

**ANALYSIS OF FACTORS USING UTAUT E-HEALTHCARE OF
MEDICAL SCHOOL IN BANGKOK**

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OF THE REQUIREMENTS FOR
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2013**

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entitled
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MEDICAL SCHOOL IN BANGKOK**

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ANALYSIS OF FACTORS USING UTAUT E-HEALTHCARE OF MEDICAL SCHOOL IN BANGKOK

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ABSTRACT

The purpose of this study is to investigate which factors have an influence on UTAUT technology electronic healthcare of medical schools in Bangkok. 400 Questionnaires have been completed by recruited people. The entire collected data has been analyzed and interpreted by Statistical software and the results of this study reveals that performance expectancy, effort expectancy, social influence, facilitating conditions, information technology knowledge in clouding the modulators (age, gender, experience and voluntariness of use) on using behaviour intension. This study will help to support E-Health adoption in the decision making, planning management and support technology performance, make better quality of life.

KEY WORDS: UNIFIED THEORY OF ACCEPTANCE AND USE OF
THECHNOLOGY (UTAUT), E-HEALTH, HOSPITAL

80 pages

การวิเคราะห์ปัจจัยที่มีผลต่อการใช้เทคโนโลยีสุขภาพ โรงพยาบาลแพทย์ในกรุงเทพมหานคร
ANALYSIS OF FACTORS USING UTAUT E-HEALTHCARE OF MEDICAL SCHOOL IN
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บทคัดย่อ

การนำเสนอการศึกษาวิจัยนี้คือการวิเคราะห์ปัจจัยที่มีอิทธิพลต่อการใช้เทคโนโลยีสุขภาพ อิเล็กทรอนิกส์โรงพยาบาลแพทย์ในกรุงเทพมหานคร โดยได้ทำการเก็บข้อมูลจากแบบสอบถามจำนวน 400 แบบสอบถาม และได้นำทฤษฎี Unified Theory of Acceptance and Use of Technology (UTAUT) มาใช้สร้างสมมติฐาน โดยได้นำข้อมูลทั้งหมดมาทำการรวบรวมและวิเคราะห์ พร้อมกันนี้ได้นำผลที่ได้มาคำนวณค่าโดยใช้โปรแกรมทางสถิติและผลการศึกษาในครั้งนี้แสดงให้เห็นว่า ความคาดหวังในประสิทธิภาพ ความความหวังความพยายาม อิทธิพลต่อสังคม ความสะดวกสบายในการใช้ และ ความรู้ในการใช้เทคโนโลยี จากปัจจัยทั้งหมดที่ได้กล่าวมานั้นล้วนส่งผลต่อพฤติกรรมความตั้งใจใช้เทคโนโลยี โดยผลการศึกษานี้จะช่วยให้ผู้บริหารมีข้อมูลในการสนับสนุนการตัดสินใจในการวางแผน การจัดการและเพิ่มประสิทธิภาพการทำงานของกรนำเทคโนโลยีที่เกี่ยวข้องมาใช้ให้เกิดประโยชน์สูงสุด และยังคงจะช่วยสนับสนุนให้ผู้ใช้บริการมีคุณภาพชีวิตที่ดีขึ้น

80 หน้า

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CHAPTER I

INTRODUCTION

1.1 Background and Statement of Problems

Currently, information technology in healthcare. Brings together the knowledge and scientific methods used in a systematic way, which will help ensure the effectiveness of care, health promotion. Protection from disease. And physical rehabilitation this is to enable individuals or communities healthy and safe life. Result in significant health and our daily life greatly. eHealth technology [38] value to the lifestyle of the person as a whole to collect, store and analyze data and information in health and medical information. Or even the specifics of each individual to know the impact of their own behavior. Increase the performance of medical personnel. It ensures equality of access to healthcare services. Because public access to important information and useful thoroughly. The development of technology and innovation not only help develop and promote physical health only. Also includes mental and spiritual health as well as the social channels to reach more diverse. Not be concentrated in a group as well as before.

If we consider the total value of health technologies have on the lives of people in society. The technology allows 1) Everyone has the comfortable lifestyle 2) increase the efficiency of health care. Health Promotion Protection from disease. Rehabilitation and 3) the study and research of scholars in a variety of health disciplines. Can make a valuable contribution or productivity. And useful to human life quickly 4) save labor and time to work. To allow individuals to take action quickly.

This research focusing on which factors is the most influence with the user's Electronic Healthcare the term can encompass a range of services or systems that are at the edge of medicine/healthcare and information technology, including: [42]

- Electronic health records: enabling the communication of patient data between

different healthcare professionals;

- Telemedicine is the use of telecommunication and information technologies in order to provide clinical health care at a distance.

- Consumer health informatics use of electronic resources on medical topics by healthy individuals or patients.

- Health knowledge management an overview of latest medical journals, best practice guidelines or epidemiological tracking and others.

From the above it can be seen that information technology is an important sampling groups who were receiving medical services and educational information. So when researchers study the behavior of the sample admitted to using technology keeping in mind the factors that affect the behavior of the electronic healthcare technology, government hospitals in the country. With the development of electronic healthcare Knicks in the future.

Researcher hope in develop and executive the health information technology strategy, the government strives to promote health people in Thailand has a quality of life.

In figure 1.1 shows Federal Health IT Vision and Mission in USA since 2011 – 2015 To demonstrate trend in the development of the health of the developed world.[45]

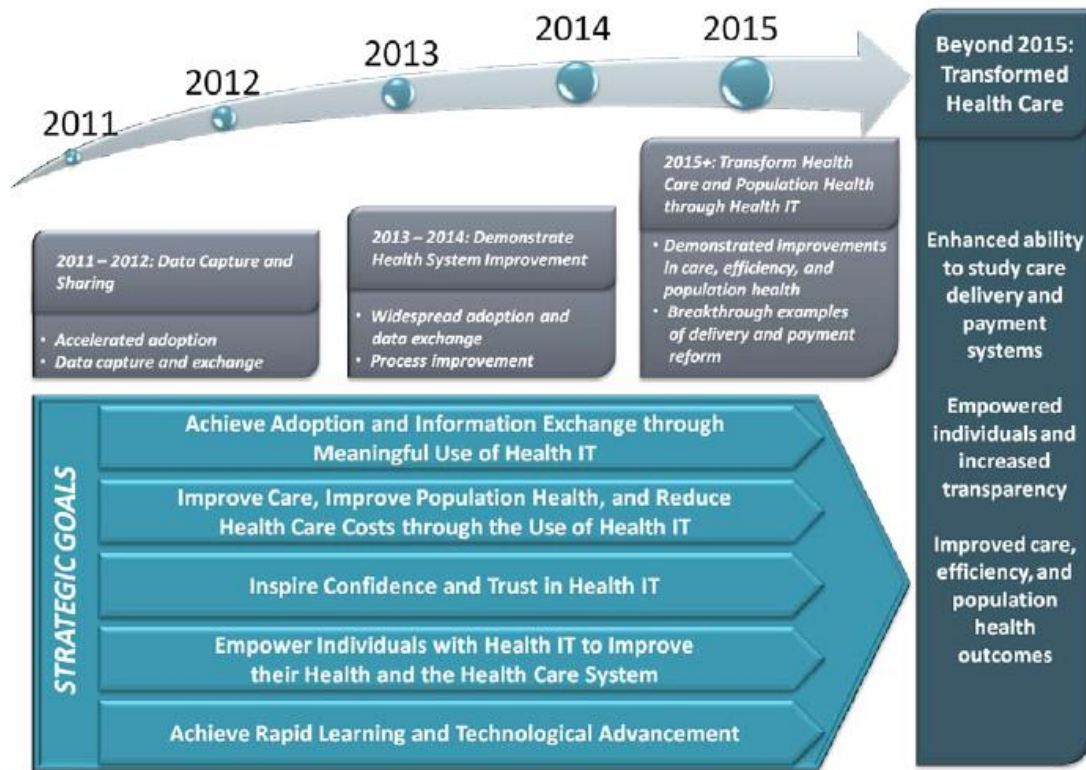


Figure 1.1 Federal Health IT Vision and Mission USA

Federal Health IT Vision and Mission

Vision: This federal health information technology vision is health system that uses information to empower individuals and to improve the health of the population.

Mission: This federal health information technology mission is to improve health and health care for all Americans through the use of information and technology.

1.2 Objective of this Study

The purpose of this study consists of:

This research to indicate factors which the influence the adoption of information technology knowledge technology electronic healthcare the medical school in Bangkok.

1.3 Scope of this Study

The Scope of this study:

1. This research will study on factor of technology acceptance, which has by users service technology electronic healthcare the medical school in Bangkok.

2. Representative Sample:

- 400 Questionnaires have been completed by recruited people.

- How to Send Questionnaires by Send Email, Google Docs, and share public in Facebook.

3. This research uses SPSS for windows version 16.0 Microsoft Excel and Lisrel v.9.1 student in order to analyze data.

1.4 Expected Results

The expected outcome of this study includes:

1. Support the E-Health adoption in the decision making, planning management and support technology performance, make better quality of life for people in Thailand.

2. Support the patients can save time in finding information about the treatment.

CHAPTER II

LITERATURE REVIEW

This chapter describe about basic knowledge and other researcher in order to define scope area and produce of this research technology electronic healthcare the medical school in Bangkok.

Currently, Information Technology has been applied widely and played a Major role in science developing countries, commercial education, politic and others healthcare. It can be seen from the new biotechnologies that there are many varieties, and rapidly growing volumes. Furthermore, information technology has been becoming a key factor and influencing social such as reducing the time and process. Information technology will provide you for convenience ways to make an appointment with the doctors giving a consult in remote area and even to prevent your time prior to waste it in traffic jam. This research focusing on which factors is the most influence with the user's electronic healthcare the term can encompass a range of services or systems that are at the edge of electronic healthcare and information technology knowledge.

2.1 eHealth

Electronic healthcare (also written electronic healthcare) [38] is a relatively recent term for healthcare practice support by electronic processes telemedicine teleconference ePrescribing consumer and communication. Usage of the term varieties some would argue it is interchangeable with health informatics with a broad definition covering electronic healthcare digital processes in healthcare while others use it in the narrower sense of electronic healthcare practice using the Internet. However, current technology is used widely in Thailand and in foreign countries.

The term can encompass a range of services or systems that are at the edge of electronic healthcare and information technology knowledge, including;

- Electronic health records: enabling the communication of patient data between different healthcare professionals;
- ePrescribing: access to prescribing options, printing prescriptions to patients and sometimes electronic transmission of prescriptions from doctors to pharmacists
- Telemedicine: physical and psychological treatments at a distance, including tele-monitoring of patient's functions;
- Consumer health informatics: use of electronic resources on medical topics by healthy individuals or patients;
- Health knowledge management: e.g. in an overview of latest medical journals, best practice guidelines or epidemiological tracking;
- Virtual healthcare teams: consisting of healthcare professionals who collaborate and share information on patients through digital equipment;
- mHealth or m-Health: includes the use of mobile devices in collecting aggregate and patient level health data, providing healthcare information to practitioners, researchers, and patients, real-time monitoring of patient vitals, and direct provision of care (via Smartphone telemedicine);
- Medical research using Grids: powerful computing and data management capabilities to handle large amounts of heterogeneous data.
- Healthcare Information Systems: also often refer to software solutions for appointment scheduling, patient data management, work schedule management and other administrative tasks surrounding health.

E-health is the transfer of health resources and health care by electronic means. It encompasses three main areas:

- The delivery of health information, for health professionals and health consumers, through the Internet and telecommunications.
- Using the power of IT and e-commerce to improve public health services, e.g. through the education and training of health workers.
- The use of e-commerce and e-business practices in health systems management.

- E-health provides [42] a new method for using health resources - such as information, money, and medicines - and in time should help to improve efficient use of these resources. The Internet also provides a new medium for information dissemination, and for interaction and collaboration among institutions, health professionals, health providers and the public.

The World Trade Organization (WTO) [44] defines e-commerce as the production, distribution, marketing, sale or delivery of goods and services by electronic means, i.e. conducting business over the Internet. The reduced costs, the amount of information available and the speed of doing business on-line are creating a revolution in the way that business is conducted. Access to the required technology is an issue for e-health, as for all information communication technologies. The population of the African continent is approximately 800 million, but only 4 million of them use e-mail (compared to 513 million globally) and of these, 2 million are based in South Africa.

Tele-health includes surveillance, health promotion and public health functions. It is broader in definition than tele-medicine as it includes computer-assisted telecommunications to support management, surveillance, literature and access to medical knowledge. Tele-medicine is the use of telecommunications to diagnose and treat disease and ill-health. Telematics for health is a WHO composite term for both tele-medicine and telemedicine-health, or any health-related activities carried out over distance by means of information communication technologies.

2.2 healthcares Information Technology

Healthcares information technology is important for the patient's in the 3 decades since the term "medical information's" was first used, individuals working at the intersection of information technology (IT) and medicine have developed and evaluated computer applications aiming to improve health and health care. The road to successful use of IT in medicine has not been easy, with examples of failures in both computer systems and networks. However, a variety of applications from the field of medical informatics have matured in recent years. Fueled by several factors including

increased emphasis on ensuring patient safety and preventing medical error, as well as development of new biotechnologies such as gene microarrays, the need for informatics applications in healthcare has become apparent to the larger community. Recent actions such as the organization of the national health information infrastructure and the national institutes of health roadmap represent milestones that solidify the importance of IT in patient care and research respectively. A growing body of scientific evidence supports the use of this technology, particularly for clinical decision support to improve health care safety and quality. Another important recent development is the creation of the Office of the National Health Information Technology Coordinator. This builds on a refreshingly bipartisan consensus on the value of health care IT. It no exaggeration to declare that the years ahead portend the “decade of health information technology.”

The Medical School in the level of most third questionnaire respectively. Contains the follow:

1. Faculty of Medicine Siriraj Hospital, Mahidol University
2. Faculty of Medicine Ramathibodi hospital, Mahidol University
3. Faculty of Medicine, Chulalongkorn University

This research will lead to the e-healthcare services, the medical school shown to demonstrate the technology adopted in hospitals.

1. Faculty of Medicine Siriraj Hospital, Mahidol University

This is website www.si.mahidol.ac.th form Faculty of Medicine Siriraj Hospital, Mahidol University. So, in the page that has been divided into include:

About Siriraj is about Dean’s message, vision and mission, history, Administration, Departments and centers, annual reports, awards, siriraj culture, vdo:a chronicle of siriraj, map and location, webmail and contact us.

Education is about Founded in 1890, Siriraj Medical School is the first medical school in Thailand. The School was originally names "Pathayakorn School", the school for medical practitioners, and was given the title of "Royal Medical College" in 1901. In 1923, through the generosity of His Royal Highness Prince Mahidol of Songkla (His Majesty the present King's father) and the assistance from the Rockefeller Foundation, a novel curriculum was established to meet international

standards. The name of the medical school was changed to "Faculty of Medicine Siriraj Hospital" in 1969. The current 6-year curriculum is divided into one pre-medical year, two pre-clinical years and three clinical years.

Research about is [13] The Faculty offers state-of-the-art research facilities and ample opportunities for our researchers to conduct basic biomedical, translational and clinical research. The Siriraj Office for Research and Development and Siriraj Clinical Research Center are facilitators for basic and clinical research. In 2012, the Siriraj Center of Excellence in Medical Research (SiMR), a 12-floor building with research laboratories, as well as research management units, will be completed. Currently, the Faculty collaborates with biomedical research institutes in the USA, UK, Germany, Australia and Japan. In addition to generating new knowledge from basic biomedical research, the Faculty of Medicine Siriraj Hospital emphasizes translation of scientific discoveries into clinical application to improve health and welfare of Thai people.

Hospitals service: This section important for patients because have innovation and information technology section service patients. For example technology e-healthcare at

1. Faculty of Medicine Siriraj hospital, Mahidol University

- Siriraj Online
- Consultation Room
- Program registration for new patients
- Siriraj Information Center (SIC): about is news and events educating

the public to search information.

