>Page</b>
3.1 The Mean of Each Comment	19
3.2 The Indicators of Research	20
3.3 Reliability Statistics	22
3.4 Item-Total Statistics	22
3.5 All results of reliability analysis by Cronbach's alpha values	24
3.6 Research Schedule	28
4.1 Basic classification of respondents by sex	30
4.2 Basic classification of respondents by age	31
4.3 Basic classification of respondents by grade	32
4.4 Basic of respondents by department	33
4.5 Basic of respondents by level	34
4.6 Basic of respondents by workyear	35
4.7 Classification data of respondents by Ratio	36
4.8 Classification data of respondents by the usage of helpdesk	37
4.9 Classification data of respondents by accessing the data from Team Lead	37
4.10 Classification data of respondents by accessing the data from colleague	38
4.11 Classification data of respondents by self-accessing data	38
4.12 The opinions of the factors	40
4.13 The mean and standard deviation of a set of variables	41
4.14 Levels of System Support's average rating scores of employees for using the ITSM	42
4.15 Levels of System Quality's average rating scores of employees for using ITSM	43

## LIST OF TABLES (cont.)

<b>Table</b>	<b>Page</b>
4.16 Levels of Output Quality's average rating scores of employees for using ITSM	43
4.17 Levels of Job Relevance's average rating scores of employees for using ITSM	44
4.18 Levels of Computer Skill's average rating of employees for using ITSM	44
4.19 Levels of Computer Skill's average rating of employees for using ITSM	45
4.20 Levels of Perceived Ease of Use's average rating of employees for using ITSM	46
4.21 Levels of Attitude toward the use of ITSM's average rating of employees for using ITSM	46
4.22 Levels of Behavioral intention of ITSM usage's average rating of employees	47
4.23 ANOVA of Sex	48
4.24 ANOVA of AGE	49
4.25 ANOVA of Grade	50
4.26 ANOVA of Department	51
4.27 ANOVA of Level	52
4.28 ANOVA of Experience	53
4.29 ANOVA of Ratio	54
4.30 Model Summary of System Support per Perceived usefulness	55
4.31 ANOVA (b) of System Support per perceived usefulness	55
4.32 The regression coefficient of System Support per perceived usefulness	55
4.33 Model Summary of System Quality per Perceived usefulness	56
4.34 ANOVA (b) of System Quality per perceived usefulness	56

## LIST OF TABLES (cont.)

<b>Table</b>	<b>Page</b>
4.35 The regression coefficient of System Quality per perceived usefulness	57
4.36 Model Summary of Output Quality per Perceived usefulness	58
4.37 ANOVA (b) of Output Quality per perceived usefulness	58
4.38 The regression coefficient of Output Quality per perceived usefulness	58
4.39 Model Summary of Job Relevance per Perceived usefulness	59
4.40 ANOVA (b) of Job Relevance per perceived usefulness	59
4.41 The regression coefficient of Job Relevance per perceived usefulness	60
4.42 Model Summary of Computer Skill per Perceived usefulness	60
4.43 ANOVA (b) of Computer Skill per perceived usefulness	61
4.44 The regression coefficient of Computer Skill per perceived usefulness	61
4.45 Model Summary of Perceived ease of use per Perceived usefulness	62
4.46 ANOVA (b) of Perceived ease of use per perceived usefulness	62
4.47 The regression coefficient of Perceived ease of use per perceived usefulness	62
4.48 Model Summary of perceived ease of use per Attitude toward to use	63
4.49 ANOVA (b) of perceived ease of use per Attitude toward to use	64
4.50 The regression coefficient of perceived ease of use per Attitude toward to use	64
4.51 Model Summary of perceived usefulness of use per Attitude toward to use	65
4.52 ANOVA (b) of perceived usefulness of use per Attitude toward to use	65

## LIST OF TABLES (cont.)

<b>Table</b>	<b>Page</b>
4.53    The regression coefficient of perceived usefulness of use per Attitude toward to use	65
4.54    Model Summary of perceived usefulness of use per Behavioral intention to use	66
4.55    ANOVA (b) of perceived usefulness of use per Behavioral intention to use	66
4.56    The regression coefficient of perceived usefulness of use per Behavioral intention to use	66
4.57    Model Summary of Attitude toward to use of use per Behavioral intention to use	67
4.58    ANOVA (b) of Attitude toward to use of use per Behavioral intention to use	67
4.59    The regression coefficient of Attitude toward to use of use per Behavioral intention to use	68
4.60    Conclusion Hypothesis	68

## LIST OF FIGURES

<b>Figure</b>		<b>Page</b>
2.1	The Model of the relationship between the theories of TRA	9
2.2	The Model of the Relationship between the Factors in TPB	11
2.3	The Model of the Relationship between the Factors in TAM	12
2.4	The Model of Extended Relationship between the Factors in TAM	13
2.5	The Group for Easiness Perception of Using	15
3.1	Conceptual Framework	25
4.1	Basic classification data of respondents by gender	30
4.2	Basic classification of respondents by age	31
4.3	Basic classification of respondents by graduation	32
4.4	Basic classification of respondents by department	33
4.5	Basic classification data of respondents by job level	34
4.6	Classification of respondents by workyear	35
4.7	Classification of respondents by Ratio of one week working days	36
4.8	Summary of methods for accessing the data	39

# CHAPTER I

## INTRODUCTION

### 1.1 Rationale

Since the last decade, the technology has advanced and developed rapidly. The uses of information technology and information systems in the organization as a tool become more effective than ever. It is believed that modern technology would contribute to the effective organization and would achieve the objectives of the business. Information Technology (IT) can respond the needs of user are areas such as speed, accuracy, precision, processing, data analysis, and administration management which is currently focused on achieving the goals of the objectives, efficiency, and effectiveness. In order to operation, the organization requires the major factors in the administration consisting of employees, money, materials, management, and computer technology. Thus, technology is considered as an important factor for organizations, because it is important to apply the computer technology in their operations to facilitate and enhance the performance. The principles of good management would lead to cost saving, and would achieve a worthwhile investment and maximum benefits to the organization.

Organization with great leaders, great staff, and great work experience would cause to successful preparation in the high competitive business. Therefore, if the organization does not updated or prepare to apply the information technology, it will be adverse other rivals. Today, with the advance technology, the forms of businesses have to adapt and follow the current technology. Therefore, it is clearly that there are not any organizations to succeed without good information system at this era [1].

Ayudhya Capital Services Company Limited [2], a subsidiary of the Bank of Ayudhya, provides the excellent performance and capabilities. Therefore, the introduction of Information Technology assists in the operation for enhancing the service and management of the organization, reducing the duplication of information technology development in the future, supporting the organizations to clearly have the

framework, and achieving the mission of services effectively. Hence, it leads to a lot of investment in Information Technology and the establishment of the IT department to manage information systems of organizations, especially for multiple information systems.

Consequently, a vital system of IT Service Management (ITSM) based on the Information Technology Infrastructure Library (ITIL), as the guideline of ITSM development, and is appropriate to the actual development [3]. Overall, the main factors are combined together in the terms of people, process, and technology leading to the effectiveness of IT operations and work ability as the organization ready gets to update all times [4]. It is an important proactive strategy factor that affects on the success of the organization. All of employees in the organization need to use this system to obtain the services of the IT department, such as requesting user password to log in, reporting the problem of the system, requiring the reports from the system, etc. Thus, ITSM is used for the operation of system. However, the use of system is not assessed, and the employees are not able to use it effectively as the results, it is not achieve the targets. The use of the system requires the development and improvement in education and training applications. If employees have slow adoption of new technology, it will not affect on the value of the initial investment in the system. Finally, if the employees do not accept or realize in the importance, the development of system will be difficult to succeed.

Certainly, ITIL is a collection of basic processes and models that is appropriate in actual application. The researcher interested the research about the acceptance in ITSM system of Ayudhya Capital Services which is to study the factors affecting on the acceptance in ITSM system and technology through the problems and barriers. This study applies some of the conceptual framework of Technology Acceptance Model: TAM [5], and additionally analyzes the relationship among factors. TAM' hypothesis is a popular theory related to the causes and results of the acceptance rejection of the technology as the conceptual framework of Behavioral Intention caused by the Perceived Usefulness, and Perceived Ease of Use. Therefore, the system will be acceptable, and will affect on the success of the program in operation. The results of the study will also be used for planning to the improvement of system, supporting guidance, and developing the personnel to have the quality of work.

## **1.2 Objective of Research**

This research aims to study the factors affecting on the acceptance of information technology and the relationship between the variables affecting on the acceptance of information technology with the use of ITSM by the employees of Ayudhya Capital Services Company Limited.

## **1.3 Scope of Research**

The scope of research is to study the acceptance on the use of ITSM by the employees of Ayudhya Capital Services Limited, who are associated with the use of system of the departments of New Account, Marketing Tesco Card Services, IT, and Collection Auto dialer. By applying the Technology acceptance model, it could describe the relationship and influence on the acceptance or rejection of the use of information technology as an educational framework.

## **1.4 Benefit of Research**

Benefit of research is gained from recognizing the levels, factors, and ways affecting on the acceptance of information technology to provide relevant information to support the development quality the improvement, and empowerment of capability in the future.

## **CHAPTER II**

### **LITERATURE REVIEW**

This chapter described the related theories and research as follows:

#### **2.1 Concept and Related Theory**

##### **2.1.1 IT Service Management (ITSM)**

The IT Service Management is to use Information Technology for supporting the needs and Business Requirements & Objectives. Most organizations today is firstly focused on Business Requirement by using the principle of Business Leads IT. Information technology is used as a mechanism to drive the business transactions of the organization. Therefore, the information technology is based on the use of IT Service Management (ITSM) which is focused on the management of information technology to respond the needs of the business, and leads to the satisfaction of Users on the information system or Customers greatly.

Previously, the information technology was often used for technique or technology as the main point, and focused on providing services within the organization only. However, nowadays, modern organizations prefer the information technology used for Customer Satisfaction, and focus on the Quality of Service such as a Service Level Agreement (SLA), the agreement of Information Technology, and Services.

ITSM is the principle of process-focused which focuses on the more efficient development process, and can be used with the other Best Practice. For example, TQM introduction, Six Sigma, CMMI, and Business Process Improvement (BPI) are used with ITSM. The concept of ITSM does not focus on any technology, but it is mainly focused on the process of providing services to users and customers. Moreover, ITSM will support the principle of IT Governance or GRC (Governance, Risk Management and Compliance) as well [6].

ITSM concept also includes the IT Planning and Financial Management which are similar to the IT Portfolio Management.

### **2.1.2 Perception Theory**

Awareness is the basis for important learning of individual, because any behavioral response depends on the perception of their environment and the ability to interpret the condition. Thus, the effective learning depends on the perception and stimuli powerful factor of recognition that included sensory and psychological factors, given as, previous knowledge, attitudes, and needs. The perceptions composes of the three aspects of the sensory, meaning, and emotional interpretation. The perception is the result of human using Sensory motor, which is called the Sensory of the 5 types, including eye, ear, nose, tongue, and skin. From the research, it has found that the perception of people consists of 75% of viewing, 13% of hearing, 6% of touching, 3% of smelling, and 3% of tasting. The volume of perception will depend on the relevant influences, perception factors such as the characteristics of the perceiver, and characteristics of the stimuli. The human will percept and develop until leading to the better learning, it also consists of

- 1) The intelligence: Person having higher intelligence will have better perception than lower one.
- 2) Observations and considerations: They are based on expertise and attention to stimuli.
- 3) Quality of mind at that time: If you are tired, stressed, and depression, it may make interpretation of tactile stimuli poorly. On the other hand, if the mind is clear and healthy, it makes the perception and learning is good systematically.

### **The Perception System**

When human found that they do not perceive the appeared stimuli, but it will be systemized as follows:

- 1) The Principle of similarity: Stimuli would be perceived as similar to its own.
- 2) The Principle of proximity: Stimuli would be perceived as close to the same.
- 3) The Principle of closure: It is to perceive what is not complete to be complete.

The Perceptual constancy is the stability in the perception consisted of three aspects as follows:

- 1) The fix of size,
- 2) The fix of forms and shapes,
- 3) The fix of color and light,

Although humans are exposed to the five organs of perception, they can have Erroneous perception such as the illusion, hearing the distorted story, the different experience, and value. Therefore, if the perception accuracy is perceived by the sense of the way through the process, it should be the more thoughts and revising.

#### Principles of the studied perception

1) The perception would be developed according to the age and ability to perceive the external things correctly and appropriately.

2) The perception by seeing would contribute better understanding than hearing and other senses. Therefore, the more learning through the senses, the more the complete understanding is led.

3) The perception methods of the individuals would be varied based on the personality and is expressed as perception and opinion of theirs.

4) The understanding to students in the both the features and environment would be beneficial to the teaching and learning process.

#### **Learning Theory**

Learning Theory is related to behavior change which is a process making a person to be able to learn by reading, hearing, and using technology. Learning of children and adults different. Children would learn by studying in the class and interrogation. The adults would learn by their available experience. However, learning from experience is given when the teachers offer by the interaction between instructors and learners. The instructor would create psychological atmosphere that is conducive learning, such as sociability and the rigorous or lack of discipline. From these, the instructors would create conditions and learning situations for the students, thus the instructors would consider the alternative forms of teaching; including the interaction with the students.

### **Elements of learning**

There are many key elements based on learning, because learning is the important basic to understand individual behavior which can be classified as follows:

1) Brain and nervous system: The human's nervous system consists of the brain, spinal cord, and nerves which are the sensory organs made humans getting the wisdom to learn, understand, analyze and control the happened things efficiently comparing with other animals. Therefore, learning is related to thoughts, memories, and perceptions that requires the brain and nervous system as fundamental importance.

2) The propulsion: they are the situation or stimuli that stimulate the body to behave. Psychologically, they are divided into 2 types- the basic propulsion and the propulsion from learning.

3) The stimuli and motivation: they are the important encouragement in learning process, because learning would be occurred when it is induced by stimulation and motivation. Thus it is resulting in a more response to achieve the clear understanding.

4) The reinforcement it is the encouragement of people to develop the habit of learning, because the behavior had been reinforced. It would be so anxious to have that behavior again. The reinforcement had both positive and negative sides, as well as the motivation was also the evident that was providing incentives to the students to have desirably behavioral response, which was a vital aspect in the process of learning.

### **Hierarchy of learning**

In the learning process of the people, it consisted of three basic steps as follows:

1) Experience: normal individuals had nervous system of perception. Most of understandable ones, they were five senses; including the eyes, ears, nose, tongue and skin. The sensory perception of these looked like a doorway to an individual to perceive and respond to various stimuli. If there were not sensory perceptions, people would never know or experience yet; that is, they cannot learn anything by the different experience. Some were direct or indirect experience, some were concrete or abstract experience, or as a symbol.

2) Understanding: after the person had already experienced, the next step was interpretation or concept in that experience. This process occurred in the brain or the mind of the persons. This is the brain would have the percept and retain, which is call the "understanding". About learning, people would understand the experience when they was able to organize, analyze, and synthesize the experience, until they were able to find out the true meaning of that experience.

3) Thinking: It was considered as the final stage of learning. This was a process that occurred in the brain. Ideal thinking that was effective had to organize previous experience with new experiences compatibly. It was able to be found the relationship between the old and new experiences which was the key to make the integrated learning experience.

### **The process of learning**

The process of learning consists of:

- 1) There are the Stimulus to stimulate the Organism.
- 2) The Organism has the sensation of five senses: eyes, ears, nose, tongue, and body.
- 3) The sensation is exposed to the nervous system, and lead to the Perception.
- 4) The brain results from the sensation, called the Conception.
- 5) The behaviors had been interpreted to the concept, and led to Learning.
- 6) When there was the learning process, the individuals would have the Response to the behavior, for example, we could train the animals to complete the activity like playing ball, hoop, training a pigeon to peck a color card, training the chimpanzees to draw pictures, or training a parrot to take care of the house by screaming at a man coming home. These activities must have a process to stimulate our organism. From this, if the organism was a raccoon, the raccoon would feel. The feeling we called the resulting on exposure to the eyes, ears, nose, tongue, body, and senses to evoke the perception. Then, the brain would interpret the meaning, and the behavior of the brain, called the learning. The good learning comes from practice many times. The psychologists let the raccoon catch the ball often with the reinforcement by using the food as it liked. Before feeding to it, it should let the raccoon catch the ball often and

repeat, the raccoon would learn that if it could catch the ball, and throw the ball into the hoop, it would be given the food. Learning would occur, it is that if the raccoon was hungry, it would catch the ball and throw into the hoop.

