FACTORS INFLUENCING BEHAVIORAL INTENTION TO USE END-TO-END TELEMEDICINE HEALTHCARE SERVICE ROOMS IN BANGKOK MALLS FROM PATIENTS' PERSPECTIVE

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ABSTRACT

End-to-end telemedicine service rooms are a new platform for delivering healthcare services by integrating telemedicine services using advanced technology through video conferencing and provide advantages for both patients and healthcare professionals in terms of time management and treatment workflow to diagnose and prescribe medication to patients. After consulting has finished at a room-base location, this healthcare service allows patients to receive medicines immediately as the streamlining the workflow of hospitals and clinics. Pharmacy chains in Bangkok malls, where end-to-end telemedicine service rooms are strategically placed in potentially urban areas to build a new healthcare service model and provide patients with high-quality care. However, pharmacy chain business continues to confront obstacles and constraints that are large-scale determinants influencing patients' intentions to use end-to-end telemedicine service rooms. Utilizing literature on patients' behavioral intention towards using end-to-end telemedicine service rooms, this study examines the factors of adoption from the patient's perspective: performance expectation, social influence, personal innovativeness, perceived risk, and accessibility. This research model provides valuable insights to healthcare organizations, particularly pharmacy chains, pharmaceutical companies, and joint venture corporations such as hospitals, clinics, and insurance companies, as well as to researchers, for the effective utilization of end-to-end telemedicine services and for potential future technological developments.

KEY WORD: END-TO-END TELEMEDICINE ROOMS / BEHAVIORAL USAGE INTENTION / BANGKOK MALLS / PATIENTS' PERSPECTIVE

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CHAPTER I
INTRODUCTION

Bangkok is the most populated metropolitan area in Thailand as well as the country's capital. The city, also known as Bangkok (also called Krung Thep Maha Nakhon), is situated in the delta of the Chao Phraya River in the center of the country. The 2022 population of Bangkok is approximately 10,899,698 with the growth rate of 1.65%. Thailand's capital city of Bangkok welcomes visitors from all around the globe. There are primarily Thai people living in Bangkok. Bangkok has expanded so rapidly without adequate urban planning or regulation. This has led to inadequate infrastructure and an unorganized layout with limited roads, severe traffic, and harmful air pollution (www. worldpopulationreview.com, 2022). Traveling to larger cities for medical care is typically inconvenient because it requires an overnight stay and often causes people to miss work. There appear to be instances in which patients cannot see their doctors on the day of their scheduled appointment due to the severity of their illness, a lack of communication methods, or a delay in their medication.

Due to the rapid advances in information technology, homes, and workplaces all over the world have undergone fundamental changes. These changes can also be noticed in the field of healthcare and health system (Shanbehzadeh et al, 2021). This sequence of events was initially termed "telemedicine" by modern culture. Telemedicine typically refers to the use of telecommunications to offer clinical treatment at a distance, challenging the idea that care requires the actual appearance of experts and patient contact (Silva et al, 2020). Telemedicine (Information and Communication Technology (ICT) integration in healthcare) allows patients to consult with physicians without having to meet them in person that becomes compatible with smartphones and tablets. It enables a transformation in the way in which information is delivered to assist with the diagnosis, treatment, and prevention of diseases.

In Thailand, the Ministry of Public Health has developed a program to encourage more patients to adopt telemedicine services. During the COVID-19

pandemic, in the two months since July 2020, about 4,000 people have registered for the service, which involves consulting a doctor via the Line application and receiving drugs by mail (Katchwattana, 2020). According to a report by Global Market Insights, a marketing consultancy and analysis business, the telemedicine market was worth 1.35 trillion baht in 2019 and is expected to reach 5.25 trillion baht by 2026, growing at an average annual rate of 19.3 percent (Insights into telemedicine innovations, 2020, www.thecoverage.info).

1.1 Definition of Telemedicine

The "telecommunications era", in the 1970s, was characterized by dependence on radio and television as information broadcasting media, the lack of integration of audiovisual data with any other type of clinical data, and difficult storage and access. In the "digital era", which spanned the 1980s and early 1990s, information was digitalized, and telecommunication networks and computers were integrated through protocols that supported simultaneous and high-speed integrated transmission of sound, image, and data. The current "Internet era", is the consequence of increased integration between telecommunication networks and computers through standardized and open access protocols that allow broader and more rapid accessibility with less expensive technology (Pan American Health Organization, 2016).

Telemedicine is a virtual platform for health-related communication that utilizes cutting-edge technologies. Due to the COVID-19 pandemic, face-to-face communication may occur the risk. Consequently, telemedicine is a good way for patients and physicians to continue communicating through virtual conferences for the diagnosis, disease prevention, follow-up visits, and prescribing of medicine. Technological innovation based on the use of telemedicine allows the development of complex competitive factors with the potential for increased differentiation from the competition. It follows that the most innovative health care organizations should be expected to develop sophisticated competitive strategies that differ from the traditional models based on cost of service, and which provide higher levels of efficiency and efficacy. New competitiveness models of health care organizations are more aligned with value generation strategies in the knowledge economy. In fact, telemedicine makes

the innovation process more dynamic, but also more interactive and interdependent. Hence, continued innovation is a critical strategy for the most competitive health care organizations, facilitating advanced technological features and sustained improvement in the quality of services offered to the market. Therefore, the continued development of technological innovation reinforces the market position of health care organizations in relation to the competition and allows greater efficiency and efficacy of service delivery (Pan American Health Organization, 2016).