- SIRIRAJ E-PUBLIC LIBRARY

- Leaflets and brochure Center

2. Faculty of Medicine Ramathibodi hospital, Mahidol University

3. Faculty of Medicine, Chulalongkorn University

This show website e-healthcare service follow below figure 2.1 Example website e-healthcare service. Patients can select topic related. This show is 2 version Thai and English version user can select version. [13]

2.2.1. Faculty of Medicine Siriraj hospital, Mahidol University



Figure 2.1 Example Website e-healthcare service (Thai version)



Figure 2.2 Example Website e-healthcare service (English version)

Siriraj online this show question and answer related health problem by medical will provide answers to public health about patients health via website www.si.mahidol.ac.th. This show has status user's general and medical to define the rights to access information.



Figure 2.3 Siriraj Online via www.si.mahidol.ac.th



Figure 2.4 Consultation Room via www.si.mahidol.ac.th

Program registration via www.si.mahidol.ac.th. This show register new patients in the website to get used to confirm the identity of the medical treatment at Siriraj Hospital. Old patients with HN, it can be used by the defendant. Identification Card (ID card) for identification. For facilitate the patient treatment medical at siriraj hospital.



Figure 2.5 Program registration via www.si.mahidol.ac.th



Figure 2.6 Program registration (New patients) via www.si.mahidol.ac.th

Leaflets and brochure Center: This show about leaflets and brochure related diagnosis interest. These things give information to users or patients.

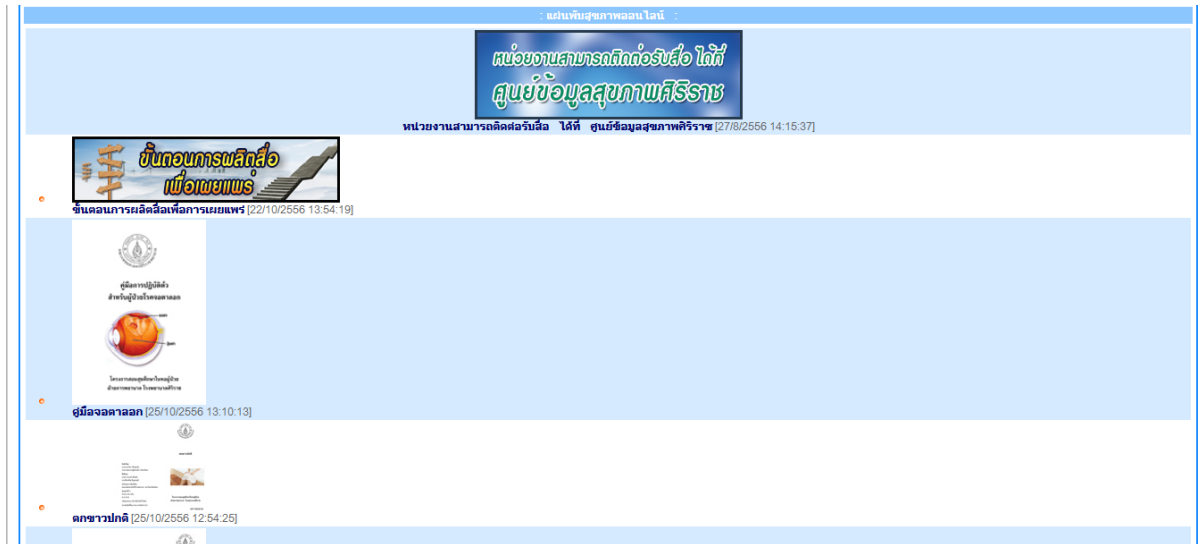


Figure 2.7 Leaflets and brochure Center via www.si.mahidol.ac.th



Figure 2.8 Example Leaflets and brochure Center via www.si.mahidol.ac.th

SIRIRAJ E-PUBLIC LIBRARY: This webpage show health article related. Patients can search medical article to read acknowledge and understand correctly.

English version

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- วัคซีนที่จำเป็นในเด็ก (ตอนที่ 2)
- การดูแลฟันในผู้สูงอายุ ตอนที่ 2
- การฝังฟิลลาร์ (Pillar) เข้าไปในเพดานอ่อนเพื่อรักษาอาการนอนกรนและ/หรือภาวะหยุดหายใจขณะหลับ

บทความสุขภาพยอดนิยม

บทความสุขภาพเดือนล่าสุด

บทความทั้งหมด

จิตเวช [49]

ทันตกรรม [29]

ภัยอันตราย [7]

มะเร็ง [55]

โรคข้อกระดูกและกล้ามเนื้อ [39]

โรคของเต้านม [21]

โรคตา [34]

โรคติดเชื้อ [42]

โรคไตและกระเพาะปัสสาวะ [18]

โรคปวดเส้นประสาท [1]

โรคปอดและทางเดินหายใจ [12]

Figure 2.9 SIRIRAJ E-PUBLIC LIBRARY via www.si.mahidol.ac.th

2.2.2 Faculty of Medicine Ramathibodi hospital, Mahidol University

This show website e-healthcare service follow below figure 2.10 Information for patient via www.ra.mahidol.ac.th. Patients can select topic related.[14]

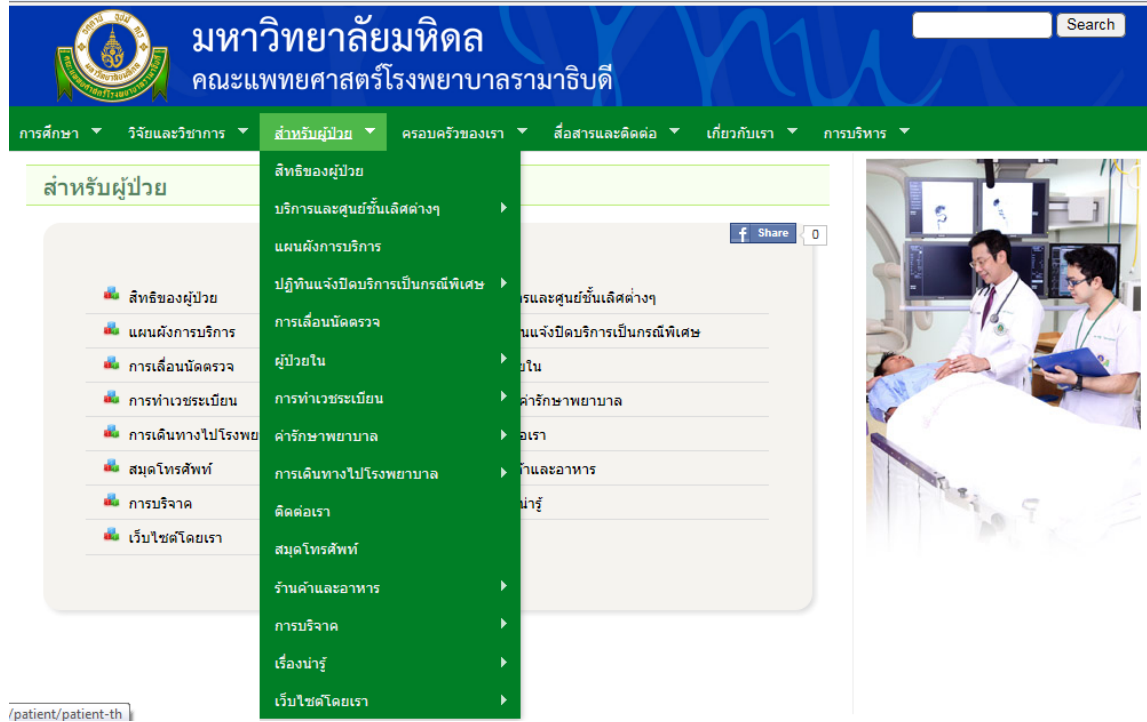


Figure 2.10 Information for patients via www.ra.mahidol.ac.th

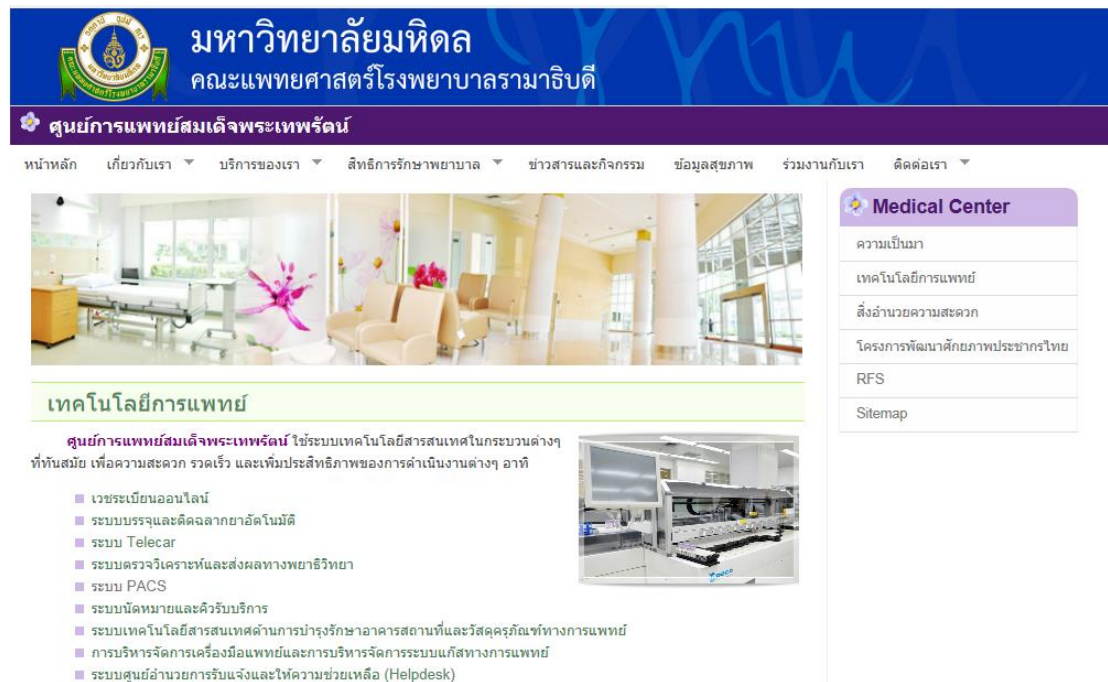


Figure 2.11 Information medical via www.ra.mahidol.ac.th

2.2.3 Faculty of Medicine, Chulalongkorn University

This show website e-healthcare service follow below figure 2.12 Information for patients via www.md.chula.ac.th. Patients can select topic related. [15]

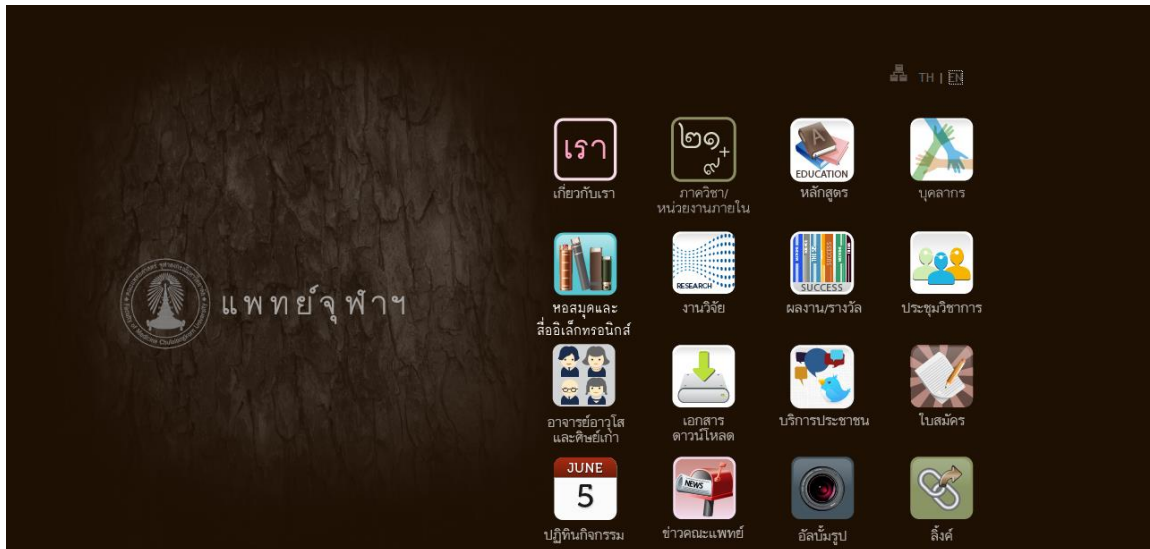


Figure 2.12 Information for patients via www.md.chula.ac.th

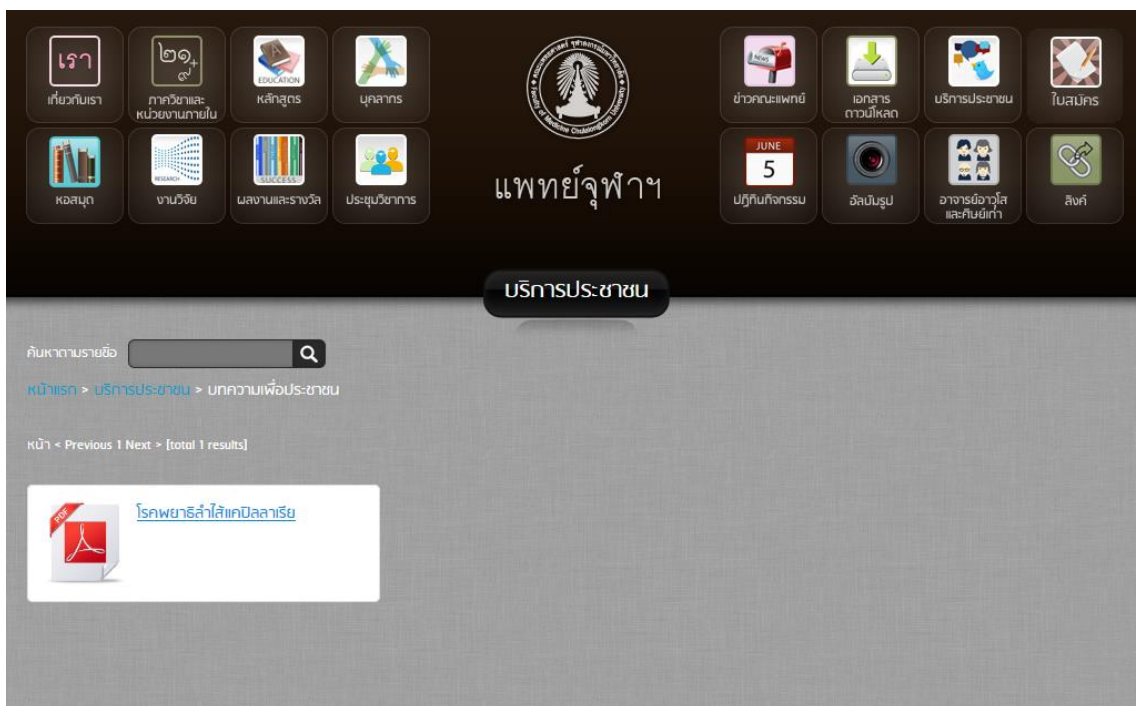


Figure 2.13 Service for patients via www.md.chula.ac.th

This webpage show Figure 2.14 Table medical clinic schedule via www.md.chula.ac.th



Figure 2.14 Table medical clinic schedule via www.md.chula.ac.th

2.3 Technology Acceptance Model

2.3.1 Technology Acceptance Model History

The Technology Acceptance Model (TAM) is an information system theory that models how users come to accept a technology and how they use that technology. [39]

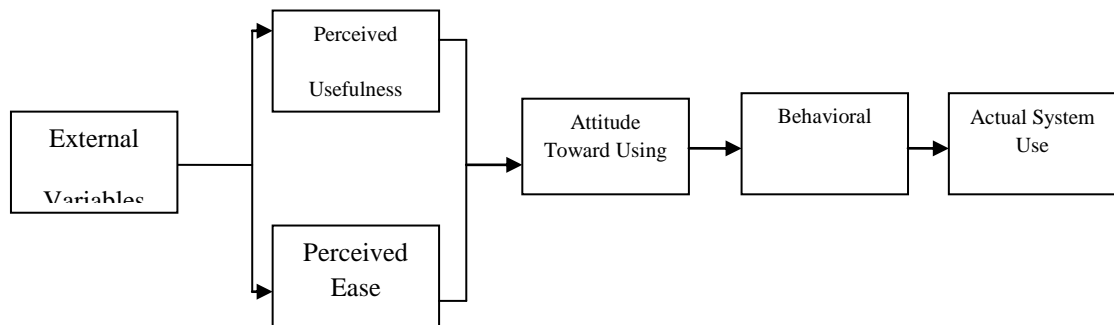


Figure 2.15 Technology Acceptance Model (TAM) by Fred D. Davis's 1989

When users are presented with a new technology, two key factors influence their decision about how and when they will use it:

Perceived usefulness (PU) - the degree to which a person believes that using a particular system would enhance his or her job performance.