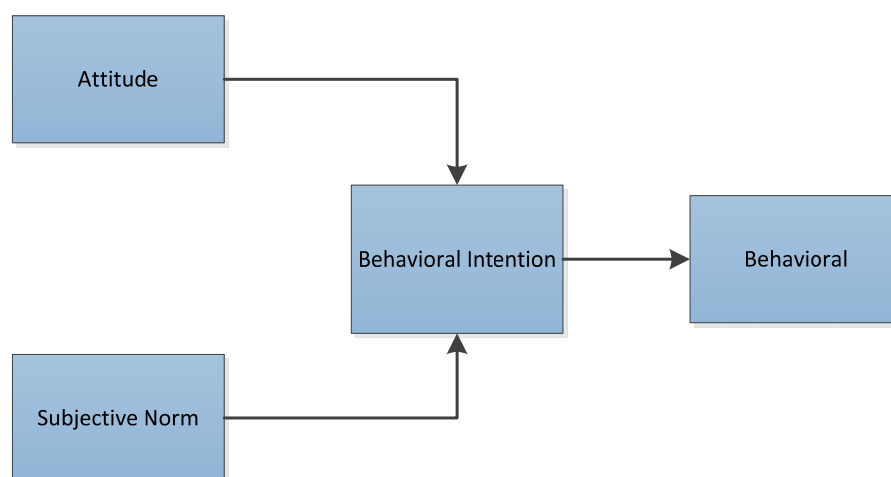
### 2.1.3 Technology Acceptance Theory

The basic theory which was applied to study human behavior, called Technology acceptance.

#### 2.1.3.1 Theory of reasoned action

The theory of reasoned action or TRA [4], was presented by Fishbein and Ajzen as a basis for the study of human behavior mostly. According to the theory, it described the relationship between beliefs and attitudes towards it. It is that, the change in behavior was as a result of the change in beliefs, and individuals would behave, because they think it was right to do. It was said that a person can reasonably consider before doing action.

From the TRA, although the Individual Behavior was caused by the decision of the individuals, the factors of Behavioral Intention was driven by two main factors, namely the Attitude Towards The Behavior and Subjective Norm. The relationship between the theory of TRA above was shown in Figure 2.1:



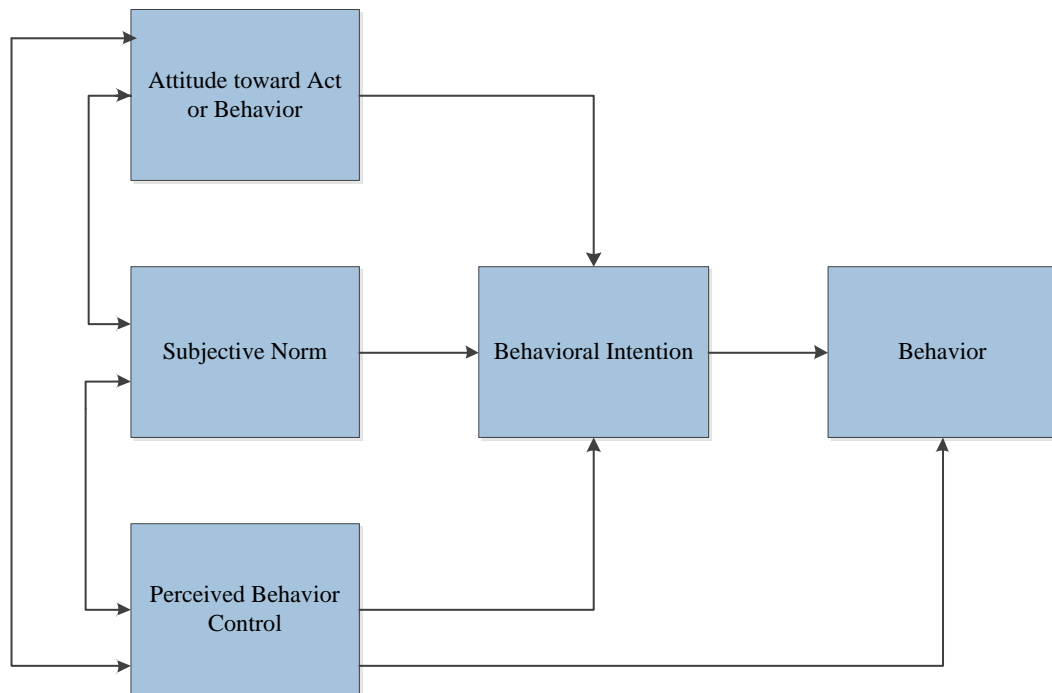
**Figure 2.1** The Model of the relationship between the theories of TRA.

From the Figure 2.1, the attitudes on behavior were the factors that occurred within an individual. The individuals would have overall assessment on the behavior of the individuals which was believed to be the following result. About the positive or negative feelings about behavior, the individual who assessed the behavior and believe in a positive result, they would have a positive attitude toward the behavior. On the other hand, if the assessment is negative, they would have the bad attitude on that behavior. The norm of the surrounding behavior was the perception of the individual about their expectations, or the needs of the individual in society that were important to people to show or not to show any behavior. It was the motivation to follow the requirements of the individual in society; particularly the group of people such as close family members and colleagues wanting the individuals to show each of their behavior. However, TRA still had limitations due to the complex behavior that was much more than the individual's ability to control. Therefore, TRA theory was developed and has become the Theory of Planned Behavior or TPB.

### **2.1.3.2 Theory of Planned Behavior (TPB)**

The Theory of Planned Behavior or TPB [4], presented by Ajzen, was developed by the theory of TRA by adding the factors of Perceived Behavioral Control for reducing the limitation of the TRA theory. It was able to be applied for learning on the intention and behavior in various contexts, including the ability of understanding in technology acceptance of individuals.

The principle of the TPB was to study the behavior of individuals who had been driven from their behavioral intention. The factors that influenced the behavior and intentions composed of three aspects: attitudes on behavior, norms of the surrounding behavior, and behavioral control perception. The relationship between TPB above was shown as the model in the Figure 2.2.

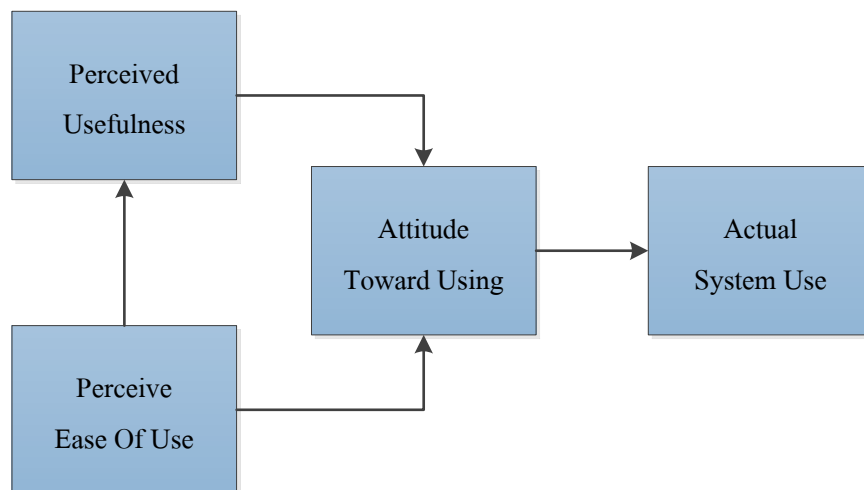


**Figure 2.2** The Model of the Relationship between the Factors in TPB.

From Figure 2.2, the relationship between intention and behavior was influenced by attitudes affected on the behavior, norms of the surrounding behavior, and behavioral control perception. This perception was to control one's own behavior which had a direct influence on that behavior. This perception was to control one's own behavior, and was perceived as difficult or easiness in behavior. If the individuals perceived the ability to act in the situation, and control the desired outcomes, they would tend to show that behavior. Additionally, the individuals were trying to control various factors: internal factors such as the knowledge and the ability of the individuals, and external factors such as the facility of use. The factors which were perceived to control the own behavior were determined by the beliefs of individuals on the factors such as continuous usage that may encourage or discourage behavior or Control Beliefs, and perception of the factors' power affected on the individuals' efficacy. However, TPB had some limitations that led TPB to explain attitudes and behavior inaccurately. For example, the inconsistency between the intention of the individual behavior and actual behavior which would lead to the development of Technology Acceptance Model Theory (TAM).

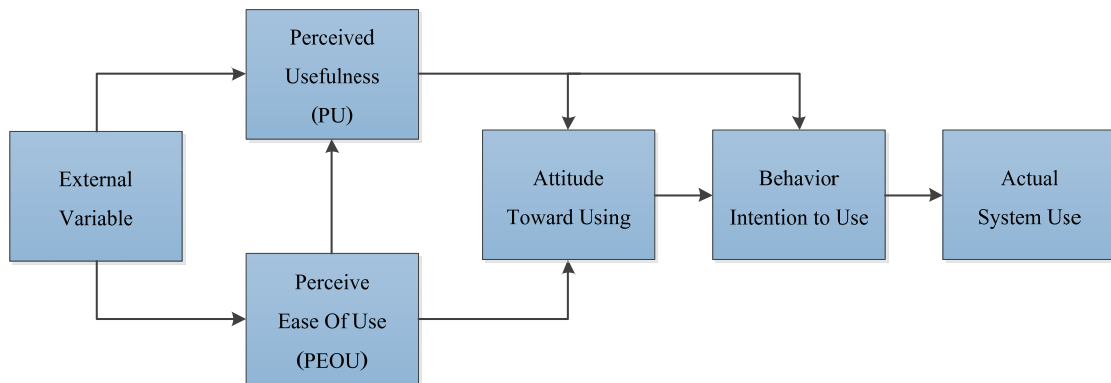
### 2.1.3.3 A technology acceptance model (TAM)

A Technology Acceptance Model (TAM) [4][7] has been accepted and popular for being a success measure of the technology presented by Davis. It was the refinement of the TRA theory for developing the TAM model and used in the context of the acceptance of information systems without the norms of the surrounding behavior to be used as a factor in the behavior of the actual use. Davis developed TAM excluding attitudes on behavior for being able to describe about the intention thoroughly, and can be used to forecast the individuals' use of information technology.



**Figure 2.3** The Model of the Relationship between the Factors in TAM.

The principle of TAM was to study the factors influenced on the behavioral intention to use information technology which was composed of 4 main factors: External Variables, Perceived Usefulness (PU), Perceived Ease of Use (PEOU), and Attitude toward using.



**Figure 2.4** The Model of Extended Relationship between the Factors in TAM.

From Figure 2.4, the external variables, such as demographics and experience influenced on the perception to the benefits of information technology and the perception to the system, are easy to use.

The perception on benefits of information technology is the factor determining the perception of each person that how information technology helps to develop the efficiency of operation. It also includes the factors that directly affect on behavioral intention to use as well.

The perception about the ease of use of system could be the determining factor in terms of quantity, achievements to the requirement and expectations, which are the factors affecting the perception on the benefits of information technology.

Attitude toward work was influenced by the perception on the benefits of information technology, and perceived that the system was easy to use. While the intention of usage behavior was influenced by the attitude of using and perceiving the benefits of information technology, A result, it led to the acceptance of actual applications finally. However, the results of recent research demonstrated the need to add other variables in the TAM model to create a better understanding of how to explain the acceptance of using the new technology of the individuals clearly. Moreover, in order to explain the individuals to perceive the benefits of information systems, it should be the development of TAM2 model.

#### **2.1.3.4 A technology acceptance model 2 (TAM2)**

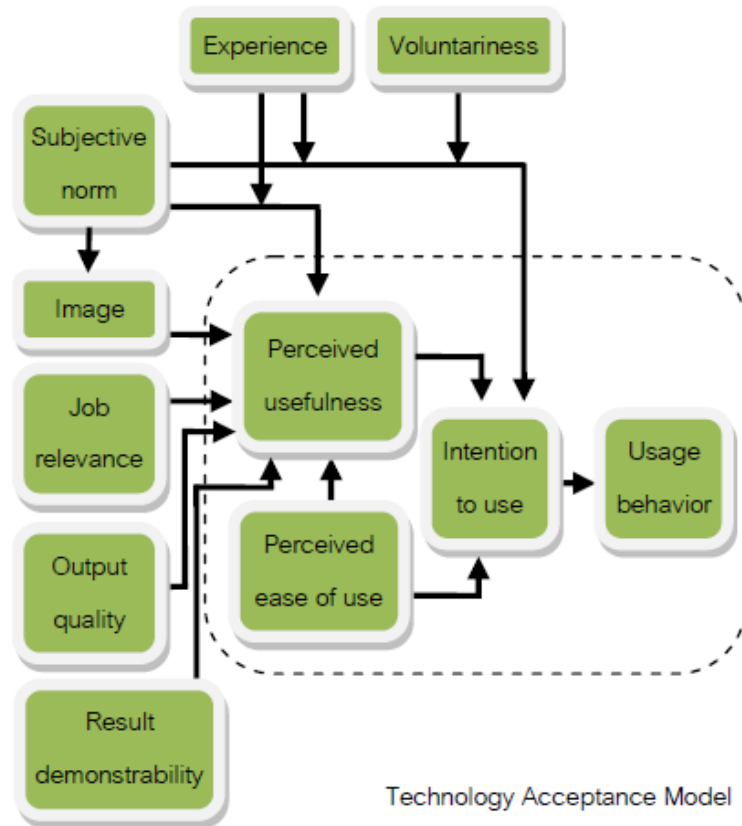
TAM2 [4] models was presented by Venkatesh. Then, Davis had developed a further extension of the TAM model which could forecast the behavior of using information clearly.

The model of technology acceptance model (TAM 2) improved the external variables and Antecedents that influenced on the perception of the benefits of information technology; including perceived that the system was easy to use and provide more modern ones, and the Social Influence Process such as norms of the surrounding individuals, showing the behavior, voluntary, appearance throughout the process on the use of intelligence related to the job, quality of results, results that could be realized first, and perceiving that the system was easy to use, etc. All factors were contributing to the acceptance of new technology.

In addition, with the proposed TAM2, the norms of the surrounding behavior were the main factors that determined Intention to use, and influenced the perception on the benefits of information technology, including the positive image.

For the impact of the Moderating Variable, it was experience and voluntary, related to the norms of the surrounding behavior and the willingness to use it. Moreover, it was also found that factors had the association with quality of results, and the results could be shown first. All of them influenced the perception on the benefits of information technology in a positive; including it was also found that under conditions of use by the force and limited experience. As a result, the norms of the surrounding behavior influenced their willingness to work positively.

Later, there were 2 groups for perceiving the ease of use: the first group was Anchors considering the general belief about computers and usage, the second one was Adjustment who considered the beliefs based on direct experience related to the target system as shown in the Figure 2.5.



**Figure 2.5** The Group for Easiness Perception of Using (4).

According to the study of Technology Acceptance Model, it could be concluded that it was the new forecasting model to the acceptance on using technology. Furthermore, there were 2 factors affecting on the decision of using technology, consisting of the beneficial perception and easiness perception.

**2.1.4 Related Works**

Mr. Vasant Champapaeng [8] studied the acceptance of information technology in the public sectors like the case study of ERP systems used in the Electricity Generating Authority of Thailand in order to find the factors affecting the acceptance of ERP as the guideline or policy of creating the acceptance of ERP or using the information technology in the government sectors efficiently and successfully. The results showed that factors perceived the ease of usage, awareness of the received benefits, attitudes toward the use of ERP systems, the organizational

factors, the user factor, and technological factors were the factors affecting the acceptance of ERP systems and the need of realizing in demographic factors; that is, the gender and the user's fields of work.

Cathatleeya Pethjaroenrat [9] studied the acceptance factors and use of new system of Intranet with working model based on the technology of Cloud Computing in the case study of Thai Beverage Public Company Limited for findings the recommendations to improve the technology effectively and to be widely accepted in the organization. The results showed that the most factors influencing the acceptance and use of new system of Intranet consisted of influential social factors, because of stimulating the usage by supervisors or employees who needed to use the new technology in case of the widespread use among colleagues. The second one was the suitability of work and technology. Next one was the expectation factor of effectiveness, because the user understood that the system would facilitate in the news and media awareness, and expected that the new technology would support much more efficient work. Finally, it was the expectation factor in willingness of using technology which was easy format to understand.

Jureporn Thongtawai [10] studied the factors of service quality influenced the acceptance of employee in small and medium-sized enterprises (SMEs) in the case of service divisions of development the work system to find the quality factors of services to influence the acceptance of a system from outside the organization by using the theory of technology acceptance (TAM) which was a tool to measure the acceptance of the technology including the perceived usefulness, perceived ease of use, and the quality of service by Yoon and Hyunsuk. There were six dimensions consisting of Reliability, Responsiveness, Assurance, Empathy, Process, and Education. The results were found that the factors on the quality of services that influenced the acceptance of external services to develop the system of SMEs employer groups in overall were trust, education, and quality assurance. Moreover, these 3-dimensions affected on the perceived usefulness, perceived ease of use from external services. Moreover, it was found that the employer had the positive attitude towards the use of external services affecting the intention to use the service of developing system from the outside organization in the future.

## CHAPTER III

### RESEARCH METHODOLOGY

The research about the acceptance on IT Service Management (ITSM) of Ayudhya Capital Services Company Limited was Qualitative Research in the form of Survey Research, in which the Questionnaire was a tool for collecting data and theoretical models combined with extra studying in relationship as a conceptual framework as follows:

#### 3.1 Population and Sample

This research was survey research. The population of this research consisted of 500 employees using the system of Ayudhya Capital Services Company Limited. The size of sample used in this research was calculated by a formula based on the concept of Taro Yamane [11] with 95% confidence intervals and configuration error of less than 5 percent as follows.

(3.1)

$$n = \frac{N}{1 + N(e)^2}$$

Where,    N    = Size of population in the study,  
           e    = Configuration error of population less than 0.05 or 5%,  
           n    = Size of sample.

With 95% confidence intervals and configuration error of less than 5 percent, therefore, there were 226 samples in this research.

After the sampling, the researcher randomly sampled with Probability Sampling by Simple Random Sampling. The system was assumed that everyone has an equal chance of selection. This sampling method required a list of all system users.

About the methods of sampling, the researcher selected from the list of systems by random.

### **3.2 Tools of Research**

This research uses the questionnaire for data collection, and each question is involved the application of the conceptual framework, the theory of Technology Acceptance Model detailing on the questionnaire are divided into two parts as follows:

The first section was about the general information of the questionnaire respondents. The characteristics of questionnaire were the Check List. The questions in this section are all 7 items such as gender, age, the highest education and work position, work length, the frequency of using system, learning how to use the system, and data access in the system.

The second section was about the attitude on the acceptance to the system. The questionnaire was in the form of Rating Scale based on the principle of Likert Scale, which was divided into five levels as follows:

5	means	exactly agree,
4	means	agree,
3	means	unsure,
2	means	disagree,
1	means	exactly disagree.

The complete questionnaire is shown in Appendix A.

### **3.3 Data Collection**

The researcher has collected the data from a sampling of IT Service Management (ITSM) of Ayudhya Capital Services Company Limited about 226 of total 500 people by random sampling. The questionnaires were submitted directly to the sampling in the office, and selected only complete questionnaires, then took them to perform the data analysis and processing.

### 3.4 Data Analysis and Meaning

The data collected from the questionnaire were analyzed and processed by the statistical measurement as follows:

The first section is about the general information of questionnaire respondents, the questionnaires are in the form of Check list and data analysis by the statistical program to find out percentage and frequencies.

The second section is about the attitude on the acceptance to the measured system based on TAM model. The questionnaire was in the form of Rating Scale based on the principle of Likert Scale, which is divided into five levels by the statistical program to find out percentage, frequencies, mean, and standard deviation. It gives the points of the variables by finding the mean of points for each level of comments, and applies the range of points for data processing by the formulation as follows:

$$\begin{aligned} \text{Class Interval} &= \text{higher value} - \text{lower value} / \text{number of classes,} \\ &= (5 - 1) / 5, \\ &= 0.8. \end{aligned}$$

From the calculation, the class interval was 0.8. Then, this value would be identified as the mean of each comment. The meaning of data would be used as the mean for calculating, and regards to the criteria as follows:

**Table 3.1** The Mean of Each Comment.

Volume of Comments	Points Level	Mean of Points	Meaning
Exactly Agree	5	4.21 – 5.00	very high
Agree	4	3.41 – 4.20	high
Unsure	3	2.61 – 3.40	Moderate
Disagree	2	1.81 – 2.60	low
Exactly Disagree	1	1.00 – 1.80	very low

### 3.5 Accuracy and Reliability of the Questionnaire

#### 3.5.1 Factor and Question in Research

**Table 3.2** The Indicators of Research.

<b>Constructs</b>	<b>Item</b>	<b>Detail</b>
<b>System Support</b>	<b>SysSup1</b>	The administrator pays attention to the use of ITSM system.
	<b>SysSup2</b>	The administrator promptly supports the use of ITSM system.
	<b>SysSup3</b>	The administrator has the way to encourage the personnel to participate in using ITSM system.
	<b>SysSup4</b>	The helpdesk officers always offer some help and consulting in the use of ITSM system.
	<b>SysSup5</b>	You are trained about the methods of using the system and its functions.
	<b>SysSup6</b>	You can pass on the knowledge to your colleagues.
<b>System Quality</b>	<b>SysQual1</b>	The system has the clear security and edits permission in logging on of the user.
	<b>SysQual2</b>	The connection of system has the consistency.
	<b>SysQual3</b>	The system is so speedy to respond the user efficiently.
<b>Output Quality</b>	<b>OutQual1</b>	The data from ITSM system is correct and reliable.
	<b>OutQual2</b>	The data from ITSM system is always up-to-date.
<b>Job Relevance</b>	<b>JobRele1</b>	Your job is related to the use of ITSM system.
	<b>JobRele2</b>	ITSM system can support your job.

**Table 3.2** The Indicators of Research. (cont.)

<b>Constructs</b>	<b>Item</b>	<b>Detail</b>
<b>Computer Skill</b>	<b>ComSkill1</b>	You have knowledge and ability to use basic computer program fluently.
	<b>ComSkill2</b>	You can learn and use computer technology or new technology by yourself.
	<b>ComSkill3</b>	You can solve the basic problem of computer by yourself.
<b>Perceived Usefulness</b>	<b>PU1</b>	ITSM system can support in working more effectively and efficiently.
	<b>PU2</b>	The system can reduce the error of work.
	<b>PU3</b>	ITSM system can reduce the process of operation, and lead to much speedier working.
	<b>PU4</b>	ITSM system can lead the user to have quicker searching than looking up data on the documents.
	<b>PU5</b>	ITSM system can reduce the quantity and amount of using paper.
	<b>PU6</b>	The data of ITSM system can be analyzed and used as the Knowledge Base.
<b>Perceived Ease of use</b>	<b>PEOU1</b>	The use and method of working in ITSM system are clear and easy to understand.
	<b>PEOU2</b>	You can understand and learn to use ITSM system.
	<b>PEOU3</b>	The language used in ITSM system is clear and easy to understand.
	<b>PEOU4</b>	You have to fully spend your time and willingness in learn to use ITSM system.
	<b>PEOU5</b>	You think that the use of ITSM system is easy and no need to use the skill of knowledge and proficiency.

**Table 3.2** The Indicators of Research. (cont.)

<b>Constructs</b>	<b>Item</b>	<b>Detail</b>
<b>Attitude toward to use</b>	<b>AT1</b>	ITSM system will lead your work to be speedy and flexible.
	<b>AT2</b>	ITSM system can be used for work conveniently.
<b>Behavioral Intention to Use</b>	<b>BI1</b>	You attend to use ITSM system continuously.
	<b>BI2</b>	You have the plan to use ITSM system soon.
	<b>BI3</b>	You need to use ITSM system soon.

### 3.5.2 Reliability Test

The researcher created questionnaire for the study and test with a population that looks similar to the sample of 30 students from the employee. The research is performed on the data from the questionnaire to calculate reliability. Using the formula to determine the confidence coefficient using Cronbach's Alpha for the acceptance score of 0.70 is acceptable the reliability of the survey results as follows.

**Table 3.3** Reliability Statistics

<b>Cronbach's Alpha</b>	<b>N of Items</b>
.896	32

**Table 3.4** Item-Total Statistics

	<b>Scale Mean if Item Deleted</b>	<b>Scale Variance if Item Deleted</b>	<b>Corrected Item-Total Correlation</b>	<b>Cronbach's Alpha if Item Deleted</b>
SysSup1	105.47	161.016	.335	.894
SysSup2	105.43	163.633	.182	.896
SysSup3	105.67	154.506	.568	.890
SysSup4	104.90	162.507	.247	.896
SysSup5	105.67	156.230	.395	.894

**Table 3.4** Item-Total Statistics (cont.)

	<b>Scale Mean if Item Deleted</b>	<b>Scale Variance if Item Deleted</b>	<b>Corrected Item-Total Correlation</b>	<b>Cronbach's Alpha if Item Deleted</b>
SysSup6	105.70	159.390	.321	.895
SysQual1	105.77	158.392	.410	.893
SysQual2	106.40	153.903	.424	.894
SysQual3	106.17	155.868	.538	.891
OutQual1	105.77	151.357	.707	.888
OutQual2	105.87	153.637	.586	.890
JobRelevance1	106.73	164.133	.122	.898
JobRelevance2	106.77	165.495	.054	.898
ComputerSkill1	105.70	159.459	.338	.894
ComputerSkill2	105.77	155.702	.554	.891
ComputerSkill3	106.00	152.759	.633	.889
PU1	105.80	154.993	.553	.891
PU2	106.00	155.103	.518	.891
PU3	105.93	158.202	.523	.892
PU4	105.90	149.886	.734	.887
PU5	105.40	159.352	.347	.894
PU6	105.77	152.461	.732	.888
PEOU1	106.17	154.144	.631	.889
PEOU2	106.13	153.292	.629	.889
PEOU3	106.33	149.816	.645	.888
PEOU4	105.90	164.024	.172	.896
PEOU5	106.30	154.424	.530	.891
AT1	106.67	162.299	.285	.895
AT2	106.67	165.471	.084	.897
BI1	106.17	156.006	.338	.896
BI2	106.23	155.013	.369	.895
BI3	106.27	155.651	.350	.895

**Table 3.5** All results of reliability analysis by Cronbach's alpha values.

<b>Construct/indicator</b>	<b>Item</b>	<b>Cronbach's alpha</b>
System Support	6	0.707
System Quality	3	0.744
Output Quality	2	0.914
Job Relevance	2	0.943
Computer Skill	3	0.805
Perceived usefulness	6	0.873
Perceived ease of use	5	0.825
Attitude	2	0.796
Behavioral intention to use	3	0.986
Total	32	0.896

In Table 3.5, it shows all results of reliability analysis, sum of all the questions equal to 0.896. that it indicates the questions can be used in the query.

### **3.6 Data Analysis**

This research analyzed the data collected from questionnaires by using the statistical program of SPSS.

#### **3.6.1 Descriptive Statistics**

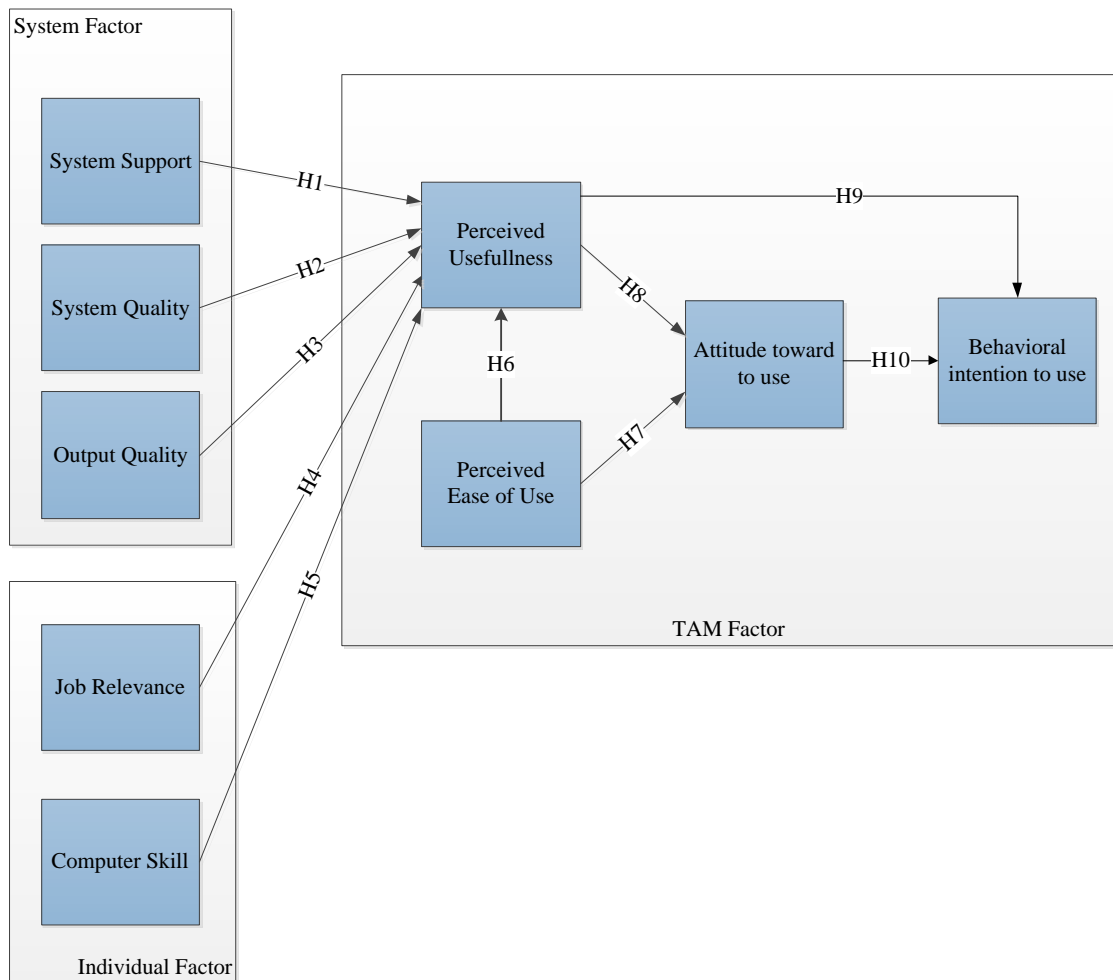
Descriptive statistical analysis also includes frequency, percentage, mean, and standard deviation to explain the factors affecting the acceptance decision of technology

#### **3.6.2 Inferential Statistics**

1) It is to determine the factors that affects its use, including Status of consumer discrimination, sex, age, education, department, level, workyear, and ratio by the One-Way ANOVA in the case of samples with different groups in the population.

2) Inferential statistics, statistical studies of the samples and the results are referred to in the study population. The statistics for the regression analysis. Processing statistical program SPSS is to analyze the case of dependent variables. The threat of independent and dependent quantitative variables with time, measured as the ratio of the weight of the analysis, can be summarized into a relationship, and the importance of factors influencing the use [12].

### 3.7 Research Model



**Figure 3.1** Conceptual Framework.

There are the variables from conceptual framework as follows:

1) Independent variables consist of 2 factors as follows:

1.1) System Factors:

1.1.1) System Support means to be supported on using system by the administrator and chairman.