Perceived ease-of-use (PEOU) - the degree to which a person believes that using a particular system would be free from effort.

2.3.2 The Technology Acceptance Model (TAM2)

The present research develops and tests a theoretical extension of the Technology Acceptance Model (TAM) [39] that explains perceived usefulness and usage intentions in terms of social influence and cognitive instrumental processes. The extended model, referred to as TAM2, was tested using longitudinal data collected regarding four different systems at four organizations (N = 156), two involving voluntary usage and two involving mandatory usage. Model constructs were measured at three points in time at each organization: pre-implementation, one month post-implementation, and three months post-implementation. The extended model was strongly supported for all four organizations at all three points of measurement,

accounting for 40%-60% of the variance in usefulness perceptions and 34%-52% of the variance in usage intentions. Both social influence processes (subjective norm, voluntariness, and image) and cognitive instrumental processes (job relevance, output quality, result demonstrability, and perceived ease of use) significantly influenced user acceptance. These findings advance theory and contribute to the foundation for future research aimed at improving our understanding of user adoption behavior.

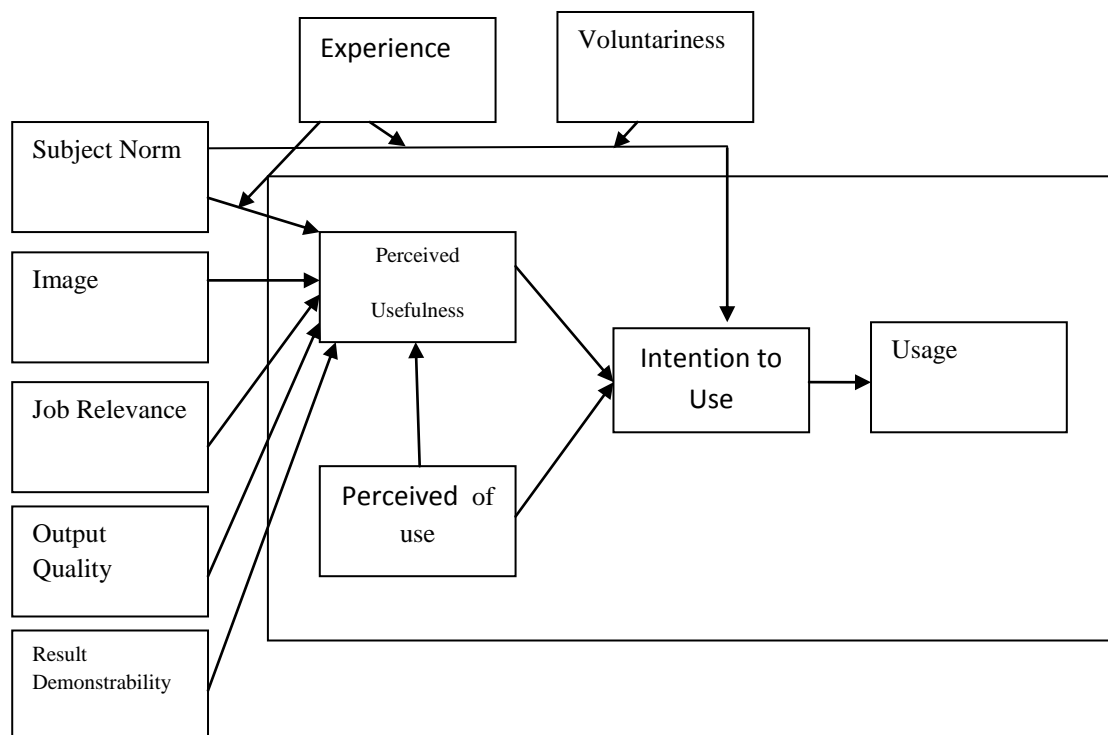


Figure 2.16 Technology Acceptance Model (TAM2)

2.3.3 Unified Theory of Acceptance and Use of Technology (UTAUT)

For many years, a lot of studies on the MIS (Management Information Systems) [40] implementation have been performed to identify and assess organizational characteristics that lead to an information system success or failure (Ginzberg, 1981).

At present, many user acceptance models with different determinants are created to measure the user agreement of information systems which is an important factor to indicate a system success or failure (Melone, 1990). Each theory or model has

been widely tested to predict user acceptance (Venkatesh and Davis, 2000; Thompson et al., 1991). However, no comprehensive instrument to measure the variety of perceptions of information technology innovations had existed until Venkatesh et al. (2003) attempted to review and compare the existing user acceptance models with an ultimate goal to develop a unified theory of technology acceptance by integrating every major parallel aspect of user acceptance determinants from those models.

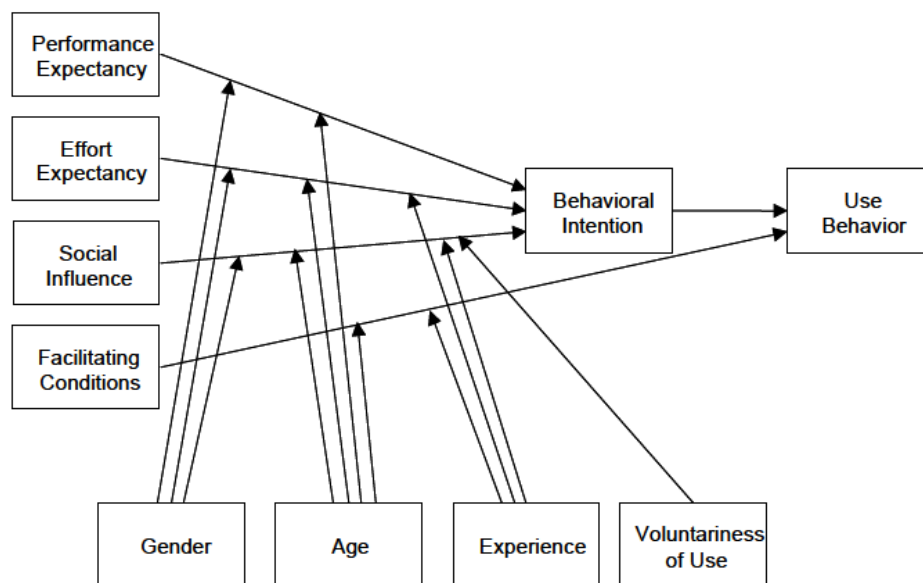


Figure 2.17 Unified Theory of Acceptance and Use of Technology (UTAUT)

Performance Expectancy

Performance Expectancy is defined as the degree to which an individual believes that using the system will help him or her to attain gains in job performance. The five constructs from the different models that pertain to performance expectancy are perceived usefulness (TAM/TAM2 and C-TAM-TPB), extrinsic motivation (MM), job-fit (MPCU), relative advantage (IDT), and outcome expectations (SCT). The performance expectancy construct within each individual model is the strongest predictor of intention and remains significant at all points of measurement in both voluntary and mandatory settings, consistent with previous model tests (Agarwal and Prasad 1998; Compeau and Higgins 1995b; Davis et al. 1992; Taylor and Todd 1995a; Thompson et al.1991; Venkatesh and Davis 2000). However, from a theoretical point of view, there is reason to expect that the relationship between performance

expectancy and intention will be moderated by gender and age. Research on gender differences indicates that men tend to be highly task-oriented (Minton and Schneider 1980) and, therefore, performance expectancies, which focus on task accomplishment, are likely to be especially salient to men. Gender schema theory suggests that such differences stem from gender roles and socialization processes reinforced from birth rather than biological gender (Bem 1981; Bem and Allen 1974; Kirchmeyer 1997; Lubinski et al. 1983; Lynott and McCandless 2000; Motowidlo 1982).

H1: The influence of performance expectancy on behavioral intention will be moderated by gender and age, such that the effect will be stronger for men and particularly for younger men.

Effort expectancy

Effort expectancy is defined as the degree of ease associated with the use of the system. Three constructs from the existing models capture the concept of effort expectancy: perceived ease of use (TAM/TAM2), complexity (MPCU), and ease of use (IDT), there is substantial similarity among the construct definitions and measurement scales. Effort-oriented constructs are expected to be more salient in the early stages of a new behavior, when process issues represent hurdles to be overcome, and later become overshadowed by instrumentality concerns (Davis et al. 1989; Szajna 1996; Venkatesh 1999). Venkatesh and Morris (2000), drawing upon other research (e.g., Bem and Allen 1974; Bozionelos 1996), suggest that effort expectancy is more salient for women than for men. As noted earlier, the gender differences predicted here could be driven by cognitions related to gender roles (e.g., Lynott and McCandless 2000; Motowidlo 1982; Wong et al. 1985). Increased age has been shown to be associated with difficulty in processing complex stimuli and allocating attention to information on the job (Plude and Hoyer 1985), both of which may be necessary when using software systems. Prior research supports the notion that constructs related to effort expectancy will be stronger determinants of individuals' intention for women (Venkatesh and Morris 2000; Venkatesh et al. 2000) and for older workers (Morris and Venkatesh 2000). Drawing from the arguments made in the context of performance expectancy, we expect gender, age, and experience to work in concert (see Levy 1988). Thus, we propose that effort expectancy will be most salient for

women, particularly those who are older and with relatively little experience with the system.

H2: The influence of effort expectancy on behavioral intention will be moderated by gender, age, and experience, such that the effect will be stronger for women, particularly younger women, and particularly at early stages of experience.

Social influence

Social influence is defined as the degree to which an individual perceives that important others believe he or she should use the new system. Social influence as a direct determinant of behavioral intention is represented as subjective norm in TRA, TAM2, TPB/DTPB and C-TAM-TPB, social factors in MPCU, and image in IDT. Thompson et al. (1991) used the term social norms in defining their construct, and acknowledge its similarity to subjective norm within TRA. While they have different labels, each of these constructs contains the explicit or implicit notion that the individual's behavior is influenced by the way in which they believe others will view them as a result of having used the technology. This view of compliance is consistent with results in the technology acceptance literature indicating that reliance on others' opinions is significant only in mandatory settings (Hartwick and Barki 1994), particularly in the early stages of experience, when an individual's opinions are relatively ill informed (Agarwal and Prasad 1997; Hartwick and Barki 1994; Karahanna et al. 1999; Taylor and Todd 1995a; Thompson et al. 1994; Venkatesh and Davis 2000). Therefore, we expect a complex interaction with these moderating variables simultaneously influencing the social influence-intention relationship.

H3: The influence of social influence on behavioral intention will be moderated by gender, age, voluntariness, and experience, such that the effect will be stronger for women, particularly older women, particularly in mandatory settings in the early stages of experience.

Facilitating Conditions

Facilitating conditions are defined as the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system. Taylor and Todd (1995b) acknowledged the theoretical overlap by modeling facilitating conditions as a core component of perceived behavioral control in TPB/DTPB. The compatibility construct from IDT incorporates items that tap the fit between the individual's work style and the use of the system in the organization. It has been demonstrated that issues related to the support infrastructure a core concept within the facilitating conditions construct are largely captured within the effort expectancy construct which taps the ease with which that tool can be applied (e.g., Venkatesh 2000). Venkatesh (2000) found support for full mediation of the effect of facilitating conditions on intention by effort expectancy. Obviously, if effort expectancy is not present in the model (as is the case with TPB/DTPB), then one would expect facilitating conditions to become predictive of intention. Our empirical results are consistent with these arguments. For example, in TPB/DTPB, the construct is significant in predicting intention; however, in other cases (MPCU and IDT), it is non-significant in predicting intention. In short, when both performance expectancy constructs and effort expectancy constructs are present, facilitating conditions becomes non-significant in predicting intention.

H4a: Facilitating conditions will not have a significant influence on behavioral intention.

H4b: The influence of facilitating conditions on usage will be mode-rated by age and experience, such that the effect will be stronger for older workers, particularly with increasing experience.

Constructs Theorized Not to Be Direct Determinants of Intention

Previous research (Venkatesh 2000) has shown self-efficacy and anxiety to be conceptually and empirically distinct from effort expectancy (perceived ease of use). Self-efficacy and anxiety have been modeled as indirect determinants of intention fully mediated by perceived ease of use (Venkatesh 2000). We therefore expect self-efficacy and anxiety to behave similarly, that is, to be distinct from effort expectancy and to have no direct effect on intention above and beyond effort

expectancy, motivation (MM), affect toward use (MPCU), and affect (SCT). Each construct has a component associated with generalized feeling/affect associated with a given behavior (in this case, using technology). In examining these four constructs, it is evident that they all tap into an individual's liking, enjoyment, joy, and pleasure associated with technology use. There is empirical evidence to suggest that affective reactions (e.g., intrinsic motivation) may operate through effort expectancy (see Venkatesh 2000). Therefore, we consider any observed relationship between attitude and intention to be spurious and resulting from the omission of the other key predictors (specifically, performance and effort expectancies). This spurious relationship likely stems from the effect of performance and effort expectancies on attitude (see Davis et al. 1989). The non-significance of attitude in the presence of such other constructs has been reported in previous model tests (e.g., Taylor and Todd 1995a; Thompson et al. 1991), despite the fact that this finding is counter to what is theorized in TRA and TPB/DTPB. Given that we expect strong relationships in UTAUT between performance expectancy and intention, and between effort expectancy and intention, we believe that, consistent with the logic will not have a direct or interactive influence on intention.

H5a: Computer self-efficacy will not have a significant influence on behavioral intention.

H5b: Compute anxiety will not have significant influence on behavioral intention

H5c: Attitude toward using technology will not have a significant influence on behavioral Intention developed here, attitude toward using technology

Behavioral Intention

Consistent with the underlying theory for all of the intention models¹⁰ discussed in this paper, we expect that behavioral intention will have a significant positive influence on technology usage.

H6: Behavioral intention will have a significant positive influence on usage.

2.4 Related studies

In this studies about e-healthcare the medical school in Bangkok. It has any research that related. The model that used to predict in Technology Acceptance such as Technology Acceptance Model (TAM), Extend Technology Acceptance model 2 (TAM2) and Unified Theory of Acceptance and Use of Technology (UTAUT). [25]

Table 2.1 Relate Researches (TAM, UTAUT model)

Studies	Technologies	Sample	UTAUT	Antecedent
(Aggelidis & Chatzoglou 2009)	Hospital information system (HIS)	314 users	<ul style="list-style-type: none"> - Perceived usefulness - Ease of use - Social influence - Facilitating conditions - Attitude toward behavior - Self-efficacy - Computer anxiety - Training 	PU,SI,ATB, EU,FC, SE, Training
(AI-Gahtani et al., 2007)	IT adoption	200 Users	<ul style="list-style-type: none"> - Performance expectancy - Effort expectancy - Subjective norm - Facilitating conditior - Behavior intension 	PE, SI, BI
(Chang et al., 2007)	Pharmacokinetics-based clinical decision support	115 Medicine	<ul style="list-style-type: none"> - Performance expectancy - Effort expectancy - Social influence - Facilitating 	PE, EE, SI, FC, BI

Table 2.1 Relate Researches (TAM, UTAUT model) (cont.)