1.1.2) System Quality means the quality of working in system such as the system connection and the speed of response.

1.1.3) Output Quality means the quality and output of data taken from the direct and indirect system.

1.2) Personal Factors:

1.2.1) The relation of work means the working characteristic related to the system usage.

1.2.2) Computer Skill means the knowledge and ability used for working on the system usage.

2) Dependent Variables:

2.1) Perceived Usefulness means the perception on the benefits from the system usage.

2.2) Perceived Ease of Use means the perception on the easiness of the used system.

2.3) Intention to Use means the system user who intends to use the system for operating.

2.4) Usage Behavior means the acceptance and using the system of the user.

### **3.8 Hypothesis**

The researcher uses Technology Acceptance Model as the conceptual framework of this research and hypothesis framework as follows.

The 1<sup>st</sup> hypothesis (H1): It is the variable used for system support or SysSup affecting the perceived usefulness of ITSM system.

The 2<sup>nd</sup> hypothesis (H2): It is the variable of system quality (SysQual) affecting the perceived usefulness (PU) of ITSM system.

The 3<sup>rd</sup> hypothesis (H3): It is the variable of output quality (OutQual) affecting the perceived usefulness (PU) of ITSM system.

The 4<sup>th</sup> hypothesis (H4): It is the variable of Job Relevance affecting the perceived usefulness (PU) of ITSM system.

The 5<sup>th</sup> hypothesis (H5): It is the variable of Computer Skill affecting the perceived usefulness (PU) of ITSM system.

The 6<sup>th</sup> hypothesis (H6): It is the variable of perceived ease of use (PEOU) affecting the perceived usefulness (PU) of ITSM system.

The 7<sup>th</sup> hypothesis (H7): It is the variable of perceived ease of use (PEOU) affecting the attitude toward the use of ITSM system.

The 8<sup>th</sup> hypothesis (H8): It is the variable of the perceived usefulness (PU) affecting the attitude toward the use AT of ITSM system.

The 9<sup>th</sup> hypothesis (H9): It is the variable of the perceived usefulness (PU) affecting the Behavioral intention to use BI of ITSM system.

The 10<sup>th</sup> hypothesis (H10): It is the variable of the Attitude toward the use of ITSM (AT) affecting the Behavioral intention to use BI of ITSM system.

### 3.9 Research Schedule

**Table 3.6** Research Schedule.

Activity	2014			2015					
	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July
Preliminary	→								
Defining the scope of survey		→							
Defining the Research Framework			→						
Designing the Research Instrument				→					
Data Gathering				→					
Data Coding					→				
Data Analysis							→		
Summarize Results							→		
Documentation	→								

## **CHAPTER IV**

### **RESULTS AND DISCUSSION**

The research is to study the factors related to the use of the ITSM system by quantitative analysis. This chapter represents the results of surveys and discussions.

Researchers will represent the analysis of the questionnaire survey research on SPSS 20, which results in an average and standard deviation. In addition, the analysis result is based on the hypothesis, and the analyzed data is also collected from questionnaire, which are classified as follows:

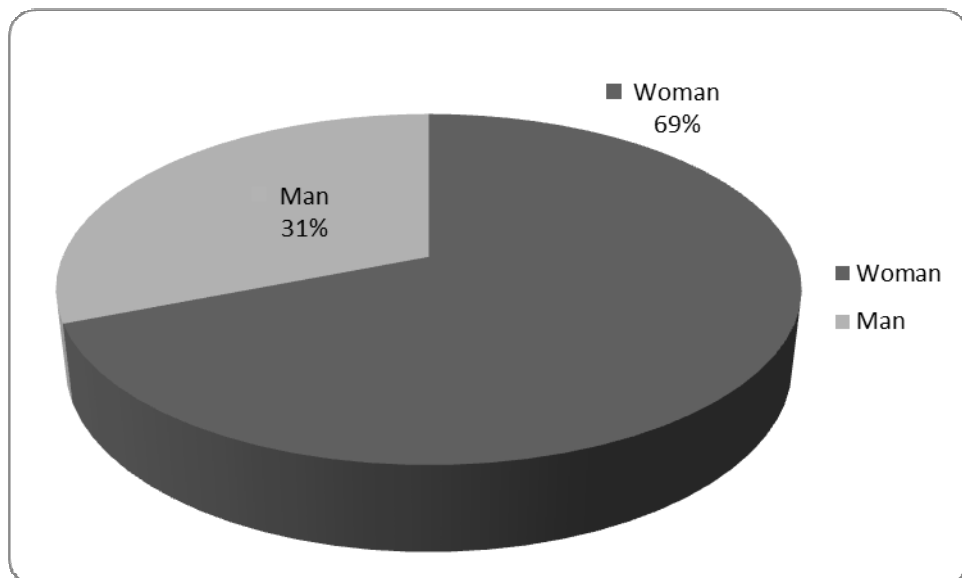
- 4.1 Analysis of demographic data,
- 4.2 Level of opinions on the factors relating to use of the system ITSM,
- 4.3 One way ANOVA,
- 4.4 The results of analysis on the hypothesis of factor relating to use system ITSM.

#### **4.1 Analysis of demographic data**

The researcher has submitted the questionnaire to the group of population in the study. Then, all feedbacks would be returned to the researcher in order to verify and analyze the data by Descriptive Statistics, including the results of Frequencies and Percentage as shown in the Table 4.1.

**Table 4.1** Basic classification of respondents by sex.

Gender	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Valid Woman	156	69.0	69.0	69.0
Valid Man	70	31.0	31.0	100.0
Total	226	100.0	100.0	

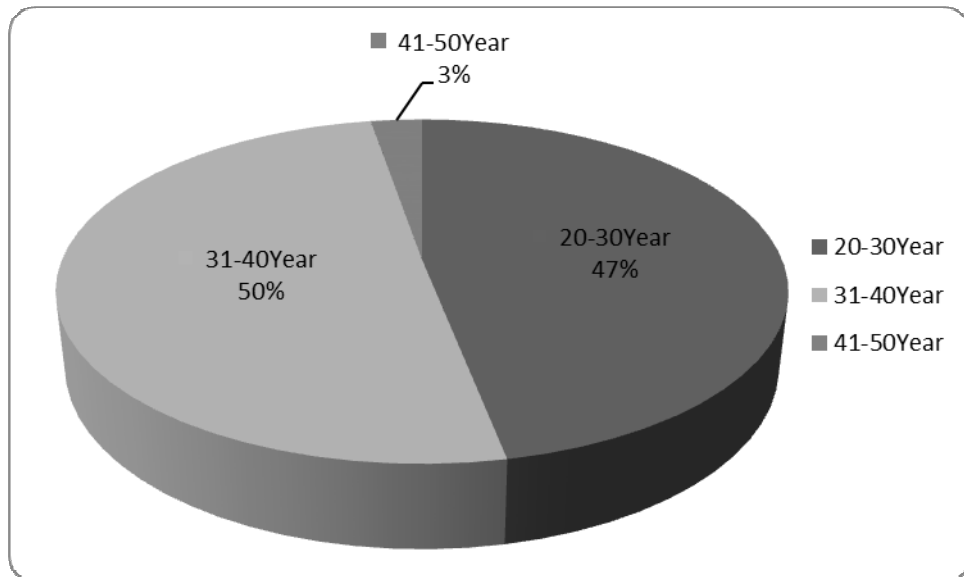


**Figure 4.1** Basic classification data of respondents by gender.

According to Table 4.1, it is considered that the basic classification information of 226 questionnaire respondents by gender consists of 70 males (or 31%) and 156 females (or 69%), respectively.

**Table 4.2** Basic classification of respondents by age.

Age	Frequency	Percent (%)	Valid Percent	Cumulative Percent
20-30Year	106	46.9	46.9	46.9
31-40Year	114	50.4	50.4	97.3
41-50Year	6	2.7	2.7	100.0
Total	226	100.0	100.0	

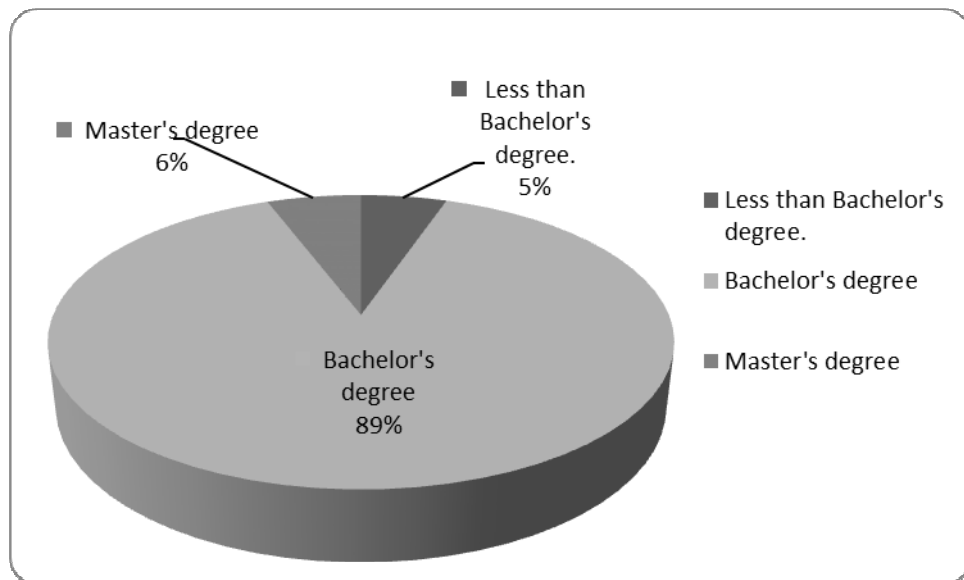


**Figure 4.2** Basic classification of respondents by age.

According to Table 4.2, it is considered that the basic classification information by age of 226 questionnaire respondents consists of the age of 31- 40 years with 114 respondents (or 50.4%), followed by the age of 20- 30 years with 106 respondents (or 46.9%), and the age of 41- 50 years with 6 respondents (or 2.7%) respectively.

**Table 4.3** Basic classification of respondents by grade.

Level of graduation	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Lower Bachelor's degree.	12	5.3	5.3	5.3
Valid Bachelor's degree	201	88.9	88.9	94.2
Master's degree	13	5.8	5.8	100.0
Total	226	100.0	100.0	

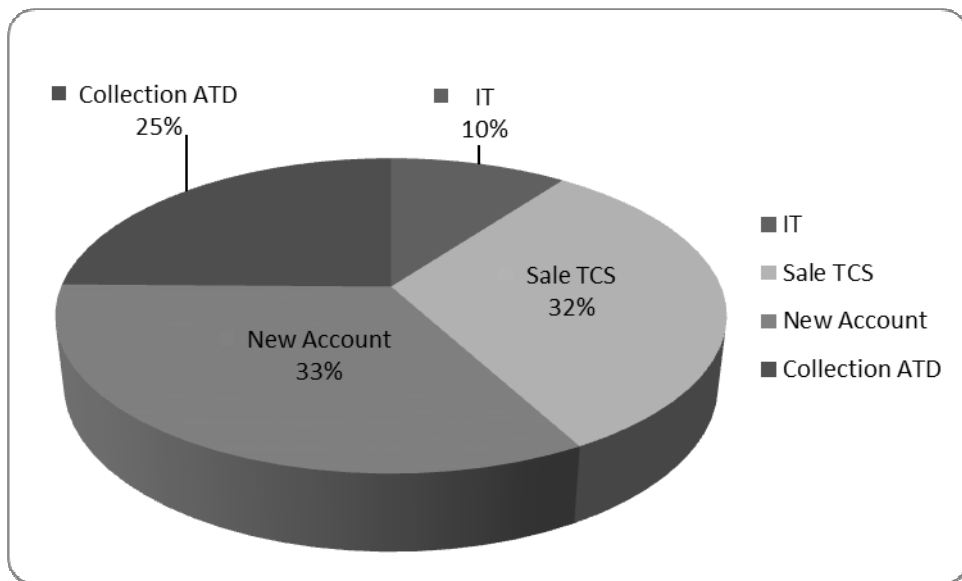


**Figure 4.3** Basic classification of respondents by graduation.

According to Table 4.3, the classification information by graduation of 226 questionnaire respondents consists of the bachelor degree with 201 respondents (or 88.9%), the master degree with 13 respondents (or 5.8%), and the lower bachelor degree with 12 respondents (or 5.3%), respectively.

**Table 4.4** Basic of respondents by department.

Department	Frequency	Percent (%)	Valid Percent	Cumulative Percent
IT	23	10.2	10.2	10.2
Sale TCS	72	31.9	31.9	42.0
Valid New Account	75	33.2	33.2	75.2
Collection ATD	56	24.8	24.8	100.0
Total	226	100.0	100.0	

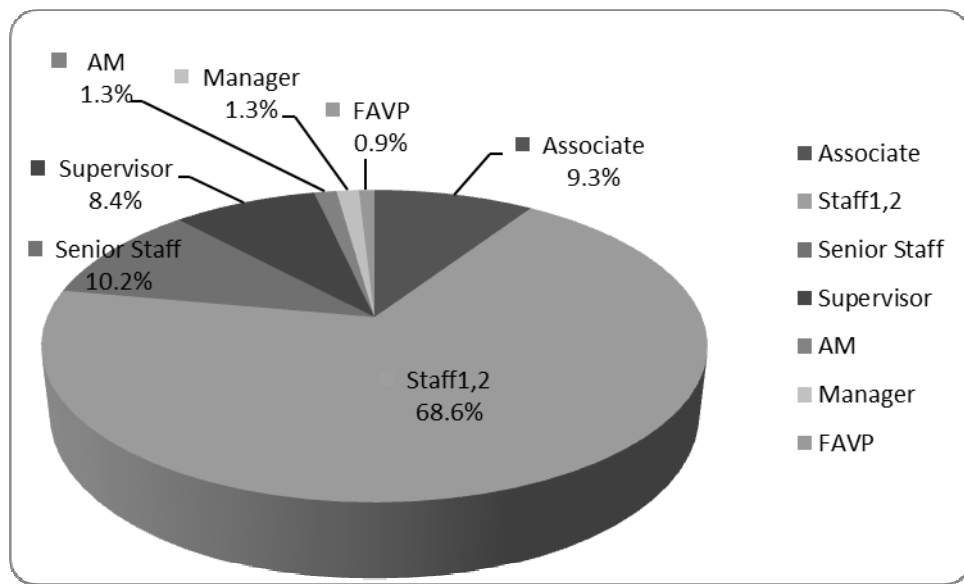


**Figure 4.4** Basic classification of respondents by department.

According to Table 4.4, the classifications information by department of 226 questionnaire respondents consists of 75 respondents in New Account department (or 33.2%), followed by the 72 respondents in Sale TCS (or 31.9%), 56 respondents in Collection ATD department or (24.8%), and 23 respondents in IT department (or 10.2%), respectively.

**Table 4.5** Basic of respondents by level.

Job Level	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Associate	21	9.3	9.3	9.3
Staff1,2	155	68.6	68.6	77.9
Senior Staff	23	10.2	10.2	88.1
Supervisor	19	8.4	8.4	96.5
AM	3	1.3	1.3	97.8
Manager	3	1.3	1.3	99.1
FAVP	2	.9	.9	100.0
Total	226	100.0	100.0	



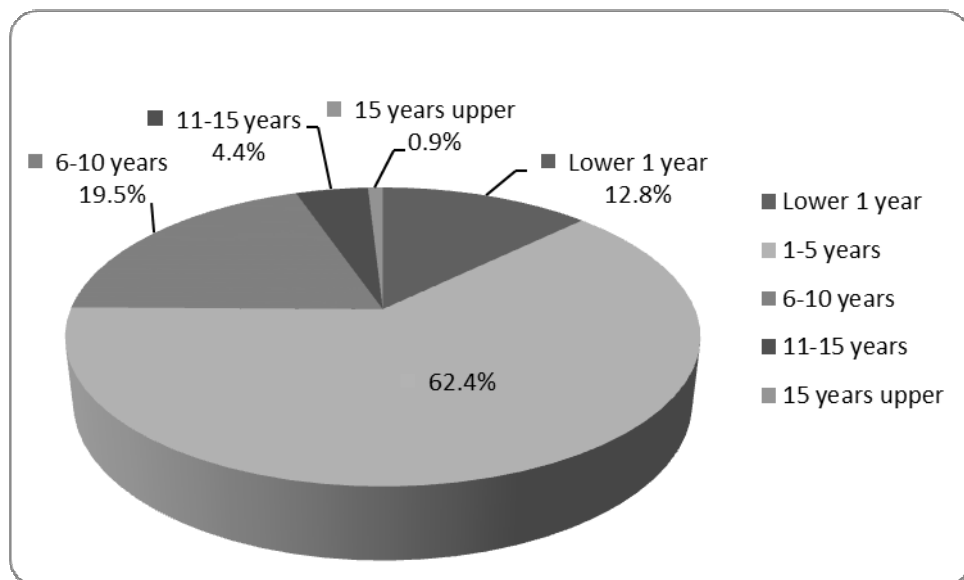
**Figure 4.5** Basic classification data of respondents by job level.