Studies	Technologies	Sample	UTAUT	Antecedent
	system (CDSS)		conditions - Behavior intension	
(Chiu & Wang, 2008)	Web-based learning	286 part-time students	- Performance expectancy - Effort expectancy - Social influence - Facilitating conditions	PE, EE
Obshlyansky et al., 2007	Cross culture and website	1080 people from 9 countries	- Performance expectancy - Effort expectancy - Attitude - Social influence - Self-efficacy - Facilitating conditions - Anxiety	PE, EE, SI
(Zhou et al., 2010)	Technology mobile banking	250 peoples (83 students and 167 professional s workers)	- Performance expectancy - Effort expectancy - Social influence - Facilitating conditions - Technology Characteristic X EE	PE, SI, FC, Technology Characteristic X EE
(Matthew J et al., 2008)	Electronic Medical Record	52 represents	- Performance expectancy - Effort expectancy - Social influence	PE, EE, SI, FC, BI

Table 2.1 Relate Researches (TAM, UTAUT model) (cont.)

Studies	Technologies	Sample	UTAUT	Antecedent
			- Facilitating conditions - Behavior intension	
(Boonchai et al., 2011)	community health centers (CHCs).	1607 regionally	- Performance expectancy - Effort expectancy - Social influence - Facilitating conditions - It knowledge - Behavior intension	PE, EE, SI, FC, IT knowledge, BI
(Richard j et al., 2010)	Health information technology	16 data sets analyzed in over 20 studies of clinicians	- perceived usefulness - Perceived ease of use - social influence/ subjective norms -Perceived behavioral control/ facilitating conditions	PU,PEOU,S I/SN, FC

2.5 The past research/paper on the acceptance of IT in hospital

Many researchers have studies factors that information technology (IT) in hospitals. The technology acceptance model (TAM), the Unified theory of acceptance and use of Technology (UTAUT) are theoretical scope to predict with users who accept the technologies.

This research topic about is An international comparison of technology adoption Testing the UTAUT model. (Il Ima, 2011) The hypothesis test result are summarized in Performance expectancy, Effort expectancy, Social influence, Facilitating conditions, Behavior intension were supported.

In USA research is Information Systems and healthcare XVI: Physician adoption of electronic medical records: applying the UTAUT model in a Healthcare context. (Amy H. Hennington, 2007) This study applies the Unified Theory of Acceptance and Use of Technology (UTAUT) to the phenomenon of physician adoption of electronic medical records (EMR) technology. UTAUT model's integrates eight theories of individual acceptance into one comprehensive model designed to assist in understanding what factors either enable or hinder technology adoption and use. Thus far, we have offered no discussion of the UTAUT model's moderating variables. This is not due to oversight, but rather to the dearth of research found relating these variables to EMR adoption and usage.

In USA topic research is The Technology Acceptance Model: Its past and its future in health care by (Richard j., 2010). This paper reviews the application of one such theory, the Technology Acceptance Model (TAM), to health care. We reviewed 16 data sets analyzed in over 20 studies of clinicians using health IT for patient care. Studies differed greatly in samples and settings, health ITs studied, research models, relationships tested, and construct operationalization. Researchers should conduct studies for the purpose of identifying salient beliefs that clinicians have about using health IT for at least two reasons. First, this will allow researchers to probe about a wide range of theoretically interesting clinician beliefs, which could make the theory more robust and relevant in health care. Second, and equally important, by contextualizing TAM to health care, there is the opportunity to develop the "left side of the model."

In Thailand research is Factors influencing health information technology adoption in Thailand's community health centers: Applying the UTAUT model by researcher is (Boonchai et al., 2009) A random sample of 1607 regionally stratified CHC's from a total of 9806 CHCs was selected. Data collection was conducted using a cross-sectional survey by means of self-administered questionnaire with an 82% response rate. The research model was applied using the partial least squares (PLS) path modeling. The data showed that people who worked in CHCs exhibited a high degree of IT acceptance and use. The research model analyses suggest that IT acceptance is influenced by performance expectancy, effort expectancy, social influence and voluntariness. Health IT uses is predicted by previous IT experiences, intention to use the system, and facilitating conditions.

2.6 Structure Equation Modeling (SEM)

Structural equation modeling, or SEM, is a very general, chiefly linear, chiefly cross-sectional statistical modeling technique. Factor analysis, path analysis and regression all represent special cases of SEM. SEM is a largely confirmatory, rather than exploratory, technique. That is, a researcher are more likely to use SEM to determine whether a certain model is valid., rather than using SEM to "find" a suitable model--although SEM analyses often involve a certain exploratory element. [25]

In SEM, interest usually focuses on latent constructs abstract psychological variables like "intelligence" or "attitude toward the brand"--rather than on the manifest variables used to measure these constructs. Measurement is recognized as difficult and error-prone. By explicitly modeling measurement error, SEM users seek to derive unbiased estimates for the relations between latent constructs. To this end, SEM allows multiple measures to be associated with a single latent construct. A structural equation model implies a structure of the covariance matrix of the measures (hence an alternative name for this field, "analysis of covariance structures"). Once the model's parameters have been estimated, the resulting model-implied covariance matrix can then be compared to an empirical or data-based covariance matrix. If the two matrices are consistent with one another, then the structural equation model can be considered a plausible explanation for relations between the measures.

Structural Equation Modeling (SEM) is used to test complex relationships between observed (measured) and unobserved (latent) variable and also relationships between two or more Structural equation modeling (SEM) is a collection of statistical techniques that allow a set of relationships between one or more independent variables (IVs), either continuous or discrete, and one or more dependent variables (DVs), either continuous or discrete, to be examined. Both IVs and DVs can be either factors or measured variables. Structural equation modeling is also referred to as causal modeling, causal analysis, simultaneous equation modeling, analysis of covariance structures, path analysis, or confirmatory factor analysis. The latter two are actually special types of SEM.

SEM allows questions to be answered that involve multiple regression analyses of factors. At the simplest level, a researcher posits a relationship between a single measured variable (perhaps, acceptance of risky behavior) and other measured variables (perhaps, gender, academic achievement, and institutional bonds). All four of the measured variables appear in boxes connected by lines with arrows indicating that gender, academic achievement, and institutional bonds (the IVs) predict acceptance of risky behavior (the DV) in adolescents. Lines with two arrows indicate a covariance among the IVs. The presence of a residual indicates imperfect prediction.

[BENTLER, 2013]

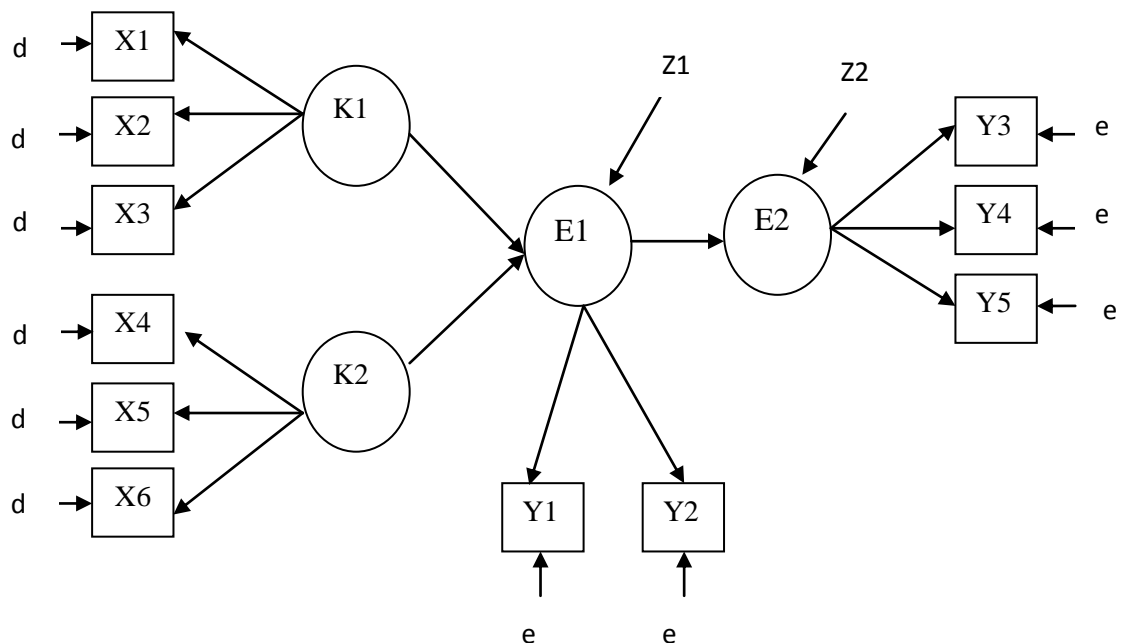

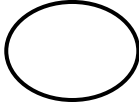




Figure 2.18 Structure Equation Modeling (SEM)

Table 2.2 Symbol Picture and Meaning

Symbol picture	Meaning
	Observe Variable
	Latent variable
	Path analysis/ Factor analysis relationship
	Covariance or Relationship of 2 Variable

Latent variable in SEM is divided into two types:

- i) Latent cause (From figure 2.18 is K1 and K2) is called “Exogenous variables”. The symbol is K or ξ (KSI)
- ii) Latent result (From figure 2.18 is E1 and E2) is called “Endogenous variable”. It is used “E” or η (Eta) Latent Endogenous Variable.

Observed variable is divided into two types:

- i) Observed variable for measuring exogenous variable (X symbol).
- ii) Observed variable for measuring endogenous variable (Y symbol).

Error of measuring observed X variable use “d” or Θ (THETA). Then, error for measuring observed Y variable uses “e” or ϵ (EPSILON). And, error of measuring latent E variable uses symbol “Z” or ζ (ZETA).

From figure 2.18 it has two exogenous variables (K1, K2), two endogenous variables (E1, E2). Exogenous observed variable is six variables (X1, X2, X3, X4, X5 and X6). K1 has three observed variables (X1, X2 and X3). Also, K2 has three observed variables (X4, X5 and X6).

Endogenous observed variables are Y1, Y2, Y3, Y4 and Y5. Y1 and Y2

are observed variable of E1. Also, Y3 Y4 and Y5 are observed variable of E2. And, d1, d2, d3, d4, d5 and d6 are variance of error (X1, X2, X3, X4, X5 and X6). For e1, e2, e3, e4 and e5 are variance of error Y1, Y2, Y3, Y4, Y5 and Y6. And last, z1 and z2 are variance of error (E1 and E2).

Structure equation modeling is consisted two parts. There are two kinds i) measurement model, and ii) structural model. Measurement model shows linear relationship between latent and observed variable. Structural model shows linear relationship of latent variable together.

η (Eta) Latent Endogenous Variable

ξ (KSI) Latent Exogenous Variable

ζ (PSI) Unexplained Error

x , y Observed Variables

δ, ε Measurement Errors

λ, β, γ Coefficients

Covariance Matrixes of Interest:

Phi -- Φ

Psi--- Ψ

Theta-Delta--- $\Theta\delta$

Theta-Epsilon-- $\Theta\varepsilon$

Latent variable model:

$$\eta = B\eta + \Gamma\xi + \zeta$$

Measurement model:

$$x = \Lambda\xi + \delta$$

$$y = \Lambda\eta + \varepsilon$$

2.7 Summary Research Framework

According to the study of related research, the many technology electronic healthcare the medical school in Bangkok. It helps patients when to visit doctor. Technology acceptance is developed by Venkatesh and team research (Venkatesh et al., 2003). Venkatech et al., build five core determinants (Performance expectancy, Effort expectancy, Social influence, Facilitating conditions, and Information technology knowledge). And add other factors are other demographic as age or gender, age, experience, Voluntariness of use. Their determinants are affected with behavior intention to use behavior by survey form technology electronic healthcare the medical school in Bangkok. The research was done by using Lisrel for analysis. Figure 2.19 research framework.

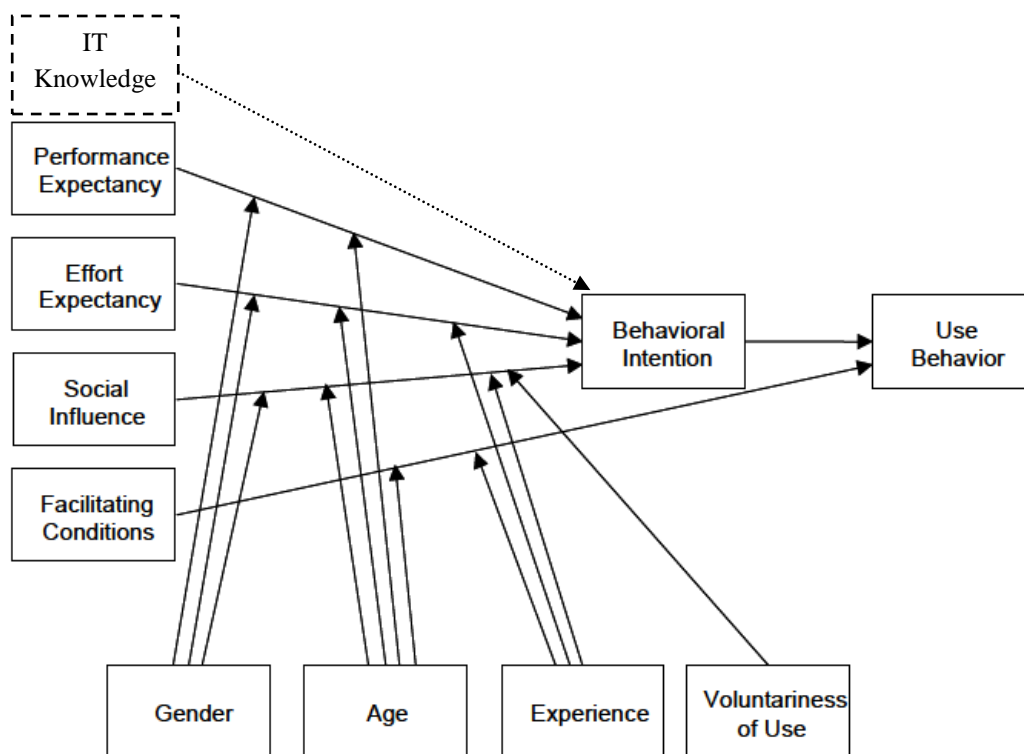


Figure 2.19 Research Frameworks

CHAPTER III

MATERIALS AND METHODS

This chapter presented methodology represents the part of study methods, target groups, research tools and research planning schedule. The details are as follows:

3.1 Research Methodology

In order to get the completely effective research, the researcher needs to plan the research process thorough. My process plan consists of 8 steps in the figure.

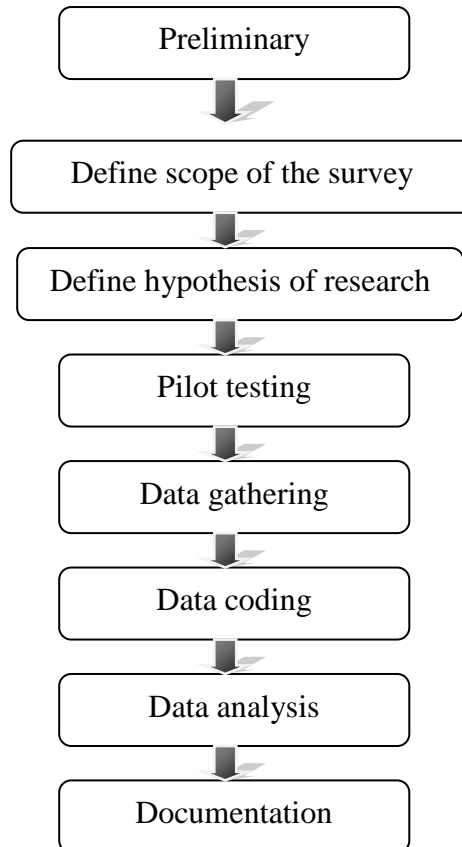


Figure 3.1 Research Methodology 8 Steps

3.2 Preliminary Study

1. The literature review about related data that involve in electronic Healthcare in Bangkok.

2. The study related statistics theories and collect data by search related literature review, journal, thesis, statistics report, seminar papers, abstracts, internet searches, survey report and also in the internet to identify the research model

3. The purpose of the research, researcher was study to develop the research methodology.

4. The study data about e-Healthcare, using e-Healthcare, UTAUT Model

3.3 Define Scope Of The Survey

1. Target Group

The Target Group of this survey is using Technology electronic healthcare medical school in Bangkok.

2. Sample group

In this research types of business who using technology electronic healthcare medical school in Bangkok. The sampling groups have 2 methods i) finite population size and ii) infinite population size. The researcher use the infinite population method and use theoretical statistic into calculating size of sampling groups

$$n = \frac{N}{1 + Ne^2}$$

n = sample size

N = population size

e = level of precision

With assume a 95 percent confidences level and a maximum variability in a population (P= 0.05)

3.3.1.2 There are 400 samples of target group.

3.3.1.3 Simple random is carried out by using computer method.

The population data are input into Excel Program.

3.3.1.4 The Collection data is done by applying Questionnaires.

3.4 Define Hypothesis Of Research

The proposed model of this study was developed based on the Unified theory of acceptance and use of technology (UTAUT).

There are 11 main factors in this research hypothesis which including performance expectancy, effort expectancy, social influence, facilitating conditions, it knowledge, gender, age, experience, voluntariness of use, behavioral intension, use behavior.

H 1: Performance Expectancy is positively on Behavioral intensions to use IT

H 2: Effort Expectancy is positively on Behavioral intensions to use IT

H3: Social Influence is positively on Behavioral intensions to use IT

H4: Facilitating Conditions is positively on Use Behavior to use IT

H 5: IT Knowledge is positively on Behavioral intensions to use IT

H7a: Gender is positively influence (PE, EE and SI) on Behavioral intensions to use IT

H 7b: AGE is positively influence (PE, EE, SI and FC) on Behavioral intensions to use IT

H 7c: Experience is positively influence (EE,SI and FC)on Behavioral intensions to use IT

H 7d: Voluntariness of use is positively influence (SI) on Behavioral intensions to use IT

3.5 Data Gathering

The survey is developed from many researches. There are three sections in these Questionnaires.

Table 3.1 Show section main in questionnaires.

Section	Topic
1	The general information based on users
2	The general information based on e-Healthcare
3	The factor affected the decision to choose information technology for service

Section 1: The general information based on user's

This section is the information about hospital background such as gender, age, Marriage status, education, occupation, experience use technology, technology interesting, and revenue.

Section 2: The general information based on e-Healthcare

The second section is the general information based on e-healthcare related 5 topics. This section is multi choice. The respondents can choose more than 1 choice.

Section 3: The factor affected the decision to choose information technology for service.

The third section is the factor affected the decision to choose information technology for service in the hospital. The last section is the information of factors to acceptance technology of the respondents in each industry. This section is rating scale type with 27 questions constructs 7 functions as follows;

- Performance expectancy
- Effort expectancy
- Social influence
- Facilitating conditions,

- It knowledge
- Behavioral intension,
- Use behavior.

All questions in this part which consist of rate scales 27 items. Mean values (\bar{X}) and Standard deviation (S.D).

This research use testing these items for structure equation modeling (SEM) variables are nominal scale will changed to the dummy variable. Dummy variable is "0" and "1" Value. The variable is interesting is "1" and other.

Demography information

Gender

- 1) Female
- 2) Male

Dummy variable Female =1 and Male= 0

Age

- 1) Lower or 20 years
- 2) 21- 25 years
- 3) 26-30 years
- 4) 31-40 years
- 5) 41- 50 years
- 6) >51 years

Dummy variable 2), 4) =1 and 1), 3), 5), 6) =0

Experience

- 1) less 1 years
- 2) 1-3 years
- 3) 3-5 years
- 4) >5 years

Dummy variable >3-5 =1 and less 1 years – 3 years = 0

Voluntariness of use

Question: Are you interested in using technology?

- 1) Voluntariness of use
- 2) Reluctant

Dummy variable Voluntariness of use =1 and Reluctant = 0

3.6 Pilot Testing

Questionnaires have been users to target 400 respondents participated. Hypothesis of this study builds from the model of Unified theory of acceptance and uses of technology (UTAUT). Lisrel (Linear Structure Relationship) program are users for analyzing in this model.

After design the questionnaire, there is per-testing to 200 respondents that using e-healthcare government hospital in Thailand list on the questionnaires and Google Docs websites to check understanding about the questions in questionnaires.

Table 3.2 Results of reliability analysis by Cronbach’s alpha values.

Construct	Item	Cronbach’s Alpha
Performance Expectancy (PE)	PE1, PE2, PE3, PE4, PE5	.934
Effort Expectancy(EE)	EE1, EE2, EE3, EE4	.972
Social Influence(SI)	SI1, SI2, SI3, SI4	.909
Facilitating Conditions(FC)	FC1, FC2, FC3, FC4, FC5	.912
IT Knowledge (IT)	IT1,IT2	.984
Behavioral Intention (BI)	BI1,BI2,BI3,BI4	.957
USE Behavioral (USE)	USE1,USE2	.955

The research model of this study was developed by the Unified Theory of acceptance and use of Technology (UTAUT) and including modulators such as age, gender, experience, voluntariness of use. This show in below result 200 questionnaires and run LISREL Program.

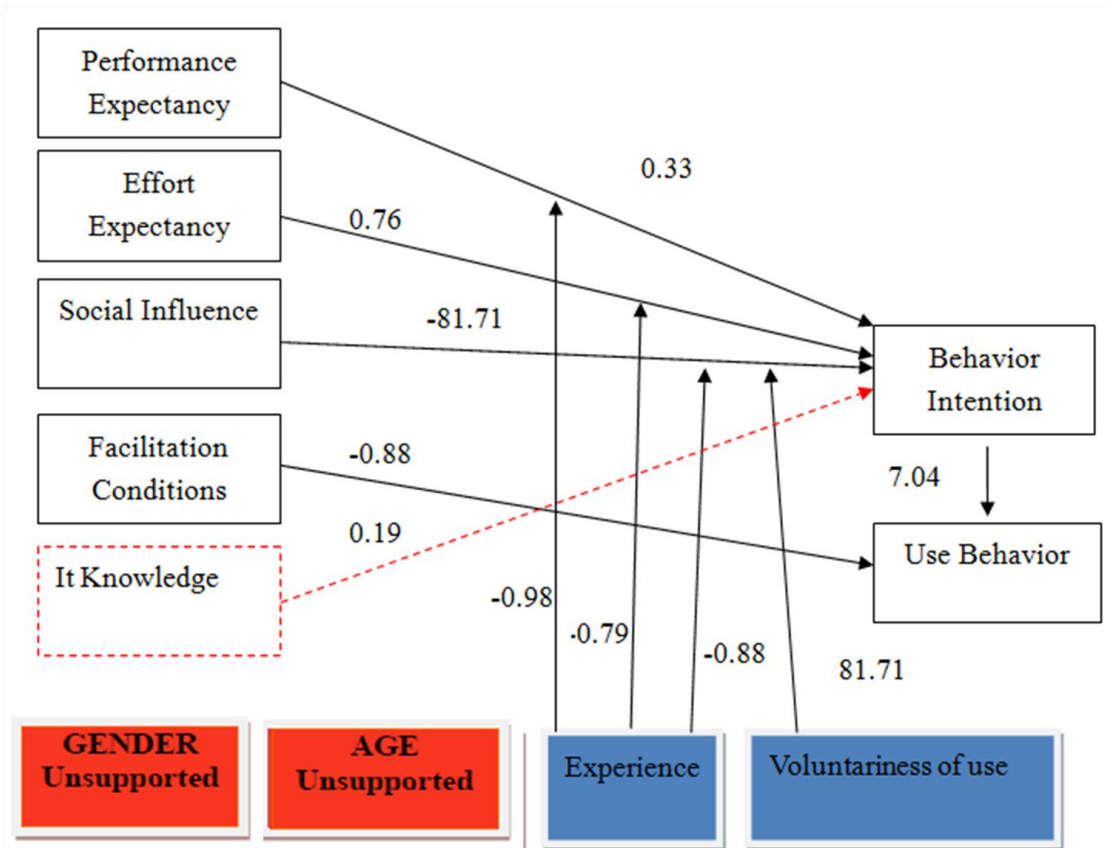


Figure3.2 All result testing 200 questionnaires in research hypothesis

There are 7 main factor in research hypothesis which including performance expectancy, effort expectancy, social influence, facilitating conditions, it knowledge, age, gender, experience, voluntariness of use, behavior intention, use behavior.

As above, this research hypothesis that performance expectancy, effort expectancy, and social influence are directly affected behavior intentions. Next, facilitating conditions are directly affected use information technology behavior. And, ages, gender, experience, voluntariness of use are indirectly affected to five factors: performance expectancy, effort expectancy, social influence, facilitating conditions

and its knowledge. Behavior intention also directly affected using information technology behavior in government hospital.

3.7 Data Coding

The researcher collected data from each respondent's questionnaire into SPSS file and Lisrel for analyzing the data. For SPSS is analyzing basic the data. And, Lisrel is analyzing by factor data.

3.8 Data Analysis

The Questionnaires results are inputted into google.doc. Next, the data is transfer into SPSS software 16.0 and Lisrel v.9.1 student. SPSS result is show in from chart, table and percentage. Lisrel v.9.1 student result is show relationship factors.

There are three step for data analysis it's can estimate a measurement and structure model, and achieve a good model fit after analysis and modification.

Section 1: The questionnaires relate to general information based on users. The section is check list type, researcher use frequency method and percentage. The result is factor in Lisrel for check affecting in hypothesis.

Section 2: The questionnaires relate to general information based on e-Healthcare. The section is check list type, researcher use frequency method and percentage. The result is factor in Lisrel for check affecting in hypothesis.

Section 3: The questionnaires relate to usage of the Information Technology. The section is check list type, researcher use frequency method and percentage. The result is factor in Lisrel for check affecting in hypothesis.

In rating scale the questionnaires, the researcher wills analyze all data as follows (Shinjura, 2009)

The reliability and validity of the measurement model was assessed by a confirmatory factors analysis (CFA) using the Lisrel was to perform the structure modeling analysis. Model fit using the comparative.

Table 3.3 The measurement model was assessed by a confirmatory factor analysis (CFA) using the LISREL

Indices type	Recommend value
$\chi^2 / \text{degree of freedom}$	Less than 3
Goodness of Fit Index (GFI)	More than 0.9
Adjusted Goodness of Fit(AGFI)	More than 0.9
Normed fit index (NFI)	More than 0.9
Non-Normed fit index (NNFI)	More than 0.9
Comparative fit index(CFI)	More than 0.9
Root mean square resident (RMR)	Less than 0.05
Root mean square error of approximation (RMSEA)	Less than 0.10
Model Fit Measures	Recommended Value

This step was used to test fit if the empirical data conformed to the presumed model hypothesis testing include against:

- Performance expectancy
- Effort expectancy
- Social influence
- Facilitating conditions
- Information Technology Knowledge
- Behavioral intention
- Use behavioral

Dummy testing include against:

- Gender
- Age
- Experience
- Voluntariness of use

Table 3.4 Point average in analyzing each level

Point average	Level
4.50 - 5.00	Highest
3.50 – 4.49	High
2.50 – 3.49	Medium
1.50 – 2.40	Low
1.00 – 1.49	Lowest

3.9 Documentation

Finally result is analyzed, co clouded and present with recommendation for the future research related. Research documentation is made and inspected.

3.10 Research Tools

Hardware

CPU : AMD Dual-Core A4-3300M Accelerated Processor
 Memory : 8GB DDR3 SDRAM (2 DIMM)
 Hard Drive : 320GB 5800RPM
 Display : 14.0-inch diagonal HD

Software

Operating System: Genuine Windows 7 Home Premium
 (64-bit)
 Statistical Program: SPSS v.16, Lisrel v.9.1 student
 PDF : Adobe Acrobat 7.0 Professional
 Other tool : Microsoft World 2010
 : Microsoft Excel 2010
 : Microsoft Power point 2010
 : Microsoft Visual studio 2010
 : Google Doc.

CHAPTER IV

RESULTS AND DISCUSSION

This chapter presents the survey reports and discussion. Researcher will show the collect data analysis. This chapter is divided into two parts. First part presents the survey result from questionnaires. And seconded part present the hypothesis result on the factors influence acceptance social technology electronic healthcare of medical school in Bangkok. Researcher used the path analysis to investigate relationships among all factors on research model.

4.1 The Survey Result

From the survey, the questionnaires were sent to target by email, face to face, Facebook and Google Doc to the user's technology electronic healthcare the medical school in Bangkok. The most respondents will receive Google Doc. The main survey has 400 respondents.

Table 4.1 Demographics of the respondents

Measure	Item	Frequency	Percentage%
Total		400	100
Gender	Male	145	36.25
	Female	255	63.75
Age	Below 20 years old	4	1
	21-25 years old	32	8
	26-30 years old	208	52
	31-40 years old	78	19.5
	41-50 years old	69	17.25
	Up 51 years old	9	2.25

Table 4.1 Demographics of the respondents (cont.)

Measure	Item	Frequency	Percentage%
Education Level	Below than bachelor degree	55	13.75
	Bachelor's degree	240	60
	Higher than bachelor degree	105	26.25
Occupation	Government employee	75	18.75
	/state enterprise employee		
	Student/Undergraduate	51	12.75
	Company employee	187	46.75
	Owner/Entrepreneur	54	12.75
Salary/month	Farmers/trading career	33	8.25
	Below 10,000 Bath	24	6
	10,000-20,000 Bath	166	41.5
	20,001-30,000 Bath	112	28
	30,001-40,000 Bath	69	17.25
The average you are using computer for activity in a day	Over 40,001 Baht	29	7.25
	≤ 1 time/month	20	5
	1 time /week	33	8.25
	1 time/day	38	9.50
	More than 1 time/day	309	77.25
Year of Internet Experience	Less than 1 year	21	5.25
	1-3 Years	166	41.50
	3-5 Years	112	28
	OVER 5 Years	69	17.25
Where are use place computer	Office	168	42
	House	210	52.5
	Internet café	12	3
	Other	10	2.5
Voluntarily in the Use computer	Voluntarily	400	100
	Reluctant	0	

Respondent's profile (n=400)

Table4.2 Cronbach’s Alpha

Cronbach’s Alpha	Cronbach’s Alpha Based on Standardized Items	N of Items
.950	.956	27

Table 4.3 Item-Total Statistics

Construct	Item	Corrected Item-Total Correlation	Cronbach’s Alpha
Performance Expectancy (PE)	PE1	0.494	.949
	PE2	0.478	.949
	PE3	0.498	.949
	PE4	0.444	.950
	PE5	0.493	.949
Effort Expectancy (EE)	EE1	0.732	.947
	EE2	0.796	.947
	EE3	0.672	.948
	EE4	0.781	.947
Social Influence (SI)	SI1	0.790	.947
	SI2	0.700	.947
	SI3	0.740	.947
	SI4	0.645	.948
Facilitating Conditions (FC)	FC1	0.677	.948
	FC2	0.732	.947
	FC3	-	.946
	FC4	0.858	.946
	FC5	0.548	.949

Table 4.3 Item-Total Statistics (Cont.)