According to Table 4.5, the classification information by job level of 226 questionnaire respondents consists of 155 respondents in level of Staff 1,2 (or 68.6%), followed by 23 respondents in level of Senior Staff (or 10.2%), 21 respondents in level

of Associate (or 9.3%), 3 respondents in level of AM and Manager (or 1.3%), and 2 respondents in level of FAVP (or 0.9%), respectively.

**Table 4.6** Basic of respondents by workyear.

	Work	Frequency	Percent (%)	Valid Percent	Cumulative Percent
Valid	Lower 1 year	29	12.8	12.8	12.8
	1-5 years	141	62.4	62.4	75.2
	6-10 years	44	19.5	19.5	94.7
	11-15 years	10	4.4	4.4	99.1
	15 years upper	2	.9	.9	100.0
	Total	226	100.0	100.0	



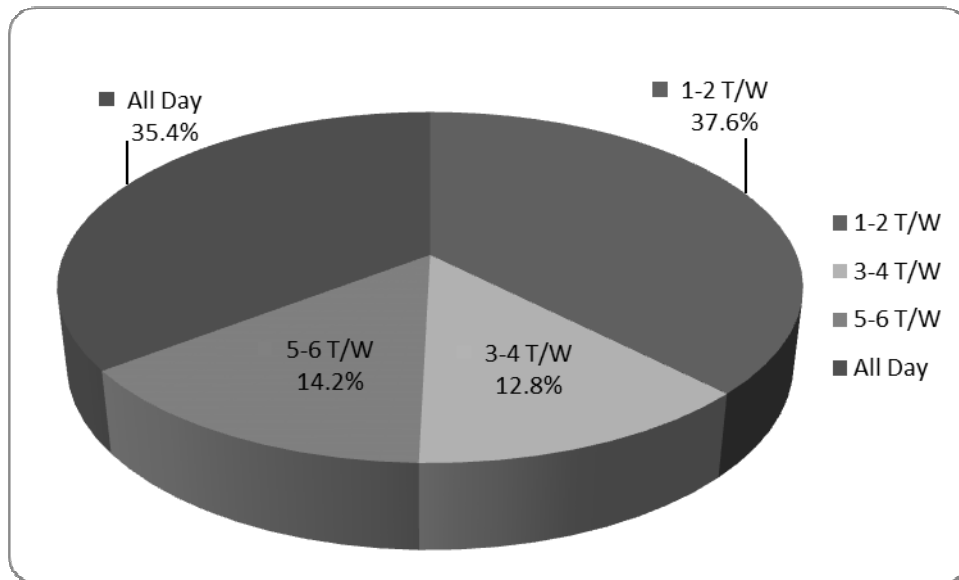
**Figure 4.6** Classification of respondents by workyear.

According to Table 4.6, the classification information by workyear of 226 questionnaire respondents in ITSM system consists of 141 respondents with experience of 1- 5 years (or 62.4%), followed by 44 respondents with experience of 6-

10 years (or 19.5%), and 29 respondents with the experience of less than 1 year (or 12.8%), 10 respondents with the experience of 11- 15 years (or 4.4%), and 2 respondents with the experience of more than 15 years (or 0.9%), respectively.

**Table 4.7** Classification data of respondents by Ratio.

Ratio of one week working days	Frequency	Percent (%)	Valid Percent	Cumulative Percent
1-2 T/W	85	37.6	37.6	37.6
3-4 T/W	29	12.8	12.8	50.4
Valid 5-6 T/W	32	14.2	14.2	64.6
All Day	80	35.4	35.4	100.0
Total	226	100.0	100.0	



**Figure 4.7** Classification of respondents by Ratio of one week working days.

According to Table 4.7, the classification information by ratio of one week working days of 226 questionnaire respondents consists of 85 respondents with the ratio of 1- 2 times a week (or 37.6%), followed by 80 respondents with the ratio of

everyday in one week (or 35.4%), 32 respondents with the ratio of 5- 6 times a week (or 14.2%), and the 29 respondents with the ratio of 3- 4 times a week (or 12.8%), respectively.

**Table 4.8** Classification data of respondents by the usage of helpdesk.

Helpdesk	Frequency	Percent (%)	Valid Percent	Cumulative Percent
No	91	40.3	40.3	40.3
Valid Yes	135	59.7	59.7	100.0
Total	226	100.0	100.0	

According to Table 4.8, the classification information by accessing the data from helpdesk of 226 questionnaire respondents consists of 135 respondents with learning the data from helpdesk or 59.7%, 91 the rest of respondents (or 41.3%) by the usage of helpdesk for access data.

**Table 4.9** Classification data of respondents by accessing the data from Team Lead.

Team lead	Frequency	Percent (%)	Valid Percent	Cumulative Percent
No	102	45.1	45.1	45.1
Valid Yes	124	54.9	54.9	100.0
Total	226	100.0	100.0	

According to Table 4.9, the classification information by accessing the data from Team Lead of 226 questionnaire respondents consists of the 124 respondents with accessing the data from the team lead (or 54.9%), 102 and the rest of respondents without accessing the data from the team lead (or 45.1%), respectively.

**Table 4.10** Classification data of respondents by accessing the data from colleague.

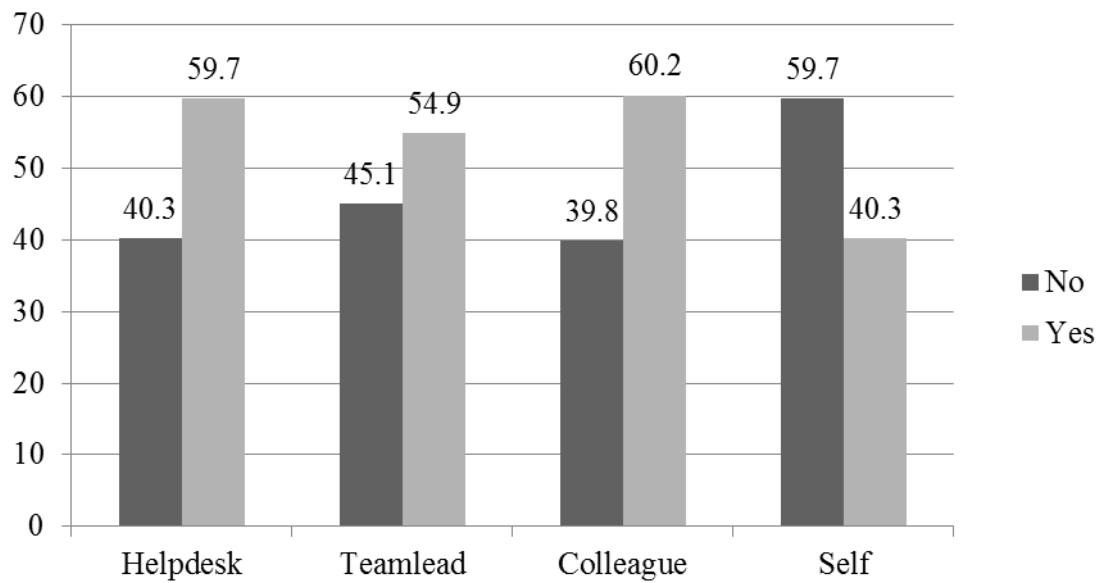
colleague		Frequency	Percent (%)	Valid Percent	Cumulative Percent
Valid	No	90	39.8	39.8	39.8
	Yes	136	60.2	60.2	100.0
	Total	226	100.0	100.0	

According to Table 4.10, the classification information by accessing the data from colleague of 226 questionnaire respondents 136 consists of respondents with accessing the data from colleague (or 60.2%), and the 90 respondents without accessing the data from the colleague (or 39.8%), respectively.

**Table 4.11** Classification data of respondents by self-accessing data.

		Frequency	Percent (%)	Valid Percent	Cumulative Percent
Valid	No	135	59.7	59.7	59.7
	Yes	91	40.3	40.3	100.0
	Total	226	100.0	100.0	

According to Table 4.11, the classification data by self-accessing data information of 226 questionnaire respondents consists of the 135 respondents without the acceptance in self-accessing the data (or 59.7%), and the 91 respondents with self-accessing data (or 40.3%), respectively.



**Figure 4.8** Summary of methods for accessing the data.

## 4.2 Level of opinions on the factors relating to use of the system ITSM

The researcher analyzes the data of opinions from the samples with 9 acceptance factors in ITSM system in terms of outside factors related to the perception of ease of use, the perception of usefulness, attitude towards the behavior of ITSM usage, and the intention of behavior expression of use, given as:

- 1) System Support
- 2) System Quality
- 3) Output Quality
- 4) Job Relevance
- 5) Computer Skill
- 6) Perceived usefulness
- 7) Perceived ease of use
- 8) Attitude
- 9) Behavioral intention to use

**Table 4.12** The opinions of the factors

<b>ITEM</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Interpretation</b>
System Support	3.69	.797	high
System Quality	3.45	.851	high
Output Quality	3.66	.738	high
Job Relevance	2.71	.663	moderate
Computer Skill	3.66	.810	high
Perceived usefulness	3.80	.786	high
Perceived ease of use	3.61	.848	high
Attitude	2.73	.544	moderate
Behavioral intention to use	3.16	1.047	moderate
<b>Total</b>	<b>3.39</b>	<b>.787</b>	<b>moderate</b>

In Table 4.12, it is shown the conclusion of opinions regarding the factors of acceptance in ITSM system with many terms. The factor with the highest average is Perceived usefulness with the average of 3.80 in the high level. The factor with the lowest average is Job Relevance with the average of 2.71 in the moderate level. Moreover, the overall of opinions from the samples of ITSM user affects on the acceptance of ITSM system in many terms of the moderate level with the average of 3.39.

**Table 4.13** The mean and standard deviation of a set of variables.

<b>Descriptive Statistics</b>			
<b>Factors</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>
SysSup1	226	3.88	.650
SysSup2	226	3.76	.721
SysSup3	226	3.64	.761
SysSup4	226	4.01	.877
SysSup5	226	3.30	.937
SysSup6	226	3.54	.833
SysQual1	226	3.76	.704
SysQual2	226	3.27	.990
SysQual3	226	3.31	.860
OutQual1	226	3.70	.734
OutQual2	226	3.61	.742
JobRelevance1	226	2.73	.687
JobRelevance2	226	2.69	.639
ComputerSkill1	226	3.77	.779
ComputerSkill2	226	3.71	.813
ComputerSkill3	226	3.51	.839
PU1	226	3.79	.740
PU2	226	3.68	.819
PU3	226	3.77	.773
PU4	226	3.84	.774
PU5	226	3.95	.809
PU6	226	3.78	.797
PEOU1	226	3.61	.816
PEOU2	226	3.68	.815
PEOU3	226	3.62	.907
PEOU4	226	3.55	.832
PEOU5	226	3.56	.868

**Table 4.13** The mean and standard deviation of a set of variables. (cont.)

<b>Descriptive Statistics</b>			
<b>Factors</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>
BI1	226	3.20	1.060
BI2	226	3.16	1.048
BI3	226	3.12	1.034
AT1	226	2.73	.577
AT2	226	2.73	.510
<b>Total</b>	<b>226</b>	<b>3.50</b>	<b>.805</b>

Table 4.13 is shown about the mean and standard deviation of the factor of 9 and 32 questions with an average of 3.50 and standard deviation of 0.805, respectively.

#### 4.2.1 Factor System Support

**Table 4.14** Levels of System Support's average rating scores of employees for using the ITSM

<b>Descriptive Statistics</b>			
	<b>Mean</b>	<b>Std. Deviation</b>	<b>Interpretation</b>
SysSup1	3.88	.650	High
SysSup2	3.76	.721	High
SysSup3	3.64	.761	High
SysSup4	4.01	.877	High
SysSup5	3.30	.937	moderate
SysSup6	3.54	.833	High
<b>Total</b>	<b>3.69</b>	<b>.797</b>	<b>High</b>

According to Table 4.14, the data analysis related to the factor of System Support is found that SysSup4 has the highest average score of 4.01, followed by

SysSup1 = 3.88, SysSup2 = 3.76, SysSup6 = 3.64, SysSup6 = 3.54, and SysSup5 = 3.30, respectively.

Moreover, the overall rating score on the factor of System Support is in high level with the average of 3.69.

#### 4.2.2 Factor of System Quality

**Table 4.15** Levels of System Quality's average rating scores of employees for using ITSM.

<b>Descriptive Statistics</b>			
	<b>Mean</b>	<b>Std. Deviation</b>	<b>Interpretation</b>
SysQual1	3.76	.704	High
SysQual2	3.27	.990	moderate
SysQual3	3.31	.860	moderate
<b>Total</b>	<b>3.45</b>	<b>.851</b>	<b>High</b>

According to Table 4.15, the data analysis of related to the factor of System Support is found that SysQual1 has the highest average of 3.76, followed by SysQual3 = 3.31 and SysQual2 = 3.27, respectively.

Moreover, the overall of rating score on the factor of System Quality is in high level with the average of 3.45.

#### 4.2.3 Factor of Output Quality

**Table 4.16** Levels of Output Quality's average rating scores of employees for using ITSM.

<b>Descriptive Statistics</b>			
	<b>Mean</b>	<b>Std. Deviation</b>	<b>Interpretation</b>
OutQual1	3.70	.734	High
OutQual2	3.61	.742	High
<b>Total</b>	<b>3.66</b>	<b>.738</b>	<b>High</b>

According to Table 4.16, the data analysis related to the factor of Output Quality is found that OutQual1 has the highest average or 3.70, followed by OutQual2 = 3.61.

Moreover, the overall average score on the factor of Output Quality is in High level with the average of 3.66.

#### 4.2.4 Factor of Job Relevance

**Table 4.17** Levels of Job Relevance's average rating scores of employees for using ITSM.

<b>Descriptive Statistics</b>			
	<b>Mean</b>	<b>Std. Deviation</b>	<b>Interpretation</b>
JobRelevance1	2.73	.687	moderate
JobRelevance2	2.69	.639	moderate
<b>Total</b>	<b>2.71</b>	<b>.663</b>	<b>moderate</b>

According to Table 4.17, the data analysis of related to the factor of Job Relevance is found that JobRelevance1 has the highest average or 2.73, followed by JobRelevance2 = 2.69, respectively.

Moreover, the overall of rating score on the factor of Job Relevance is in moderate level with the average of 2.71.

#### 4.2.5 Factor of Computer Skill

**Table 4.18** Levels of Computer Skill's average rating of employees for using ITSM.

<b>Descriptive Statistics</b>			
	<b>Mean</b>	<b>Std. Deviation</b>	<b>Interpretation</b>
ComputerSkill1	3.77	.779	High
ComputerSkill2	3.71	.813	High
ComputerSkill3	3.51	.839	High
<b>Total</b>	<b>3.66</b>	<b>.810</b>	<b>High</b>

According to Table 4.18, the data analysis of related to the factor of Computer Skill is found that ComputerSkill1 has the highest average or 3.77, followed by ComputerSkill2 = 3.71 and ComputerSkill3 = 3.51, respectively.

Moreover, the overall of rating score on the factor of Computer Skill is in high level or the average of 3.66.

#### 4.2.6 Factor of Perceived Usefulness

**Table 4.19** Levels of Computer Skill's average rating of employees for using ITSM.

<b>Descriptive Statistics</b>			
	<b>Mean</b>	<b>Std. Deviation</b>	<b>Interpretation</b>
PU1	3.79	.740	High
PU2	3.68	.819	High
PU3	3.77	.773	High
PU4	3.84	.774	High
PU5	3.95	.809	High
PU6	3.78	.797	High
<b>Total</b>	<b>3.80</b>	<b>.786</b>	<b>High</b>

According to Table 4.19, the data analysis of related to the factor of Perceived use fullness is found that PU5 has the highest average or 3.95, followed by PU4 = 3.84, PU1 = 3.79, PU6 = 3.78, PU3 = 3.77, PU2 = 3.68, respectively.

Moreover, the overall of rating score on the factor of Perceived usefulness is in high level or the average of 3.80.

#### 4.2.7 Factor of Perceived Ease of Use

**Table 4.20** Levels of Perceived Ease of Use's average rating of employees for using ITSM.

<b>Descriptive Statistics</b>			
	<b>Mean</b>	<b>Std. Deviation</b>	<b>Interpretation</b>
PEOU1	3.61	.816	High
PEOU2	3.68	.815	High
PEOU3	3.62	.907	High
PEOU4	3.55	.832	High
PEOU5	3.56	.868	High
<b>Total</b>	<b>3.61</b>	<b>.848</b>	<b>High</b>

According to Table 4.20, the data analysis of related to the factor of Perceived Ease of Use is found that PEOU2 has the highest average or 3.68, followed by PEOU3 = 3.62, PEOU1 = 3.61, PEOU5 = 3.56, PEOU4 = 3.55, respectively.

Moreover, the overall of rating score on the factor of Perceived Ease of Use is in high level or the average of 3.61.

#### 4.2.8 Factor of the Attitude toward the use of ITSM

**Table 4.21** Levels of Attitude toward the use of ITSM's average rating of employees for using ITSM.

<b>Descriptive Statistics</b>			
	<b>Mean</b>	<b>Std. Deviation</b>	<b>Interpretation</b>
AT1	2.73	.577	moderate
AT2	2.73	.510	moderate
<b>Total</b>	<b>2.73</b>	<b>.544</b>	<b>moderate</b>

According to Table 4.21, the data analysis of related to the factor of Attitude toward the use of ITSM is found that AT1 and AT2 have the same average of 2.73, respectively.

Moreover, the overall of rating score on the factor of Attitude toward to use of ITSM is in the moderate level with the average of 2.73.

#### 4.2.9 Factor of Behavioral intention of usage

**Table 4.22** Levels of Behavioral intention of ITSM usage’s average rating of employees.

<b>Descriptive Statistics</b>			
	<b>Mean</b>	<b>Std. Deviation</b>	<b>Interpretation</b>
BI1	3.20	1.060	moderate
BI2	3.16	1.048	moderate
BI3	3.12	1.034	moderate
<b>Total</b>	<b>3.16</b>	<b>1.047</b>	<b>moderate</b>

According to Table 4.22, the data analysis of related to the factor of Behavioral intention of ITSM is found that BI1 has the highest average or 3.20, followed by BI2 = 3.16, BI3 = 3.12, respectively.

Moreover, the overall of rating score on the factor of Behavioral intention of ITSM is in moderate level with the average of 3.16.

### 4.3 One Way Anova

One Way Anova is used to find the difference of the average of the samples. In this research, there are variables to investigate, given as: sex, age, grade, department, experience, level, ratio of use by ITSM system to analyze the variables with Ratio Scale. That is, it is intended to indicate that ITSM system is different or not; including the significant level of  $\alpha = .05$  by using the SPSS statistical calculations with the following hypothesis.

**1) SEX**

The hypothesis will be tested whether the different sex has the average of the intention in using ITSM system differently or not as per the following hypothesis.

H0: The different sex has the average of intention in using ITSM system similarly.

H1: The different sex has the average of intention related to using ITSM system differently.

OR

H0:  $\mu 1 = \mu 2$

H1:  $\mu 1 \neq \mu 2$

**Table 4.23** ANOVA of Sex

<b>ANOVA</b>					
<b>Sex</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Between Groups	.426	7	.061	.277	.962
Within Groups	47.893	218	.220		
<b>Total</b>	<b>48.319</b>	<b>225</b>			

From table4.23, the Sig. value is .962 which is more than .05 from the identified significance. Therefore, it is accepted that the hypothesis H0 is the different sex with the average of the intention in using ITSM system without the difference.

**2) AGE**

The hypothesis will be tested whether the different age has the average of the intention in using ITSM system differently or not as per the following hypothesis.

H0: The different age has the average of intention in using ITSM system similarly.

H1: The different age has the average of intention in using ITSM system differently.

OR

$$H_0: \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5$$

$$H_1: \mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4 \neq \mu_5$$

**Table 4.24** ANOVA of AGE

ANOVA					
Age					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.434	7	.348	1.161	.327
Within Groups	65.318	218	.300		
<b>Total</b>	<b>67.752</b>	<b>225</b>			

From table 4.24, the Sig. value is .327 which is more than .05 from the identified significance. Therefore, it is accepted that the hypothesis H0 is the different age with the average of the intention in using ITSM system without the difference.

### 3) Grade

The hypothesis will be tested whether the different grade has the average of the intention in using ITSM system differently or not as per the following hypothesis.

H0: The different grade has the average of intention in using ITSM system similarly.

H1: The different grade has the average of intention in using ITSM system differently.

OR

$$H_0: \mu_1 = \mu_2 = \mu_3 = \mu_4$$

$$H_1: \mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4$$

**Table 4.25** ANOVA of Grade

<b>ANOVA</b>					
<b>Grade</b>					
	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Between Groups	1.391	7	.199	1.835	.082
Within Groups	23.604	218	.108		
<b>Total</b>	<b>24.996</b>	<b>225</b>			

From table 4.25, the Sig. value is .082 which is more than .05 from the identified significance. Therefore, it is accepted that the hypothesis H0 is the different grade with the average of the intention in using ITSM system without the difference.

#### 4) Department

The hypothesis will be tested whether the different department has the average of the intention in using ITSM system differently or not as per the following hypothesis.

H0: The different department has the average of intention in using ITSM system similarly.

H1: The different department has the average of intention in using ITSM system differently.

OR

$$H0: \mu_1 = \mu_2 = \mu_3 = \mu_4$$

$$H1: \mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4$$

**Table 4.26** ANOVA of Department

<b>ANOVA</b>					
<b>Dept</b>					
	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Between Groups	3.950	7	.564	.618	.741
Within Groups	199.041	218	.913		
<b>Total</b>	<b>202.991</b>	<b>225</b>			

From table 4.26, the Sig. value is .741 which is more than .05 from the identified significance. Therefore, it is accepted that the hypothesis H0 is the different department with the average of the intention in using ITSM system without the difference.

**5) Level**

The hypothesis will be tested whether the different level has the average of the intention in using ITSM system differently or not as per the following hypothesis.

H0: The different level has the average of intention in using ITSM system similarly.

H1: The different level has the average of intention in using ITSM system differently.

OR

$$H0: \mu 1 = \mu 2 = \mu 3 = \mu 4 = \mu 5 = \mu 6 = \mu 7$$

$$H1: \mu 1 \neq \mu 2 \neq \mu 3 \neq \mu 4 \neq \mu 5 \neq \mu 6 \neq \mu 7$$

**Table 4.27** ANOVA of Level

<b>ANOVA</b>					
<b>Level</b>					
	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Between Groups	2.511	7	.359	.355	.927
Within Groups	220.184	218	1.010		
<b>Total</b>	<b>222.695</b>	<b>225</b>			

From table 4.27, the Sig. value is .927 which is more than .05 from the identified significance. Therefore, it is accepted that the hypothesis H0 is the different level with the average of the intention in using ITSM system without the difference.

### **6) Experience**

The hypothesis will be tested whether the different experience has the average of the intention in using ITSM system differently or not as per the following hypothesis.

H0: The different experience has the average of intention in using ITSM system similarly.

H1: The different level has the average of intention in using ITSM system differently.

OR

$$H0: \mu 1 = \mu 2 = \mu 3 = \mu 4 = \mu 5$$

$$H1: \mu 1 \neq \mu 2 \neq \mu 3 \neq \mu 4 \neq \mu 5$$

**Table 4.28** ANOVA of Experience

<b>ANOVA</b>					
<b>WorkYear</b>					
	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Between Groups	4.307	7	.615	1.125	.349
Within Groups	119.255	218	.547		
<b>Total</b>	<b>123.562</b>	<b>225</b>			

From table 4.28, the Sig. value is .349 which is more than .05 from the identified significance. Therefore, it is accepted that the hypothesis H<sub>0</sub> is the different experience with the average of the intention in using ITSM system without the difference.

### 7) Ratio

The hypothesis will be tested whether the different ratio has the average of the intention in using ITSM system differently or not as per the following hypothesis.

H<sub>0</sub>: The different ratio has the average of intention in using ITSM system similarly.

H<sub>1</sub>: The different level has the average of intention in using ITSM system differently.

OR

$$H_0: \mu_1 = \mu_2 = \mu_3 = \mu_4$$

$$H_1: \mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4$$

**Table 4.29** ANOVA of Ratio

<b>ANOVA</b>					
<b>Ratio</b>					
	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Between Groups	18.136	7	2.591	1.534	.157
Within Groups	368.205	218	1.689		
<b>Total</b>	<b>386.341</b>	<b>225</b>			

From table 4.29, the Sig. value of .157 is high than .05 from the identified significance. Therefore, it is accepted that the hypothesis H0 is the different ratio with the average of the intention of the usage of ITSM system without the difference.

#### **4.4 The results of analysis on the hypothesis of factors related to the use of the ITSM**

The researcher analyzed the data with Regression analysis which is the causal analysis for studying the relationship of variables and adapting that relationship to estimate Y value in the future. This research was analyzed by using linear regression analysis for studying the relationship of one criterion variable and one predicted variable with the following formula:  $Y_i = a + bX + e_i$

**Hypothesis 1 (H1):** The variable used for system support (SysSup) affects on perceived usefulness from ITSM system.

$$H1^0: \beta_{\text{SysSup}} = 0$$

$$H1^1: \beta_{\text{SysSup}} \neq 0$$

**Table 4.30** Model Summary of System Support per Perceived usefulness

<b>Model Summary</b>				
<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
1	.399 <sup>a</sup>	.159	.155	.62769

**Table 4.31** ANOVA (b) of System Support per perceived usefulness

<b>ANOVA<sup>a</sup></b>					
<b>Model</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
1 Regression	16.690	1	16.690	42.360	.000 <sup>b</sup>
Residual	88.256	224	.394		
Total	104.946	225			

**Table 4.32** The regression coefficient of System Support per perceived usefulness

<b>Coefficients<sup>a</sup></b>						
<b>Model</b>		<b>Unstandardized Coefficients</b>		<b>Standardized Coefficients</b>	<b>t</b>	<b>Sig.</b>
		<b>B</b>	<b>Std. Error</b>	<b>Beta</b>		
1	(Constant)	2.093	.266		7.877	.000
	SystemSupport	.463	.071	.399	6.508	.000

From Table 4.31, F value is 42.360 and Sig. value is .000 which is less than 0.05. Therefore, the H1<sup>o</sup> acceptance is refused, and means that the dependent variable is related to the controlled variable.

From Table 4.32, the variable which is related to the controlled variable is system support (SysSup). The t value of 6.508 and Sig. value of .000. Therefore, it can be concluded that the system support (SysSup) affects on the perceived usefulness (PU) with the significance of 0.05 as shown in the equation.

$$H1: PU = a + b \text{ SysSup}$$

$$PU = 2.093 + 0.463 \text{ SysSup}$$

From this equation, when the system support of ITSM system is risen up into 1 unit, it will affect on the perceived usefulness (PU) from ITSM system into 0.266 units increasingly.

From Table 4.30, it is shown the relationship of controlled variable and dependant variable with the value of R Square = .155 or 15.5% which is the variation of the perceived usefulness (PU) caused by the system support in 15.5%.

**Hypothesis 2 (H2):** The variable of system quality (SysQual) affects on the perceived usefulness (PU) from ITSM system.

$$H2^0: \beta_{SysQual} = 0$$

$$H2^1: \beta_{SysQual} \neq 0$$

**Table 4.33** Model Summary of System Quality per Perceived usefulness

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.386 <sup>a</sup>	.149	.145	.63155

**Table 4.34** ANOVA (b) of System Quality per perceived usefulness

ANOVA <sup>a</sup>					
Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	15.601	1	15.601	39.113	.000 <sup>b</sup>
Residual	89.345	224	.399		
Total	104.946	225			

**Table 4.35** The regression coefficient of System Quality per perceived usefulness

		Coefficients <sup>a</sup>				
Model		Unstandardized		Standardized	t	Sig.
		Coefficients		Coefficients		
		B	Std. Error	Beta		
1	(Constant)	2.562	.202		12.652	.000
	SystemQuality	.359	.057	.386	6.254	.000

From Table 4.34, F value is 39.113 and Sig. value is .000 which is less than 0.05. Therefore, the H2° acceptance is refused, and means that the dependent variable is related to the controlled variable.

From Table 4.35, the variable which is related to the controlled variable is system quality (SysQual), and has t value of 6.254 and Sig. value of .000. Therefore, it can be concluded that the system quality (SysQual) affects on the perceived usefulness (PU) with the significance of 0.05 as shown in equation, given as.

$$H2: PU = a + b \text{ SysQual}$$

$$PU = 2.562 + 0.359 \text{ SysQual}$$

From this equation, when the system quality (SysQual) of ITSM system is risen up into 1 unit, it will affect on the perceived usefulness (PU) from ITSM system into 0.202 units increasingly.

From table 4.33, it is shown the relationship of controlled variable and dependant variable with the value of R Square = .145 or 14.5% which is the variation of the perceived usefulness (PU) caused by the system quality (SysQual) in 14.5%.

**Hypothesis 3 (H3):** The variable of output quality (OutQual) affects on the perceived usefulness (PU) from ITSM system.

$$H3^0: \beta_{OutQual} = 0$$

$$H3^1: \beta_{OutQual} \neq 0$$

**Table 4.36** Model Summary of Output Quality per Perceived usefulness

<b>Model Summary</b>				
<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
1	.415 <sup>a</sup>	.172	.168	.62280

**Table 4.37** ANOVA (b) of Output Quality per perceived usefulness

<b>ANOVA<sup>a</sup></b>						
<b>Model</b>		<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
1	Regression	18.062	1	18.062	46.565	.000 <sup>b</sup>
	Residual	86.884	224	.388		
	Total	104.946	225			

**Table 4.38** The regression coefficient of Output Quality per perceived usefulness

<b>Coefficients<sup>a</sup></b>						
<b>Model</b>		<b>Unstandardized</b>		<b>Standardized</b>	<b>t</b>	<b>Sig.</b>
		<b>Coefficients</b>		<b>Coefficients</b>		
		<b>B</b>	<b>Std. Error</b>	<b>Beta</b>		
1	(Constant)	2.333	.219		10.651	.000
	OutputQuality	.401	.059	.415	6.824	.000

From Table 4.37, F value is 46.565 and Sig. value is .000 which is less than 0.05. Therefore, the H3<sup>o</sup> acceptance is refused, and means that the dependent variable is related to the controlled variable.

From Table 4.38, the variable which is related to the controlled variable is output quality (OutQual), and has t value of 6.824 and Sig. value of .000. Therefore, it can be concluded that the system quality (SysQual) affects on the perceived usefulness (PU) at the significance of 0.05 as shown in the form of equation below.

$$H3: PU = a + b \text{ SysQual}$$

$$PU = 2.333 + 0.401\text{SysQual}$$

From this equation, when the system quality (SysQual) of ITSM system is risen up into 1 unit, it will affect on the perceived usefulness (PU) from ITSM system into 0.219 units increasingly.