Construct	Item	Corrected Item- Total Correlation	Cronbach's Alpha
IT Knowledge (IT)	IT1	0.594	.948
	IT2	0.663	.948
Behavioral Intention(BI)	BI1	0.469	.951
	BI2	0.698	.947
	BI3	0.672	.948
	BI4	0.582	.949
	BI5	0.477	.951
USE Behavioral (USE)	USE1	0.721	.947
	USE2	0.696	.947

4.2 Descriptive Analysis of Hospital

4.2.1 Overall perception of all hospital constructs

Tables 4.4 show the mean, standard deviation for all perceptions the most perceptions of score were high level of agreement. Following tables 4.3 most perception about behavior intention the score were high level. Next the same highest value of perception was performance expectancy, effort expectancy, social influence, facilitating conditions, IT knowledge, behavioral intention and use behavioral respectively. The result also suggest that users would use technology to the behavior and they are interesting in useful, ease of use by users and facilitating conditions are the important information technology acceptance in the hospital.

This table shows perceptions of all hospital constructions items performance expectancy mean is value 4.96 interpretation is high, effort expectancy mean is value 4.95 interpretation is high, social influence mean is value 4.91 interpretation is high, facilitating conditions mean is value 4.90 interpretation is high,

IT knowledge mean is value 4.92 interpretation is high, behavioral intention mean is value 4.84 interpretation is high, and use behavioral mean is value 4.92 interpretation is high,

Table 4.4 Perception of all hospital constructions

Items	Mean	Standard deviation	Interpretation
Performance Expectancy (PE)	4.96	0.16	High
Effort Expectancy (EE)	4.95	0.20	High
Social Influence (SI)	4.91	0.24	High
Facilitating Conditions (FC)	4.90	0.24	High
IT Knowledge (IT)	4.92	0.25	High
Behavioral Intention (BI)	4.84	0.27	High
USE Behavioral (USE)	4.92	0.26	High

4.3 Hypothesis Testing

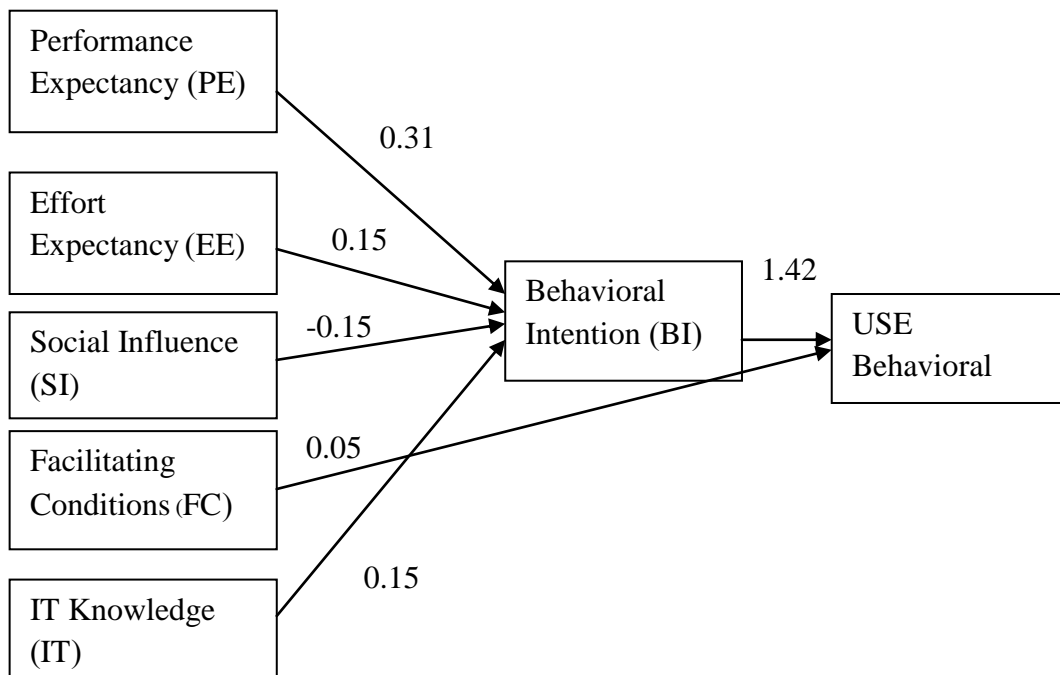
To test the reliability of the constructs from the UTAUT model Cronbach's alpha was used as a measure. The commonly accepted for describing internal consistency, the value of Cronbach's alpha coefficient should greater than 0.9 Coefficient for each construct items performance expectancy, effort expectancy, social influence, facilitating conditions, IT knowledge, behavioral intention and use behavioral respectively greater than 0.9

Table 4.5 Correlations Matrix analysis

<i>variable</i>	<i>PE</i>	<i>EE</i>	<i>SI</i>	<i>FC</i>	<i>IT</i>	<i>USE</i>	<i>BI</i>
PE	1.000						
EE	0.514	1.000					
SI	0.571	0.710	1.000				
FC	0.422	0.653	0.635	1.000			
IT	0.181	0.497	0.495	0.581	1.000		
USE	0.245	0.502	0.444	0.587	0.517	1.000	
BI	0.407	0.512	0.549	0.665	0.527	0.525	1.000

- Significant at 0.05

As table 4.5 Correlation Matrix analysis data were also analysis to examine the different of factors influence using in information technology of electronic healthcare in government hospital. All factors are significant at 0.05



** Correlation is significant at the 0.05 Significant Levels

* Correlation is significant at the 0.01 Significant Levels

Figure 4.1 Structure model result

This study on the factors with direct and aggregate influence finds the factors with direct influence on behavioral intention with performance expectancy, effort expectancy, social influence, IT knowledge all result show in Figure 4.1

The factors with direct influence on and Use behavioral with facilitating conditions and Behavioral intention all result show in Figure 4.1

This table 4.6 shows overall models fit indices for measurement Chi-square 8.66, degree of freedom 3, Goodness of Fit Index (GFI) recommend value more than 0.9 recommend value more than 0.994, Adjusted Goodness of Fit(AGFI) recommend value more than 0.9 model is value 0.943, Normed fit index (NFI) recommend value more than 0.9 model is value 0.996, Non-Normed fit index (NNFI) recommend value more than 0.9 model is value 0.983, Comparative fit index(CFI) recommend value more than 0.9 model is value 0.998, Root mean square resident (RMR) recommend value less than 0.05 model value 0.000547 and Root mean square error of approximation (RMSEA)) recommend value less than 0.10 model value 0.0687

Table 4.6 Overall models fit indices for measurement

Indices type	Recommend value	Model value
Chi-square	N/A	8.66
χ^2 / degree of freedom	Less than 3	3
Goodness of Fit Index (GFI)	More than 0.9	0.994
Adjusted Goodness of Fit(AGFI)	More than 0.9	0.943
Normed fit index (NFI)	More than 0.9	0.996
Non-Normed fit index (NNFI)	More than 0.9	0.983
Comparative fit index(CFI)	More than 0.9	0.998
Root mean square resident (RMR)	Less than 0.05	0.000547
Root mean square error of approximation (RMSEA)	Less than 0.10	0.0687

4.3.1 Structure Equation Model Test

Structure equations modeling (SEM) is suitable to and confirm the theoretical hypothesis result. Structure equation model test or confirm factor analysis (CFA) was used to test the sufficiency of the measurement model by AMOS. The sufficiency of the measurement model was examined in the model fit and multicollinearity. This study on the factors with direct and aggregate influence finds the factors with direct influence on Behavioral intention with Performance expectancy result 0.2, Effort expectancy result 0.4, Social influence result 0.6, IT knowledge result 0.6 all result show in Figure 4.2

The factors with direct influence on and Use behavioral with facilitating conditions and Behavioral intention result 0.6 all result show in Figure 4.2

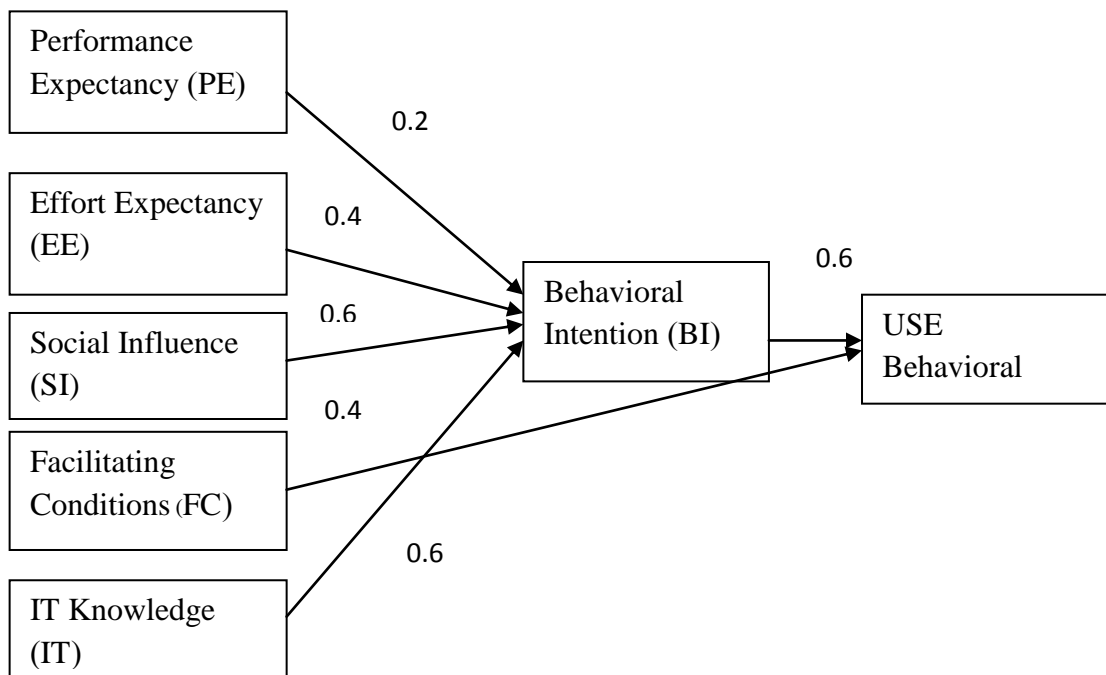


Figure 4.2 Structure model result AMOS

Structure equations modeling (SEM) is suitable to and confirm the theoretical hypothesis result. Structure Equation Model Test or Confirm factor analysis (CFA) was used to test the sufficiency of the measurement model by Lisrel

9.1 (student version). The sufficiency of the measurement model was examined in the model fit and multicollinearity.

This hypothesis is test by SEM within the hospital respectively. This table 4.7 shows overall models fit indices for measurement (Dummy) Chi-square 4.87, degree of freedom 5, Goodness of Fit Index (GFI) recommend value more than 0.9 recommend value more than 0.998, Adjusted Goodness of Fit(AGFI) recommend value more than 0.9 model is value 0.959, Normed fit index (NFI) recommend value more than 0.9 model is value 0.999, Non-Normed fit index (NNFI) recommend value more than 0.9 model is value 1.001, Comparative fit index(CFI) recommend value more than 0.9 model is value 1.000, Root mean square resident (RMR) recommend value less than 0.05 model value 0.00121 and Root mean square error of approximation (RMSEA)) recommend value less than 0.10 model value 0.0

Table 4.7 Overall models fit indices for measurement (Dummy)

Indices type	Recommend value	Model value
Chi-square	N/A	4.87
χ^2 / degree of freedom	Less than 3	5
Goodness of Fit Index (GFI)	More than 0.9	0.998
Adjusted Goodness of Fit(AGFI)	More than 0.9	0.959
Normed fit index (NFI)	More than 0.9	0.999
Non-Normed fit index (NNFI)	More than 0.9	1.001
Comparative fit index(CFI)	More than 0.9	1.000
Root mean square resident (RMR)	Less than 0.05	0.00121
Root mean square error of approximation (RMSEA)	Less than 0.10	0.0

Table4.8 Correlation Matrix analysis Hospital

variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
PE	1.000																
EE	0.514	1.000															
SI	0.571	0.710	1.000														
FC	0.422	0.653	0.635	1.000													
IT	0.181	0.497	0.495	0.581	1.000												
USE	0.245	0.502	0.444	0.587	0.517	1.000											
BI	0.407	0.512	0.549	0.665	0.527	0.525	1.000										
G*PE	0.061	0.057	0.075	-0.009	-0.002	0.031	-0.013	1.000									
G*EE	0.044	0.085	0.083	0.005	0.013	0.044	-0.006	0.998	1.000								
G*SI	0.058	0.078	0.114	0.014	0.017	0.044	0.007	0.998	0.998	1.000							
A*PE	0.068	0.123	0.134	0.187	0.087	0.190	0.167	-0.082	-0.078	-0.073	1.000						
A*EE	0.045	0.151	0.137	0.199	0.104	0.205	0.172	-0.081	-0.074	-0.071	0.998	1.000					
A*SI	0.064	0.142	0.171	0.207	0.108	0.204	0.181	-0.076	-0.071	-0.065	0.998	0.998	1.000				
EX*EE	0.018	0.095	0.024	0.071	0.041	0.092	0.040	0.094	0.098	0.095	-0.021	-0.016	-0.021	1.000			
EX*SI	0.018	0.095	0.024	0.071	0.041	0.092	0.040	0.094	0.098	0.095	-0.021	-0.016	-0.021	1.000	1.000		
EX*FC	0.019	0.062	0.035	0.153	0.068	0.119	0.081	0.086	0.088	0.088	-0.008	-0.005	-0.006	0.989	0.989	1.000	
voc*Si	0.571	0.710	1.000	0.635	0.495	0.444	0.549	0.075	0.083	0.114	0.134	0.137	0.171	0.024	0.024	0.035	1.000

** Correlation is significant at the 0.05 Significant Levels

* Correlation is significant at the 0.01 Significant Levels

Structure equation modeling was applied to examine the hypothesis model using Lisrel. The final model (Figure 4.3) shows result the affect factors with the non-significant path removed.

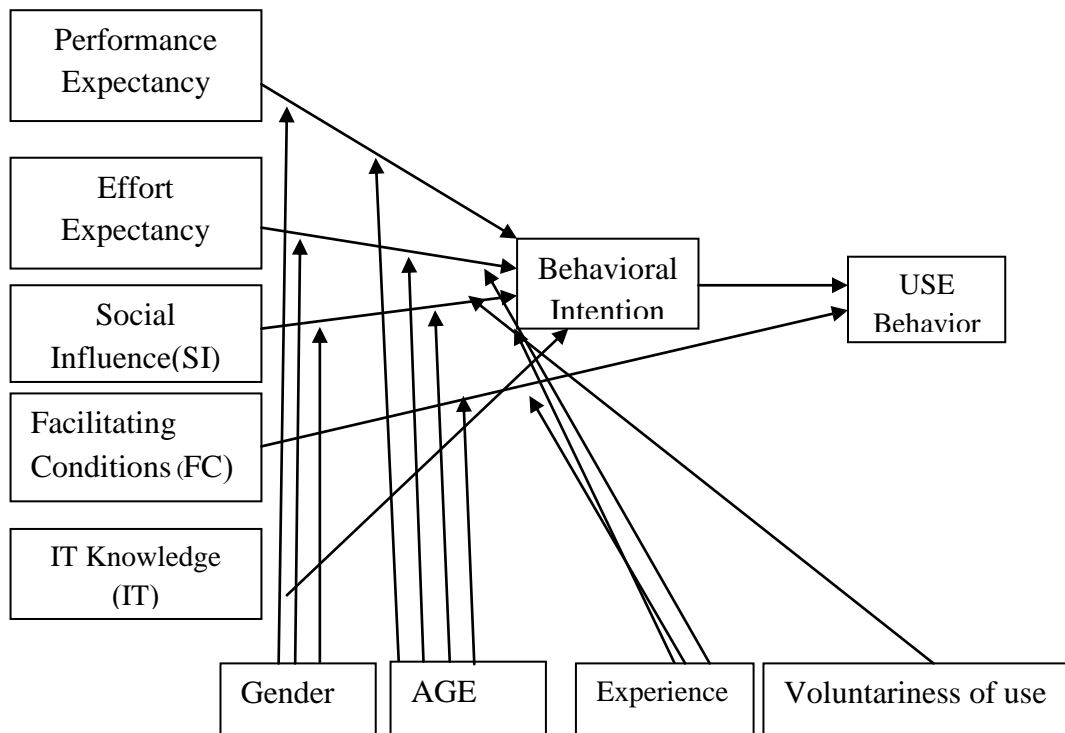


Figure 4.3 Structure UTAUT model

Figure 4.2 presents the structure model results with construct variables and modulators (Age, Gender, Experience, and Voluntariness of use) were included.