From table 4.36, it is shown the relationship of controlled variable and dependant variable with the value of R Square = .168 or 16.8% which is the variation of the perceived usefulness (PU) caused by the system quality (SysQual) in 16.8%.

**Hypothesis 4 (H4):** The variable of Job Relevance affects on the perceived usefulness (PU) from ITSM system.

$$H4^0: \beta_{JobRele} = 0$$

$$H4^1: \beta_{JobRele} \neq 0$$

**Table 4.39** Model Summary of Job Relevance per Perceived usefulness

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.090 <sup>a</sup>	.008	.004	.68172

**Table 4.40** ANOVA (b) of Job Relevance per perceived usefulness

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.843	1	.843	1.814	.179 <sup>b</sup>
	Residual	104.102	224	.465		
	Total	104.946	225			

**Table 4.41** The regression coefficient of Job Relevance per perceived usefulness

		Coefficients <sup>a</sup>				
Model		Unstandardized		Standardized	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.539	.199		17.797	.000
	JobRelevance	.096	.071	.090	1.347	.179

From Table 4.40, F value is 1.814 and Sig. value is .179 which is more than 0.05. Therefore, H3° is accepted, and means that the dependent variable is not related to the controlled variable.

From Table 4.41, the dependant variable is not related to the controlled variable. Therefore, it can be concluded that the Job Relevance in the system does not affect on the perceived usefulness (PU).

**Hypothesis 5 (H5):** The variable of Computer Skill affects on the perceived usefulness (PU) from ITSM system.

$$H5^{\circ}: \beta_{\text{ComSkill}} = 0$$

$$H5^1: \beta_{\text{ComSkill}} \neq 0$$

**Table 4.42** Model Summary of Computer Skill per Perceived usefulness

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.702 <sup>a</sup>	.493	.490	.48759

**Table 4.43** ANOVA (b) of Computer Skill per perceived usefulness

ANOVA <sup>a</sup>						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	51.690	1	51.690	217.415	.000 <sup>b</sup>
	Residual	53.256	224	.238		
	Total	104.946	225			

**Table 4.44** The regression coefficient of Computer Skill per perceived usefulness

Coefficients <sup>a</sup>						
Model		Unstandardized		Standardized	t	Sig.
		Coefficients		Coefficients		
		B	Std. Error	Beta		
1	(Constant)	1.435	.164		8.764	.000
	ComputerSkill	.646	.044	.702	14.745	.000

From Table 4.43, F value is 217.415 and Sig. value is .000 which is less than 0.05. Therefore, the H5° acceptance is refused, and means that the dependent variable is related to the controlled variable.

From Table 4.44, the variable which is related to the controlled variable is Computer Skill (ComSkill), and has t value of 14.745 and Sig. value of .000. Therefore, it can be concluded that the Computer Skill (ComSkill) affects on the perceived usefulness (PU) at the significance of 0.05 as shown in the form of equation below.

$$H5: PU = a + b \text{ ComSkill}$$

$$PU = 1.435 + 0.646\text{ComSkill}$$

From this equation, when the Computer Skill (ComSkill) of ITSM system is risen up into 1 unit, it will affect on the perceived usefulness (PU) from ITSM system into 0.164 units increasingly.

From table 4.42, it is shown the relationship of controlled variable and dependant variable with the value of R Square = .490 or 49% which is the variation of the perceived usefulness (PU) caused by the Computer Skill (ComSkill) in 49%.

**Hypothesis 6 (H6):** The variable of perceived ease of use (PEOU) affects on the perceived usefulness (PU) from ITSM system.

$$H6^0: \beta_{PEOU} = 0$$

$$H6^1: \beta_{PEOU} \neq 0$$

**Table 4.45** Model Summary of Perceived ease of use per Perceived usefulness

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.808 <sup>a</sup>	.653	.652	.40312

**Table 4.46** ANOVA (b) of Perceived ease of use per perceived usefulness

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	68.545	1	68.545	421.807	.000 <sup>b</sup>
	Residual	36.401	224	.163		
	Total	104.946	225			

**Table 4.47** The regression coefficient of Perceived ease of use per perceived usefulness

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.061	.136		7.795	.000
	PEOU	.760	.037	.808	20.538	.000

From Table 4.46, F value is 421.807 and Sig. value is .000 which is less than 0.05. Therefore, the H6° acceptance is refused, and means that the dependent variable is related to the controlled variable.

From Table 4.47, the variable which is related to the controlled variable is perceived ease of use (PEOU), and has t value of 20.538 and Sig. value of .000. Therefore, it can be concluded that the perceived ease of use (PEOU) affects on the perceived usefulness (PU) at the significance of 0.05 as shown in the form of equation below.

$$H6: PU = a + b \text{ ComSkill}$$

$$PU = 1.061 + 0.760\text{ComSkill}$$

From this equation, when the perceived ease of use (PEOU) of ITSM system is risen up into 1 unit, it will affect on the perceived usefulness (PU) from ITSM system into 0.136 units increasingly.

From table 4.45, it is shown the relationship of controlled variable and dependant variable with the value of R Square = .652 or 65.2% which is the variation of the perceived usefulness (PU) caused by the Computer Skill (ComSkill) in 65.2%.

**Hypothesis 7 (H7):** The variable of perceived ease of use (PEOU) affects on the attitude toward to use from ITSM system.

$$H7^o: \beta_{PEOU} = 0$$

$$H7^1: \beta_{PEOU} \neq 0$$

**Table 4.48** Model Summary of perceived ease of use per Attitude toward to use

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.106 <sup>a</sup>	.011	.007	.49278

**Table 4.49** ANOVA (b) of perceived ease of use per Attitude toward to use

ANOVA <sup>a</sup>						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.619	1	.619	2.550	.112 <sup>b</sup>
	Residual	54.395	224	.243		
	Total	55.014	225			

**Table 4.50** The regression coefficient of perceived ease of use per Attitude toward to use

Coefficients <sup>a</sup>						
	Model	Unstandardized		Standardized	t	Sig.
		Coefficients		Coefficients		
		B	Std. Error	Beta		
1	(Constant)	2.988	.166		17.967	.000
	PEOU	-.072	.045	-.106	-1.597	.112

From Table 4.49, F value is 2.550 and Sig. value is .112 which is more than 0.05. Therefore, H7° is accepted, and means that the dependent variable is not related to the controlled variable.

From Table 4.50, the dependant variable is not related to the controlled variable. Therefore, it can be concluded that the perceived ease of use (PEOU) does not affect on the Attitude toward to use (AT) in ITSM system.

**Hypothesis 8 (H8):** The variable of the perceived usefulness (PU) affects on the attitude toward to use (AT) from ITSM system.

$$H8^0: \beta_{PU} = 0$$

$$H8^1: \beta_{PU} \neq 0$$

**Table 4.51** Model Summary of perceived usefulness of use per Attitude toward to use

<b>Model Summary</b>				
<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
1	.111 <sup>a</sup>	.012	.008	.49250

**Table 4.52** ANOVA (b) of perceived usefulness of use per Attitude toward to use

<b>ANOVA<sup>a</sup></b>						
<b>Model</b>		<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
1	Regression	.682	1	.682	2.810	.095 <sup>b</sup>
	Residual	54.333	224	.243		
	Total	55.014	225			

**Table 4.53** The regression coefficient of perceived usefulness of use per Attitude toward to use

<b>Coefficients<sup>a</sup></b>						
<b>Model</b>		<b>Unstandardized Coefficients</b>		<b>Standardized Coefficients</b>	<b>t</b>	<b>Sig.</b>
		<b>B</b>	<b>Std. Error</b>	<b>Beta</b>		
1	(Constant)	3.034	.186		16.347	.000
	PU	-.081	.048	-.111	-1.676	.095

From Table 4.52, F value is 2.810 and Sig. value is .095 which is more than 0.05. Therefore, H<sub>8</sub><sup>o</sup> is accepted, and means that the dependent variable is not related to the controlled variable.

From Table 4.53, the dependant variable is not related to the controlled variable. Therefore, it can be concluded that the perceived usefulness (PU) does not affect on the attitude toward to use (AT) from ITSM system.

**Hypothesis 9 (H9):** The variable of the perceived usefulness (PU) affects on the Behavioral intention to use (BI) from ITSM system.

$$H8^0: \beta_{PU} = 0$$

$$H8^1: \beta_{PU} \neq 0$$

**Table 4.54** Model Summary of perceived usefulness of use per Behavioral intention to use

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.054 <sup>a</sup>	.003	-.002	1.03133

**Table 4.55** ANOVA (b) of perceived usefulness of use per Behavioral intention to use

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.688	1	.688	.646	.422 <sup>b</sup>
	Residual	238.255	224	1.064		
	Total	238.942	225			

**Table 4.56** The regression coefficient of perceived usefulness of use per Behavioral intention to use

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.471	.389		8.931	.000
	PU	-.081	.101	-.054	-.804	.422

From Table 4.55, F value is .646 and Sig. value is .422 which is more than 0.05. Therefore, H8<sup>0</sup> is accepted, and means that the dependent variable is not related to the controlled variable.

From Table 4.56, the dependant variable is not related to the controlled variable. Therefore, it can be concluded that the perceived usefulness (PU) does not affect on the Behavioral intention to use (BI) from ITSM system.

**Hypothesis 10 (H10):** The variable of the Attitude toward to use (AT) affects on the Behavioral intention to use (BI) from ITSM system.

$$H8^0: \beta_{AT} = 0$$

$$H8^1: \beta_{AT} \neq 0$$

**Table 4.57** Model Summary of Attitude toward to use of use per Behavioral intention to use

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.023 <sup>a</sup>	.001	-.004	1.03255

**Table 4.58** ANOVA (b) of Attitude toward to use of use per Behavioral intention to use

ANOVA <sup>a</sup>						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.123	1	.123	.115	.735 <sup>b</sup>
	Residual	238.820	224	1.066		
	Total	238.942	225			

**Table 4.59** The regression coefficient of Attitude toward to use of use per Behavioral intention to use

		<b>Coefficients<sup>a</sup></b>				
<b>Model</b>		<b>Unstandardized Coefficients</b>		<b>Standardized Coefficients</b>	<b>t</b>	<b>Sig.</b>
		<b>B</b>	<b>Std. Error</b>	<b>Beta</b>		
1	(Constant)	3.293	.386		8.532	.000
	AT	-.047	.139	-.023	-.339	.735

From Table 4.57, F value is .115 and Sig. value is .735 which is more than 0.05. Therefore, H8° is accepted, and means that the dependent variable is not related to the controlled variable.

From Table 4.58, the dependant variable is not related to the controlled variable. Therefore, it can be concluded that the attitude toward to use (AT) does not affect on the Behavioral intention to use (BI) from ITSM system.

### 4.5 Conclusions of the Regression Analysis

**Table 4.60** Conclusion Hypothesis

<b>Hypothesis</b>	<b>Group</b>	<b>Factors</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>
H1	1	SysSup»PU	.399(a)	0.159	0.155
H2		SysQual»PU	.386(a)	0.149	0.145
H3		OutQual»PU	.415(a)	0.172	0.168
H4		JobRele»PU	.090(a)	0.008	0.004
H5		ComSkill»PU	.702(a)	0.493	0.490
H6		PEOU»PU	.808(a)	0.653	0.652

**Table 4.60** Conclusion Hypothesis (cont.)

Hypothesis	Group	Factors	R	R Square	Adjusted R Square
H7	2	PU»AT	.106(a)	0.011	0.007
H8		PEOU»AT	.111(a)	0.012	0.008
H9	3	PU»BI	.054(a)	0.003	-0.02
H10		AT»BI	.023(a)	0.001	-0.004

According to Table 4.60, it shows the factors affect on 3 groups of ITSM system. The rating criteria related to the relationship of hypothesis factors consisted of

R = 1 - 0.8	= Excellent
R = 0.8 - 0.6	= Good
R = 0.6 - 0.4	= Fair
R = 0.4 - 0.2	= Poor
R = 0.2 - 0	= Very Poor

R less than 0 is not relevant.

## **CHAPTER V**

### **CONCLUSION AND RECOMMENDATIONS**

This research aims to study the factors for acceptance of ITSM system of employees at Ayudhya Capital Services Company Limited. So as to investigate the factors influencing the acceptance for using technology system of ITSM, the problems, and obstacles for acceptance ITSM technology, the author would present the conclusions of the results and some recommendations for the future relevant studies.

The author has investigated the preciseness of the tools by Cronbach's Alpha coefficient. In addition, according to the analysis of accuracy of the tools in each complementary question. Each factor gives Cronbach's Alpha coefficient of 0.896, which is more than 0.7. that it is indicated the question for intension to utilize the factors for recognizing the utility, the recognition for convenient usability, the attitudes toward the behavior for usage, computer skills, involvement of the present works, the quality of the results, the system quality, and the support for using the system are significantly reliable.

The result obtained from the hypotheses testing of the research was conducted by SPSS statistics application and the test results through the primary statistics data from 226 questionnaires of analysis. It can be explained as follows.

## **5.1 Conclusions**

### **5.1.1 Overview of the sample**

The responding results from the questionnaire informed that females mostly outnumbered males, and most of the respondents were the employees from the department of the new account, aging between 31-40 years old, getting bachelor

degree, having 1-5 year experience, having the frequency of usage 1-2 times per week, and mostly learning the usage from the colleagues.

### 5.1.2 Levels of the factors that lead to the use of ITSM

From analysis, the conceptual data of a sample of 266 people on the factors affect the use of ITSM. Factors on each side, are given as:

**Table 5.1** Summary of factors.

ITEM	Mean	Std. Deviation	Interpretation
System Support	3.69	.797	high
System Quality	3.45	.851	high
Output Quality	3.66	.738	high
Job Relevance	2.71	.663	moderate
Computer Skill	3.66	.810	high
Perceived usefulness	3.80	.786	high
Perceived ease of use	3.61	.848	high
Attitude	2.73	.544	moderate
Behavioral intention of use	3.16	1.047	moderate
<b>Total</b>	<b>3.39</b>	<b>.787</b>	<b>moderate</b>

From the Table 5.1, it shows the levels of conducive factors to the use of ITSM system in accordance with the factors recognizing ITSM system in any aspects. It was found that the factor giving the maximum average is the Perceived usefulness with the average of 3.80 ranked in the high level. while the factor giving the minimum average is Job Relevance with the average of 2.71 ranked in the moderate level. Moreover the overall attitudes of the sample for using the ITSM system toward the acceptance in ITSM in any aspects were in the moderate level with the average of 3.39.

### **5.1.3 One way ANOVA**

The analysis of one way ANOVA was conducted to test the variance of the average, whose factors compose of gender, age, educational background, department, job position, and the frequency of usage. These components were analyzed to consider whether the different averages of 7 external factors have an effect on the intension of use with different systems with the significance level of  $\alpha= 0.05$ . This subsequently gave the conclusion that all seven external factors did not affect the intension for using ITSM systems.

### **5.1.4. Hypothesis testing with a simple linear regression analysis**

The results of hypothesis test shows that five hypotheses gaining the approval are the support for the use of system affecting the recognition for usability, the quality of the system affecting the recognition for utility, the quality of the result affecting the recognition for utility, computer skills affecting the recognition for utility, and the recognition for the convenience for using affecting the recognition for utility.

On the other hand, five hypotheses gaining disapproval are the involvement of present work affecting the recognition for utility, the recognition for the convenience for usage affecting the attitude for usability, the recognition for utility affecting the attitude for usability, the recognition for utility affecting the usage behavior, and the attitudes towards usability affecting the usage behavior.

The factor with the most influential usage of ITSM is the recognition for convenience for usability, which later has an effect on the utility. According to the analysis, it was found that ITSM Technology would be impacted for the acceptance of users due to the easiness and less complicated usage of technology. However, with difficult and more complicated of usage requiring the skills, it would have a less chance to success for providing service, and probably leads to the disapproval of users. Computer Skill is the second factor that is influential to the acceptance for using ITSM system. According to the analysis, it was found that high computer skills would lead to higher acceptance and usability since high computer competence is the better basis for learning new technology, and is alsoable to convey/teach this skill to other colleagues. As the factor of Output Quality, it was found that the users of system call for the accurate, updated, and reliable information, and these requirements would lead to the

acceptance of users. Another factor is System Support, which is indicated that the support of administrator contributes to the better attitudes for using the system. If administrator gives less importance to support, such as the lack of training for usage, encouragement for usage, and contribution to the usability, there will be the obstacles for technology acceptance. System Quality is the final factor influencing the acceptance of ITSM system. According to the analysis, it was found that the system quality in terms of safety, smooth connection of system, and the quick response of system would be more acceptable for utilizing the technology in the future, and would have more impact on the intention for usage.

## **5.2 Limitation Recommendation for future research**

This research intended to study the factors for approving the use of ITSM system of employees at Ayudhya Capital Services Co., Ltd. The gathering data of 226 sets of questionnaires is considered too negligible, resulting the inapplicable research to other organization. Therefore, to make the applicable research for further development, the questionnaires should be increased up to 400 sets.

For the future research, the other factors influencing the approval should be taken into account by analyzing whether those factors play an important role in the usage behavior for the system.

The aim of this research is to study the factors for approving ITSM system. Even though the user gives the approval, it is still unidentified whether the system would increase the efficiency. Therefore, the results of efficiency should be re-investigated as well.

## REFERENCES

- [1] Sirisuda Supawan. การนำมาตรฐาน ITIL มาประยุกต์ใช้ในการบริหารจัดการ ระบบสารสนเทศ กรณีศึกษา บริษัท ดิคอมพ์กรุ๊ป จำกัด ITIL (Version 2) For Dcom Groups Co., Ltd. [online]. Retrieved 21 November 2014, from : [http://www.msit.mut.ac.th/newweb/phpfile/Thesis/Thesis\\_2555/การนำมาตรฐาน ITIL มาประยุกต์ใช้ในการบริหารจัดการ ระบบสารสนเทศ](http://www.msit.mut.ac.th/newweb/phpfile/Thesis/Thesis_2555/การนำมาตรฐาน ITIL มาประยุกต์ใช้ในการบริหารจัดการ ระบบสารสนเทศ)
- [2] Bank of Ayudhya Public Company Limited (BAY). About us overview [online]. Retrieved 21 November 2014, from : [http://www.krungsri.com/bank/getmedia/7c88177f-25fc-44ac-b1be-9e4f6d25d97e/Factsheet-Krungsri-group-4Q14-T\(RE\).pdf.aspx](http://www.krungsri.com/bank/getmedia/7c88177f-25fc-44ac-b1be-9e4f6d25d97e/Factsheet-Krungsri-group-4Q14-T(RE).pdf.aspx)
- [3] Chavisa Prueksawan. Factors Influencing the Adoption of SAP System in Plastic Manufacturing Industry for Electric and Electronic Devices. An Independent Study Submitted in Partial Fulfillment of the Requirements For The Degree of Master of Science (Technology Management). College of Innovation Thammasat University; 2011
- [4] Singha Chaweek and Sunanra Wongjaturaphat. ทฤษฎีการยอมรับการใช้เทคโนโลยีสารสนเทศ, อาจารย์คณะเทคโนโลยีสารสนเทศสถาบันพระจอมเกล้าเจ้าคุณทหารลาดกระบังกรุงเทพฯและนักศึกษาระดับปริญญาเอก คณะเทคโนโลยีสารสนเทศสถาบันพระจอมเกล้าเจ้าคุณทหารลาดกระบังกรุงเทพฯ; 2012.
- [5] Venkatesh, V, & Davis, FD. Theoretical Extension of the Technology Acceptance Model: Four longitudinal field studies. *Management Science*, 46(2), 186-204
- [6] Prinya Hom-anek. IT Service Management (ITSM), IT Infrastructure Library (ITIL V2 & V3) และ มาตรฐาน ISO/IEC 20000” บทวิเคราะห์กระบวนการบริหารจัดการงานบริการ เทคโนโลยีสารสนเทศ [online]. Retrieved 21 November 2014, from: <https://www.acisonline.net/?p=1480>
- [7] Wunnida Klindee. การวิเคราะห์ปัจจัยที่มีความสัมพันธ์กับความน่าเชื่อถือของระบบพาณิชย์อิเล็กทรอนิกส์ของไทย [online]. Retrieved 21 November 2014, from: <http://digi.library.tu.ac.th/thesis/st/0283/03CHAPTER2.pdf>

- [8] Wasant Jampapaeng. Technology Acceptance in Public Sector a Case Study: The use of ERP in Electricity generating Authority of Thailand. An Independent Study Submitted in Partial Fulfillment of the Requirements For The Degree of Master of Science (Technology Management). College of Innovation Thammasat University; 2010
- [9] Cataleeya Petchcharoenrat. Factors in the Acceptance and the Use of the New Cloud Computing-Based Intranet System: A case study on Thai Beverage Public Company Limited. [online]. Retrieved 20 October 2014, from: <http://www2.citu.tu.ac.th/citu/www/sites/all/themes/maxx/researchstudent/Cattaleeya.pdf>.
- [10] Chureeporn Thongtawai. Service Quality Factors that Influence the Acceptance of outsourcing Service in Small and medium-sized Enterprises (SMEs): A Case of Application Development Outsourcing. [online]. Retrieved 20 October 2014, from : <http://libdcms.nida.ac.th/thesis6/2555/b176372.pdf>.
- [11] Suratsada Na Pattalung. Analysis of Factors Affecting the Use of Web HR System : A Case Study Employees Government Saving Bank. A Thematic Paper Submitted in Partial Fulfillment of The Requirements For The Degree of Master of Science (Technology of Information System Management). Faculty of Graduate Studies Mahidol University; 2014
- [12] Thawara Wangsomboondee. Factor Affecting Internet Banking Technology Acceptance: A Case Study of United Overseas Bank Employees in Bangkok Head Quarter. An Independent Study Submitted in Partial Fulfillment of the Requirements For The Degree of Master of Science (Technology Management): College of Innovation Thammasat University; 2010

## **APPENDIX**

## SATISFACTION ASSESSMENT FOR THE USER OF INSTRUCTORS (IN THAI)

### แบบสอบถามเพื่อการวิจัย เรื่อง การยอมรับการใช้งานระบบ ITSM

#### คำชี้แจง

แบบสอบถามชุดนี้มีวัตถุประสงค์เพื่อศึกษาและวิจัยในประเด็นที่เกี่ยวกับระดับการยอมรับเทคโนโลยี ปัจจัยที่มีความสัมพันธ์และมีอิทธิพลต่อการยอมรับเทคโนโลยี ปัญหาและอุปสรรคต่อการยอมรับเทคโนโลยี เพื่อเป็นแนวทางในการสนับสนุน เพิ่มขีดความสามารถและพัฒนาคณากรให้มีคุณสมบัติที่เหมาะสมและรองรับต่อการเปลี่ยนแปลงทางด้านเทคโนโลยีสารสนเทศ

ดังนั้นเพื่อให้ได้ข้อมูลที่ก่อให้เกิดประโยชน์อย่างสูงสุด จึงใคร่ขอความกรุณาจากท่านในการตอบแบบสอบถามทุกข้อให้ตรงกับความเป็นจริงทุกประการ และขอรับรองว่าข้อมูลที่ท่านตอบถือเป็นความลับ นำเสนอเฉพาะภาพรวมและใช้เพื่อวัตถุประสงค์ในการศึกษาวิจัยเท่านั้น ซึ่งแบบสอบถามชุดนี้มีด้วยกันทั้งสิ้น 2 ส่วน ดังนี้

**ส่วนที่ 1** ข้อมูลทั่วไปของผู้ตอบแบบสอบถาม

**ส่วนที่ 2** ทศนคติต่อการยอมรับและใช้งานระบบ

ผู้วิจัยขอขอบพระคุณในความอนุเคราะห์ของท่านที่กรุณาสละเวลาอันมีค่า เพื่อแสดงความคิดเห็นในแบบสอบถามมา ณ ที่นี้ด้วย

**ส่วนที่ 1 ข้อมูลทั่วไปของผู้ตอบแบบสอบถาม**

**คำชี้แจง** กรุณาทำเครื่องหมาย  ในช่องที่ตรงตามความเป็นจริงของท่านมากที่สุด

## 1. เพศ

 หญิง ชาย

## 2. อายุ

 20 – 30 ปี 31 – 40 ปี 41 – 50 ปี 51 – 60 ปี มากกว่า 60 ปี

## 3. วุฒิการศึกษาสูงสุด

 ต่ำกว่าปริญญาตรี ปริญญาตรี ปริญญาโท ปริญญาเอก

## 4. แผนก

 IT Sale TCS NA Collection ATD

## 5. ตำแหน่งงาน

 Associate Staff 1, 2 Senior Staff Supervisor Assistance Manager Manager First Assistant Vice President & above

## 6. อายุงาน

 ต่ำกว่า 1 ปี 1 – 5 ปี 6 – 10 ปี 11 – 15 ปี 15 ปีขึ้นไป

## 7. ความถี่ในการใช้งานระบบ

 1 – 2 ครั้ง/สัปดาห์ 3-4 ครั้ง/สัปดาห์ 5-6 ครั้ง/สัปดาห์ ใช้ทุกวัน

## 8. ท่านเรียนรู้วิธีการใช้งานและเข้าถึงข้อมูลจากแหล่งใด (ตอบได้มากกว่า 1 ข้อ)

 สอบถามจากเจ้าหน้าที่ดูแลระบบ สอบถามจากหัวหน้างาน สอบถามจากเพื่อนร่วมงาน ทดลองใช้ด้วยตัวเอง อื่นๆ (โปรดระบุ).....

**ส่วนที่ 2** ทักษะต่อการยอมรับและใช้งานระบบ

**คำชี้แจง** กรุณาทำเครื่องหมาย  ในช่องที่ตรงตามความเป็นจริงของท่านมากที่สุด

ลำดับที่	ทักษะต่อการยอมรับและการใช้งานระบบ	ระดับความคิดเห็น				
		5 มาก ที่สุด	4 มาก	3 ปาน กลาง	2 น้อย	1 น้อย ที่สุด
<b>การสนับสนุนการใช้งานระบบ (System Support)</b>						
1	ผู้บริหารให้ความสำคัญต่อการใช้งานระบบ ITSM					
2	ผู้บริหารให้การสนับสนุนการใช้งานระบบ ITSM อย่างชัดเจน					
3	ผู้บริหารมีการสร้างแรงจูงใจให้บุคลากรเข้ามามีส่วนร่วมในการใช้ระบบ ITSM					
<b>การสนับสนุนการใช้งานระบบ (System Support)</b>						
4	เจ้าหน้าที่ Helpdesk คอยให้ความช่วยเหลือและให้คำปรึกษาแนะนำ					
5	ท่านได้รับการอบรมวิธีการใช้งานและฟังก์ชันต่างๆ					
6	ท่านสามารถนำความรู้มาถ่ายทอดให้เพื่อนร่วมงานได้					
<b>คุณภาพของระบบ (System Quality)</b>						
7	ระบบมีการรักษาความปลอดภัยและกำหนดสิทธิ์ในการเข้าถึงข้อมูลของผู้ใช้งานอย่างชัดเจน					
8	การเชื่อมต่อของระบบมีความเสถียร					
9	ระบบมีความรวดเร็วสามารถตอบสนองต่อการใช้งานของผู้ใช้ได้อย่างมีประสิทธิภาพ					

ลำดับที่	ทัศนคติต่อการยอมรับและการใช้งานระบบ	ระดับความคิดเห็น				
		5 มากที่สุด	4 มาก	3 ปานกลาง	2 น้อย	1 น้อยที่สุด
<b>คุณภาพของผลลัพธ์ (Output Quality)</b>						
10	ข้อมูลที่ได้จากระบบ ITSM มีความถูกต้องและน่าเชื่อถือ					
11	ข้อมูลที่ได้จากระบบ ITSM มีความทันสมัยตลอดเวลา					
<b>ความเกี่ยวข้องกับงานที่ทำ (Job Relevance)</b>						
12	ลักษณะงานของท่านมีความเกี่ยวข้องกับการใช้งานระบบ ITSM					
13	ระบบ ITSM สนับสนุนการทำงานของ ท่าน					
<b>ทักษะด้านคอมพิวเตอร์ (Computer Skill)</b>						
14	ท่านมีความรู้และสามารถใช้งานโปรแกรมคอมพิวเตอร์พื้นฐานได้เป็นอย่างดี					
15	ท่านสามารถเรียนรู้และใช้งานเทคโนโลยีคอมพิวเตอร์หรือเทคโนโลยีใหม่ๆได้ด้วยตนเอง					
16	ท่านสามารถแก้ไขปัญหาเบื้องต้นเกี่ยวกับคอมพิวเตอร์ได้ด้วยตนเอง					
<b>การรับรู้ถึงประโยชน์ที่ได้รับ (Perceived Usefulness)</b>						
17	ระบบ ITSM ช่วยให้การดำเนินงานมีประสิทธิภาพและประสิทธิผลมากขึ้นกว่าเดิม					
18	ระบบช่วยให้ข้อผิดพลาดในการทำงานลดลง					
19	ระบบ ITSM ช่วยลดขั้นตอนการปฏิบัติงานและทำให้การปฏิบัติงานรวดเร็วมากยิ่งขึ้น					

ลำดับที่	ทัศนคติต่อการยอมรับและการใช้งานระบบ	ระดับความคิดเห็น				
		5 มากที่สุด	4 มาก	3 ปานกลาง	2 น้อย	1 น้อยที่สุด
20	ระบบ ITSM ช่วยให้การค้นหาข้อมูลรวดเร็วกว่าการค้นหาข้อมูลในเอกสาร					
21	ระบบ ITSM ช่วยลดปริมาณและลดจำนวนการใช้กระดาษ					
22	ข้อมูลในระบบ ITSM สามารถนำมาวิเคราะห์ และใช้เป็น Knowledge Base ได้					
<b>การรับรู้ถึงความง่ายในการใช้งาน (Perceived Ease of use)</b>						
23	การใช้งานและขั้นตอนการทำงานของระบบ ITSM มีความชัดเจนเข้าใจง่าย					
24	ท่านเข้าใจและสามารถเรียนรู้การใช้งานระบบ ITSM ได้					
25	ภาษาที่ใช้ในระบบ ITSM มีความชัดเจนเข้าใจง่าย					
<b>การรับรู้ถึงความง่ายในการใช้งาน (Perceived Ease of use)</b>						
26	ท่านต้องใช้เวลาและความพยายามในการเรียนรู้การใช้งานระบบ ITSM อย่างมาก					
27	ท่านคิดว่าการใช้งานระบบ ITSM เป็นเรื่องง่าย ไม่ต้องใช้ทักษะความรู้และความชำนาญ					
<b>เจตนาที่จะใช้งาน (Behavioral Intention to Use)</b>						
28	ท่านมีความตั้งใจที่จะใช้งานระบบ ITSM อย่างต่อเนื่อง					
29	ท่านมีแผนที่จะใช้งานระบบ ITSM ในอนาคตอันใกล้					

ลำดับที่	ทัศนคติต่อการยอมรับและการใช้งานระบบ	ระดับความคิดเห็น				
		5 มาก ที่สุด	4 มาก	3 ปาน กลาง	2 น้อย	1 น้อย ที่สุด
30	ท่านมี หรือ จะมีความจำเป็น ที่ต้องใช้งานระบบ ITSM ในอนาคตอันใกล้					
<b>ทัศนคติที่มีผลต่อพฤติกรรมการใช้ (Attitude toward to use)</b>						
31	ระบบ ITSM ช่วยให้การทำงานของท่านมีความรวดเร็ว คล่องตัว(จาก JR2)					
32	ระบบ ITSM สามารถใช้งานได้สะดวก(จาก PEOU 6)					

**ข้อเสนอแนะเพิ่มเติม**

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## **BIOGRAPHY**

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