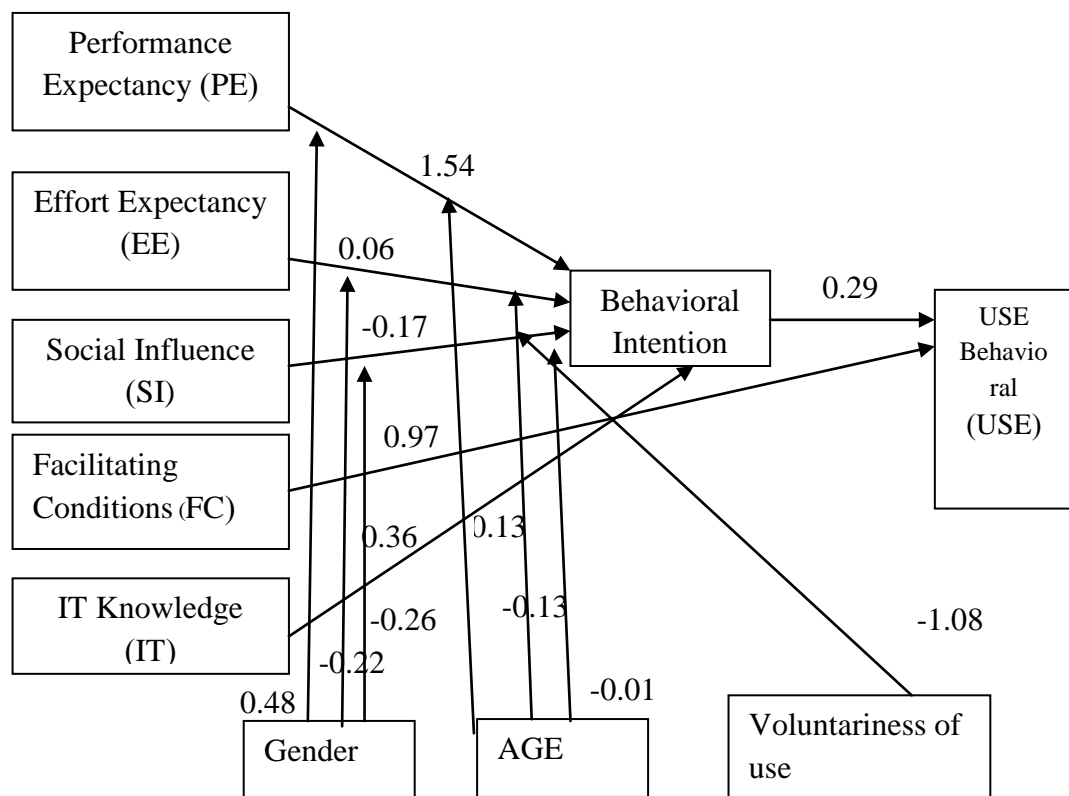
From the table shows the direct and indirect influence. Subjective norm Performance expectancy, Effort expectancy, Social influence, facilitating conditions and Information Technology knowledge have direct influence to Behavior intention. And Facilitating conditions and Behavior intension have direct to Use behavior to use.

Table 4.9 Summary of hypothesis testing

Hypothesis	Hypothesis path	Result
PE	PE → BI	Supported
EE	EE → BI	Unsupported
SI	SI → BI	Supported
FC	FC → USE	Supported
IT	IT → BI	Supported
BI	BI → USE	Supported
G*PE	G*PE → BI	Supported
G*EE	G*EE → BI	Supported
G*SI	G*SI → BI	Supported
A*PE	A*PE → BI	Supported
A*EE	A*EE → BI	Supported
A*SI	A*SI → BI	Supported
A*FC	A*FC → BI	Unsupported
EX*EE	EX*EE → BI	Unsupported
EX*SI	EX*SI → BI	Unsupported
EX*FC	EX*FC → USE	Unsupported
VOC*SI	VOC*SI → BI	Supported

This Figure 4.4 Structure model result Hospital shows results the direct and indirect influence. Subjective norm Performance expectancy value significant is 1.54, Effort expectancy value significant is 0.06, Social influence value significant is -0.17, facilitating conditions value significant is 0.97 and Information Technology knowledge value significant is 0.36 have direct influence to behavior intention. And facilitating conditions value significant is 0.97 and Behavior intension value significant is 0.29 have direct to use behavior to use.

This figure show dummy result about is gender, age experience and voluntariness of use UTAUT model result experience non-significant



* 0.05 Significant Level

* 0.01 Significant Level

Figure 4.4 Structure model result Hospital

4.4 Discussion Findings

4.4.1 Performance Expectancy

Concerning the test results on the part of target group who are electronic healthcare, the factors with influence on acceptance of the use of technology to Hospital factors Performance expectancy, Effort expectancy, Social influence, facilitating conditions and Information Technology knowledge. The result can be explained as follows:

Performance Expectancy

As a results, this determinant was strongest positively affect to behavior's intent. The result is in Performance Expectancy is defined as the degree to which an individual believes that using the system will help him or her to attain gains in job performance The performance expectancy construct within each individual model is the strongest predictor of intention and remains significant at all points of measurement in both voluntary and mandatory settings, consistent with previous model tests (Agarwal and Prasad 1998; Compeau and Higgins 1995b; Davis et al. 1992; Taylor and Todd 1995a; Thompson et al.1991; Venkatesh and Davis 2000). However, from a theoretical point of view, there is reason to expect that the relationship between performance expectancy and intention will be moderated by gender and age. The electronic healthcare in hospital should users focusing in perceived usefulness of technology. Finally, Manager will perceive usefulness increase.

H1: The influence of performance expectancy on behavioral intention will be moderated by gender and age, such that the effect will be stronger for men and particularly for younger men.

Effort expectancy

Effort expectancy (H2) was to be a less significant impact than performance expectancy on behavior intension. This is defined as the degree of ease associated with the use of the system. Three constructs from the existing models capture the concept of effort expectancy: perceived ease of use (TAM/TAM2), complexity (MPCU), and ease of use (IDT). Effort-oriented constructs are expected to be be more salient in the early stages of a new behavior. Increased age has been shown

to be associated with difficulty in processing complex stimuli and allocating attention to information on the job (Plude and Hoyer 1985), both of which may be necessary when using software systems. Prior research supports the notion that constructs related to effort expectancy will be stronger determinants of individuals' intention for women (Venkatesh and Morris 2000; Venkatesh et al. 2000) and for older workers (Morris and Venkatesh 2000). Drawing from the arguments made in the context of performance expectancy, we expect gender, age, and experience to work in concert (see Levy 1988). Thus, we propose that effort expectancy will be most salient for women, particularly those who are older and with relatively little experience with the system.

As result, about modulators affect to the effort expectancy is female and younger. Because of younger female like users technology healthcare visit internet maybe uses treatment for diagnosis.

H2: The influence of effort expectancy on behavioral intention will be moderated by gender, age, and experience, such that the effect will be stronger for women, particularly younger women, and particularly at early stages of experience.

Social influence

Social influence (H3), this research result showed that it had a positive effect on behavior intension This is defined as the degree to which an individual perceives that important others believe he or she should use the new system. Social influence as a direct determinant of behavioral intention is represented as subjective norm. This view of compliance is consistent with results in the technology acceptance literature indicating that reliance on others' opinions is significant only in mandatory settings (Hartwick and Barki1994), particularly in the early stages of experience, when an individual's opinions are relatively ill informed (Agarwal and Prasad 1997; Hartwick and Barki 1994; Karahanna et al. 1999; Taylorand Todd 1995a; Thompson et al. 1994; Venkatesh and Davis 2000). Therefore, we expect a complex interaction with these moderating variables simultaneously influencing the social influence-intention relationship.

H3: The influence of social influence on behavioral intention will be moderated by gender, age, voluntariness, and experience, such that the effect will be stronger for women, particularly older women, particularly in mandatory settings in the early stages of experience.

Facilitating Conditions

Facilitating conditions are defined as the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system. Taylor and Todd (1995b) acknowledged the theoretical overlap by modeling facilitating conditions as a core component of perceived behavioral control in TPB/DTPB. The compatibility construct from IDT incorporates items that tap the fit between the individual's work style and the use of the system in the organization. It has been demonstrated that issues related to the support infrastructure a core concept within the facilitating conditions construct are largely captured within the effort expectancy construct which taps the ease with which that tool can be applied (e.g., Venkatesh 2000). Venkatesh (2000) found support for full mediation of the effect of facilitating conditions on intention by effort expectancy

H4a: Facilitating conditions will not have a significant influence on behavioral intention.

H4b: The influence of facilitating conditions on usage will be moderated by age and experience, such that the effect will be stronger for older workers, particularly with increasing experience.

Information Technology Knowledge (IT knowledge)

The study provides further evidence for the basic validity of the UTAUT model in that it confirmed the relationships among the variables in the model proposed construct was "I have knowledge necessary to use the computer system". The positive relationship indicates that a higher Information Technology knowledge (IT knowledge) score is reflected in the perception of having necessary Information Technology knowledge (IT knowledge). The perception of possessing knowledge is an aspect of the perception of "self behavior control". The UTAUT model integrates the concept of self-behavior control into its facilitating condition construct. Therefore, the

observed positive relationship provides supporting evidence for the validity of the facilitating condition construct.

H5: Information Technology knowledge (IT knowledge) will have a significant influence on behavioral intention.

4.5 Evaluating the effects of implementing electronic healthcare

From interviews with the users who have implement technology electronic healthcare, it was found that, after implement the currently popular, efficiency was increase in public relations for the target group.

Current, medical system in the present. When discussing medical be classified into three categories: modern medicine or medical mainstream. And Alternative Medicine The main consideration in choosing the appropriate medical classification of medical services and health found in Thailand found that the affect patterns of use and impact on public health. Overall a physician should be 4 main principles are as follows:

1. Primary reliability.
2. Primary safety
3. Principle of effectiveness.
4. Primary value.

eHealthcare technology value to the lifestyle of the person as a whole.

1. The quality of life Technological progress in relation to health. Help person with a comfortable lifestyle.

2. Aspects of work performance Medical technology used in health care.

Health Promotion Protection from disease and rehabilitation.

3. Terms of productivity, effectiveness Technology in the health-related help research and health research in a variety of academic disciplines. Can make a valuable contribution or productivity and useful to human life very quickly.

4. The economy the use of health technology saving labor and time to work.

CHAPTER V

CONCLUSION AND RECOMMENDATIONS

This research study focuses on the impact are Unified theory of acceptance and use of technology electronic healthcare the medical school in Bangkok. It is divided into 4 parts. First, researcher also will be conclusion of research final result. Second, research limitation in this study, Third recommendations in this study and finally, it related direction future research.

5.1 Conclusion

Nowadays, information technology is interested in service in technology electronic healthcare the medical school in Bangkok. Service have been more response with user's/patients feel satisfy. Many things Can be developed and innovation In order to benefit physicians and their patients more. Information technology (IT) the most important through the research analysis, this study has succeed in combining and investigating existing empirical literatures on unified theory of acceptance and use of technology (UTAUT). The relationship between UTAUT was examined using a 400questionairs. This research use statistic program for hypothesis the result can be researched and referenced.

The researcher read the results out in the statistics.

This research could have been difficult to achieve in a single study. On the basis of analysis reported in this article, generally, UTAUT model based on performance expectancy, effort expectancy, social influence, and facilitating conditions affecting use behavior intention. And used dummy about is age, gender, experience and voluntariness of use.

To eliminate this problem, measurement models must be meticulously assessed. In this study analyses from the foundations of various models and theories and ultimately generated an exploratory research approach by providing a statistical

basis for measurement assessment and model testing. In conclusion, the research approach taken in this analysis has yielded three main insights concerning the UTAUT model replication.

The results showed that the used UTAUT model has been included information technology knowledge (IT Knowledge) should be included in the proposed model because affect use behavior.

According to the UTAUT model, the factors that influence the intention to use electronic healthcare are as follows: performance expectancy, effort expectancy, social influence, and facilitating conditions relations between this constructs and the behavioral intention in the current, research model.

5.2 Research Limitation

The present research has several limitations that as follows:

Firstly, the some data were gathered from respondent: used information technology about hospitals. Researcher cans access collect data in hospital but it needs to collect from online questionnaires (Google Doc). The researcher will be known what respondents you want. And it also takes a long time for collecting. Therefore, in the future researches should collect with hospital who using actual technology behavior directly.

Secondly, the researcher studied in respondents who using technology mainly. Not only technologies should select only one, but also specific in targets who often uses the technologies. There is possibility that the technology acceptance will increase.

Finally, in the future's researchers should develop new factors for checking difference such inbound and outbound. It may be founds the new factors which are effected on behavior intention to actual behavior.

Bring further insight into the underlying dynamics of the causal mechanisms addressed by the model might emerge by using a processes approach that analysis the detail events and action sequences that unfold over time.

5.3 Recommendations

These research recommendations that information technology knowledge (IT knowledge) in the research result, there are main factors supporting acceptance of using of technology electronic healthcare the medical school in Bangkok: Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions.

The most important factoring is performance expectancy. This result demonstrates that quality and performance of technology helps to perceive usefulness of government hospital. Therefore, technology in government hospital should support in good quality: service and information technology including data processing government hospital are not enough for budget in technologies. They can choose support in performance expectancy factors, firstly.

5.4 Direction Future Research

Current, medical technology has advanced even more. Many things can be developed and innovate in order to benefit physicians and their patients more.

At present, we can see that. Medical diagnose and treat patients more quickly.

In this research, based on the survey and case studies of technology Electronic healthcare the medical school in Bangkok. In the future, case studies should or business the behavior of the sample admitted to using technology keeping in mind the factors that affect the behavior of the electronic healthcare technology, the medical school in the country with the development of electronic healthcare Knicks in the future.

Researcher hoped in developing and executing the health information technology strategy, the government strives to promote health people in Thailand has a quality of life.

To maximize the benefits of using new technology used and the information that the research has to the development of the next highest benefits developed using information technology more effectively.

The researcher hopes that this research will be useful for leaders to use the most.

For the future research proposal UTAUT model may be used for the benefit of the technology used to achieve maximum benefit to the service, such as short messaging (SMS) to phones instead. In order that the service is not communicating with the hospital, such as appointments or appointments postponed etc.

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APPENDIX



เรียน ท่านผู้ตอบแบบสอบถาม

แบบสอบถามนี้เป็นส่วนหนึ่งของการทำวิทยานิพนธ์ระดับปริญญาโท สาขาวิชาเทคโนโลยีการจัดการระบบสารสนเทศ คณะวิศวกรรมศาสตร์ มหาวิทยาลัยมหิดล โดยมีวัตถุประสงค์ที่จะสำรวจปัจจัยที่มีผลต่อการยอมรับการใช้เทคโนโลยีสารสนเทศและการสื่อสารที่เกี่ยวข้องกับสุขภาพ (e-Healthcare) โรงพยาบาลของรัฐ ในประเทศไทย ซึ่งผลการวิจัยครั้งนี้จะทำให้ทราบข้อมูลเกี่ยวกับการใช้เทคโนโลยีของผู้มารับบริการโรงพยาบาลของรัฐ คำตอบของท่านจักมีคุณค่าอย่างยิ่งต่องานวิจัยครั้งนี้ ผู้วิจัยจะเก็บข้อมูลที่ได้รับจากท่านเป็นความลับ ข้อมูลตรงกับความเป็นจริงและสมบูรณ์จะช่วยให้การวิจัยดำเนินไปได้อย่างถูกต้อง ผู้วิจัยใคร่ขอความอนุเคราะห์จากท่าน โปรดตอบแบบสอบถามตามความคิดเห็นของท่านอย่างรอบคอบให้ครบทุกข้อ แบบสอบถามที่ตอบอย่างสมบูรณ์เท่านั้นที่จะสามารถนำไปใช้ในการวิจัยได้

แบบสอบถามนี้แบ่งออกเป็น 3 ตอน มี จำนวน 9 หน้า

ตอนที่ 1 เป็นแบบสอบถามข้อมูลเกี่ยวกับข้อมูลทั่วไป

ลักษณะแบบสอบถามเป็นแบบตรวจสอบรายการ (Check List) จำนวน 11 ข้อ

ตอนที่ 2 เป็นแบบสอบถามข้อมูลเกี่ยวกับการใช้เทคโนโลยีสารสนเทศของผู้ใช้บริการ

ลักษณะแบบสอบถามเป็นแบบตรวจสอบรายการ (Check List) จำนวน 5 ข้อ

ตอนที่ 3 เป็นแบบสอบถามข้อมูลเกี่ยวกับการใช้เทคโนโลยีสารสนเทศของผู้ใช้บริการ

ลักษณะแบบสอบถามเป็นแบบตรวจสอบรายการ (Rating Scale) จำนวน 27 ข้อ

คำอธิบาย

E-Healthcare

ตามคำจำกัดความของ World Health Organization: WHO คือการใช้เทคโนโลยีสารสนเทศและการสื่อสารที่เกี่ยวข้องกับสุขภาพ

(Information and communication technology : ICT)

1. การใช้ประโยชน์จากอินเทอร์เน็ต อาทิ เว็บไซต์ของโรงพยาบาล ลงทะเบียนนัดหมายออนไลน์ โครงการลงทะเบียนผู้ป่วยในออนไลน์ (Program registration) คุยกับหมอออนไลน์โครงการคุยกับหมอไม่ต้องรอนาน แผ่นพับสุขภาพออนไลน์ บทความสุขภาพออนไลน์ ข้อมูลด้านการรักษาของโรงพยาบาล ด้านการรักษา สถานที่รับการรักษา หน่วยงาน เบอร์โทรศัพท์ เป็นต้น อีเมล/จดหมายอิเล็กทรอนิกส์ติดต่อโรงพยาบาล (Direct Email) กระดานสนทนา (Web board) โครงการลงทะเบียนผู้ป่วยในออนไลน์ (Program registration)ถาม-ตอบปัญหาสุขภาพผ่านเว็บไซต์ แผ่นพับสุขภาพออนไลน์ อาทิ การออกกำลังกาย การบริหารร่างกาย แบบประเมินภาวะสุขภาพด้วยตนเอง โปรแกรมการใช้งานด้านสุขภาพ บนระบบสมาร์ตโฟน ฯลฯ
2. การใช้ประโยชน์จากนวัตกรรมใหม่ๆ อาทิ แอปพลิเคชันบนเครื่องสมาร์ตโฟน แอปพลิเคชันตรวจสุขภาพบนโทรศัพท์มือถือ แอปพลิเคชันตรวจมวลกาย เป็นต้น
3. การใช้ประโยชน์ทางด้านการแพทย์ทางไกล Telemedicine ช่วยในการติดต่อสื่อสาร ภายในและภายนอกโรงพยาบาล ใช้งานบนเครือข่ายอินเทอร์เน็ต ติดต่อกับผู้ป่วยที่ไม่สามารถเดินทางมารับการรักษาได้ที่โรงพยาบาลต้นสังกัด เป็นต้น

8.ความสนใจในการใช้เทคโนโลยี

1) สนใจ

2) ไม่สนใจ

9.สถานที่ที่มีความสะดวกในการใช้เทคโนโลยี

1) ที่ทำงาน

2) บ้าน

3) ร้านอินเทอร์เน็ต

4) อื่นๆ(โปรด

ระบุ).....

10.ปัจจุบันคุณอาศัยอยู่จังหวัดใด

.....

11.ท่านใช้คอมพิวเตอร์ในการทำกิจกรรมต่างๆ เช่น หาข้อมูล ข่าวสาร เล่นอินเทอร์เน็ต เป็นต้นบ่อยแค่ไหน

1) น้อยกว่า 1 ครั้ง/เดือน

2) 2-3 ครั้ง/เดือน

3) มากกว่า 3 ครั้ง/เดือน

4) 1 ครั้ง/สัปดาห์

5) 1 ครั้ง/วัน

6) หลายครั้ง/วัน

คำชี้แจง โปรดทำเครื่องหมาย ✓ลงในช่อง ○หน้าคำตอบที่ตรงกับสภาพความเป็นจริง ถ้า
ไม่มีการระบุไว้เป็นอย่างอื่น และหากท่านเลือกคำตอบที่ระบุไว้อื่น ๆ กรุณาระบุรายละเอียด
เพิ่มเติมในช่องว่าง

ตอนที่ 2 แบบสอบถามเกี่ยวกับการใช้เทคโนโลยีสารสนเทศและการสื่อสารที่เกี่ยวข้องกับ
สุขภาพ(e-Healthcare)

1. คุณใช้เคบบริการเทคโนโลยีสารสนเทศและการสื่อสารที่เกี่ยวข้องกับสุขภาพ(e-Healthcare)หรือไม่เช่น เว็บไซต์ คำถามตอบเกี่ยวกับปัญหาสุขภาพ กระดานสนทนา ของสถานพยาบาลที่ไปรับการรักษา เป็นต้น

○1) ใช้ (ตอบข้อ 2-4)

○2) ไม่ใช้ (ข้ามไปข้อ 5)

2.คุณเคยใช้บริการเทคโนโลยีสารสนเทศและการสื่อสารที่เกี่ยวข้องกับสุขภาพ(eHealthcare)โรงพยาบาลของรัฐใดบ้าง (ตอบได้มากกว่า 1 ข้อ)

○1)โรงพยาบาลศิริราช

○2)โรงพยาบาลจุฬาลงกรณ์

○3)โรงพยาบาลรามาริบัติ

○4)โรงพยาบาลพระมงกุฎเกล้า

○5)โรงพยาบาลวชิรพยาบาล

○6)โรงพยาบาลราชวิถี

○7)โรงพยาบาลธรรมศาสตร์เฉลิมพระเกียรติ

○8)ศูนย์การแพทย์สมเด็จพระเทพรัตนราชสุดาฯ สยามบรมราชกุมารี

○9) อื่นๆ (โปรดระบุ).....

3. คุณเคยใช้บริการเทคโนโลยีสารสนเทศและการสื่อสารที่เกี่ยวข้องกับสุขภาพ(e-Healthcare)โรงพยาบาลของรัฐในส่วนตัวใด (ตอบได้มากกว่า 1 ข้อ)

○1) ลงทะเบียนนัดหมายออนไลน์

○2) โครงการลงทะเบียนผู้ป่วยในออนไลน์ (Program registration)

○3) คุยกับหมออนไลน์,โครงการคุยกับหมอไม่ต้องรอนาน

○4) แผ่นพับสุขภาพออนไลน์, บทความสุขภาพออนไลน์อาทิ การออกกำลังกาย การบริหาร ร่างกาย เป็นต้น

○5) ข้อมูลด้านการรักษาของโรงพยาบาล ด้านการรักษา สถานที่รับการรักษา หน่วยงานเบอร์โทรศัพท์ เป็นต้น

- 6) อีเมล/จดหมายอิเล็กทรอนิกส์ติดต่อโรงพยาบาล (Direct Email)
- 7) กระดานสนทนา (Web board)
- 8) โครงการลงทะเบียนผู้ป่วยในออนไลน์ (Program registration)
- 9) ถาม-ตอบปัญหาสุขภาพผ่านเว็บไซต์ อาทิ การถามปัญหาสุขภาพเพื่อเป็นการรักษา เบื้องต้น เป็นต้น
- 10) แผ่นพับสุขภาพออนไลน์ อาทิ การออกกำลังกาย การบริหารร่างกาย เป็นต้น
- 11) แบบประเมินภาวะสุขภาพด้วยตนเอง
- 12) โปรแกรมการใช้งานด้านสุขภาพ บนระบบสมาร์ตโฟน
- 13) ทางด้านการแพทย์ทางไกล Telemedicine ช่วยในการติดต่อสื่อสาร ภายในและภายนอกโรงพยาบาล ใช้งานบน เครือข่ายอินเทอร์เน็ต ติดต่อกับผู้ป่วยที่ไม่สามารถเดินทางมารับการรักษาได้ที่โรงพยาบาลต้นสังกัด เป็นต้น
- 14) วิธีดีสอนออกกำลังกายหลังผ่าตัด, วิธีดีสุขภาพออนไลน์ อาทิ การสอนท่าการออกกำลังกายอย่างถูกวิธี เป็นต้น
- 15) โปรแกรมสร้างเสริมสุขภาพป้องกันโรค
- 16) ข้อมูลด้านสุขภาพบนสื่อ Social media อาทิ Twitter Face book YouTubeของโรงพยาบาลที่ท่านใช้บริการ
- 17) อื่นๆ (โปรดระบุ).....

4.รูปแบบของการใช้ที่จะตอบสนองความต้องการของท่านมากที่สุดคือ

- 1) ดูเนื้อหาสบายตา หาข้อมูลที่ต้องการได้ง่าย
- 2) สะดวกสบายมีการโต้ตอบทันทีไม่เสียเวลาในการรอคอย
- 3) สามารถใช้งานได้ตลอดเวลาที่ต้องการ
- 4) อื่นๆ (โปรดระบุ)

5.เพราะเหตุใดคุณจึงไม่ใช้บริการเทคโนโลยีสารสนเทศและการสื่อสารที่เกี่ยวข้องกับสุขภาพ (e-Healthcare) โรงพยาบาลของรัฐ

- 1) ไม่มีความรู้
- 2) ไม่ชอบรูปแบบการนำเสนอ
- 3) ไม่มีความสนใจในการใช้
- 4) เกิดความยุ่งยากในการใช้
- 5) อื่นๆ (โปรดระบุ)

ตอนที่3 แบบสอบถามข้อมูลเกี่ยวกับปัจจัยที่มีผลต่อการตัดสินใจในการใช้เทคโนโลยี

คำชี้แจง โปรดทำเครื่องหมาย V ลงในช่อง ค่าตัวเลขด้านบนที่ตรงกับความคิดเห็นของท่านมากที่สุด เรียงลำดับดังนี้

ข้อ 5 = เห็นด้วยมากที่สุด / ข้อ 4 = เห็นด้วยมาก / ข้อ 3 = เห็นด้วยปานกลาง
 ข้อ 2 = เห็นด้วยน้อย / ข้อ 1 = เห็นด้วยน้อย

ข้อความที่ต้องการความคิดเห็น:เรื่องปัจจัยที่มีผลต่อการยอมรับ	ระดับความคิดเห็น				
	มาก	มาก	ปาน	น้อย	น้อย
ข้อ 5 = เห็นด้วยมากที่สุด	5	4	3	2	1
ข้อ 4 = เห็นด้วยมาก					
ข้อ 3 = เห็นด้วยปานกลาง					
ข้อ 2 = เห็นด้วยน้อย					
ข้อ 1 = เห็นด้วยน้อย					
คำถามเกี่ยวกับการใช้เทคโนโลยีเพื่อให้เกิดคุณภาพของการใช้	5	4	3	2	1
1. เทคโนโลยีที่ใช้มีประโยชน์ต่อคุณ					
2. เทคโนโลยีที่ใช้ทำให้คุณมีคุณภาพชีวิตที่ดีขึ้น					
3. เทคโนโลยีที่ใช้ช่วยให้การรับบริการดูแลสุขภาพของท่านมีประสิทธิภาพ					
4. เทคโนโลยีที่ใช้ช่วยให้โรงพยาบาลสามารถติดต่อกับผู้ใช้บริการ/ผู้ป่วย					
5. คุณคิดว่าสามารถเข้าใช้เทคโนโลยีตลอดเวลาเมื่อคุณต้องการที่จะใช้					
คำถามเกี่ยวกับความง่ายในการใช้งาน	5	4	3	2	1
6. ท่านคิดว่าเทคโนโลยีที่ใช้ช่วยลดระยะเวลา ทำให้ท่านรักษาได้ดี					
7. ท่านคิดว่า การเรียนรู้เทคโนโลยีใหม่ๆ เป็นเรื่องง่ายสำหรับท่าน					
8. เมื่อเกิดความผิดพลาดขึ้นกับเทคโนโลยีที่ใช้ ท่านสามารถแก้ไขได้ง่าย					
9. คุณคิดว่า การ การศึกษาและเรียนรู้การใช้เทคโนโลยีนั้นเป็นเรื่องง่าย					
คำถามเกี่ยวกับการได้รับแรงผลักดันจากบุคคลภายนอก	5	4	3	2	1
10. ท่านยอมรับว่าการใช้ระบบ/เทคโนโลยีเป็นประโยชน์ต่อโรงพยาบาลที่					
11. ท่านคิดว่าการตัดสินใจเลือกใช้เทคโนโลยี เพราะเป็นที่รู้จักอย่าง					
12. เพื่อนหรือคนรอบข้างของคุณมีส่วนทำให้คุณตัดสินใจใช้เทคโนโลยี					
13. นโยบายของทางรัฐบาลด้านการดูแลสุขภาพส่งผลให้คุณตัดสินใจใช้					
คำถามเกี่ยวกับสิ่งอำนวยความสะดวกในการใช้เทคโนโลยี	5	4	3	2	1
14. คุณมีความรู้และความเข้าใจที่จะใช้เทคโนโลยี เพื่ออำนวยความสะดวก					
15. คุณตัดสินใจที่จะใช้เทคโนโลยีเพื่อลดเวลา มากกว่าวิธีอื่นๆ					
16. คุณคิดว่าการใช้เทคโนโลยี จะต้องสามารถใช้งานจาก คอมพิวเตอร์/					
17. คุณตัดสินใจใช้เทคโนโลยีเนื่องจากมีรูปแบบเทคโนโลยีที่อำนวยความสะดวก					
18. คุณมีความรู้ความเข้าใจอย่างเพียงพอที่จะใช้เทคโนโลยี					
คำถามเกี่ยวกับความรู้ด้านเทคโนโลยี	5	4	3	2	1
19. คุณคิดว่าความรู้ด้านเทคโนโลยีมีส่วนสำคัญในการตัดสินใจใช้					
20. คุณมีความรู้ความเข้าใจเพียงพอในการใช้เทคโนโลยี					
คำถามเกี่ยวกับการตั้งใจใช้เทคโนโลยี	5	4	3	2	1
21. คุณมีความตั้งใจใช้เทคโนโลยีเพื่อให้ได้รับบริการที่ดีขึ้น					
22. ถ้าความนิยมลดลง คุณมีความตั้งใจ ใช้เทคโนโลยีอันนั้นต่อไป					
23. คุณมีความตั้งใจใช้เทคโนโลยีที่ได้รับความนิยมเท่านั้น					
24. คุณมีความตั้งใจ ที่จะใช้เทคโนโลยีใหม่ๆ ในอนาคต					
25. คุณมีความตั้งใจว่าในอนาคตจะใช้เทคโนโลยีเป็นประจำ					
คำถามเกี่ยวกับพฤติกรรมการใช้เทคโนโลยี	5	4	3	2	1
26. คุณใช้เทคโนโลยีทางด้านสุขภาพบ่อยแค่ไหน					
27. คุณเคยแนะนำการใช้เทคโนโลยีให้กับบุคคลอื่นบ่อยแค่ไหน					

ตอนสุดท้าย

กรุณาแสดงความคิดเห็นหรือข้อเสนอแนะเกี่ยวกับปัจจัยการยอมรับการใช้เทคโนโลยีของท่าน

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ขอขอบคุณที่สละเวลาอันมีค่าของท่านในการตอบแบบสอบถาม

BIOGRAPHY

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