Telemedicine has made medical care more accessible to individuals from different walks of life and geographic places. Professional care can be delivered to patients who live in inaccessible areas, saving both patients and physicians the time and energy required for travel (Rashid, 2020). In addition, there is not necessary to transport patients, which reduces costs and saves time. There is also increased efficiency in health resource management due to evaluation and screening by specialists, faster access to specialists in emergencies, fewer hospital admissions, more efficient use of resources due to decentralization of assistance, expansion of services to more people, and the possibility of increased cooperation among healthcare providers. All of these advantages are beneficial when using telemedicine in healthcare (Silva et al, 2020).

1.1.1 Telemedicine online service features

MorDee application is powered by True Health as a division of True Digital Group Co., Ltd. There are 5 steps on how using the telemedicine on the application. First, make a doctor's appointment on a day and time that's convenience schedule health consultations with doctors and specialists online from anywhere, with the option of choosing your preferred date and time, and there is a system that allows you to see your doctor immediately by without waiting. Second, doctor search system by using the keyword and typing in the illness that present the name of doctor with their specialist. Third, patients can access the chat rooms in the application by using the video interaction to consult a doctor when it's time for an appointment. Fourth, the service application has saved the heath data both medical history and other health information that can be viewed at any time. Lastly, the service payment has provided convenient payment option on the e-banking platform (i.e., credit card, cash transferring, QR code scanning, and paying through e-wallet application). After consultation with an online

doctor, if the doctor issues a prescription and the patient is served, the medication is ordered. The service provider offers home delivery or to your preferred location within 3 hours in the Bangkok area, with a skilled pharmacist calling for advice, recommending medications in the right way, quickly and with peace of mind at every step. Therefore, patients wait for the medication to be received at home when ordering the drug as directed by doctor. Nowadays, the healthcare service providers offer the claim insurance instantly through the Tele Medi Claim system which allows patients comfortable, and no reservation required with the insurance connection (MorDee Application, 2022).

1.1.2 End-to-end Telemedicine health service rooms

Telecom service, True, provider works as co-operation to promoting the pharmacy area provides "Consultation on all health matters near you" by a team of doctors and health professionals through a smart health care platform with Smart Mirror connected via internet 5G smart network, discuss health problems, and buy medicines immediately. This service is called True Health platform. More and more services, including health consultations with experts, prevention, and delivery of medicines, as well as health insurance services, will improve the quality of life of Thai people to be healthier. It caters to health lovers in the 4.0 era, especially during the COVID-19 situation, which has accelerated consumers' health care and increasingly reliance on digital technology. The end-to-end Telemedicine health service rooms make it easy for Thais to access healthcare services, saving time and cost from traveling and waiting in line at clinics or hospitals. It is also safe and reduces the risk of infection. Consult health issues with a team of doctors and health professionals from Medical Clinic covering several health fields including physical and mental health such as women's, children's, general diseases, internal medicine, surgery, orthopedics, dentistry, eyes, ears, throat, skin/anti-aging, office syndrome, Chinese medicine, Thai traditional medicine, pharmaceuticals, and nutrition. There is a private room for consultation as a corner in the pharmacy shop at the shopping mall. Currently, 31 chain stores in Thailand offer end-to-end telemedicine service rooms utilizing the MorDee application on this intelligent platform via Lotus (Hypermarket). Hypermarket is a retail store that combines department stores and supermarkets as a one-stop shopping destination. Moreover, the end-to-end Telemedicine health service rooms continue to promote a new

way of life for consumers and reduce the risk of infection from meeting large groups of people. It also helps Thais to access medical services more efficiently, as well as allow healthcare workers to care for patients more efficiently (Thansettakij, 2021).

1.1.3 Patient's perspective definition

Nowadays, patients are especially expected to be partners of healthcare professionals in the treatment decision-making process, as their experiential knowledge is seen as complementary to professionals' knowledge. It is increasingly being recognized that patient involvement in decision-making can improve medical outcomes, patient satisfaction and quality and safety of care (Buljac-Samardzic et al, 2021). Issues related to the perception of patients, their families, and/or caretakers, regarding the end-to-end telemedicine health service rooms. The contents related Performance expectancy, Social influence, Personal innovativeness, Accessibility, and Perceive risk, and Intention to use end-to-end Telemedicine health service rooms at Bangkok malls.

1.1.4 Shopping malls

Thailand is one of South Asia's most economically influential nations. Bangkok, the capital of Thailand, is a social hub with a prospering retail industry market. It attracted not only Thai community members but also numerous multinational retail corporations to invest in the country. Its retail market is rapidly changing to accommodate consumers with diverse lifestyles who are highly motivated by the Internet (Thailand retail industry outlook, 2022). The malls had become more than a place to shop, it has come to represent a new kind of urban lifestyle (Hobden, 2014). Shopping malls are the primary venues for fashion goods and ideas; shopping for fashion goods draws mall traffic. In addition to purchasing goods and services, consumers visit shopping malls to view exhibits, socialize with friends and family, and pass the time by browsing or snacking (Hu and Jasper, 2018).

1.2 Problem Statement

The interesting issue is the Telecom service providers currently hold a competitive advantage in terms of telecommunication networks. In the shopping malls,

there are numerous service locations serving customers. Therefore, they will invest in launching the end-to-end telemedicine rooms as teleclinic at the shopping malls as the new business unit. As a result, they have the capability within the service platform for network connectivity, system recording, and data storage. With the telemedicine health service rooms, the telecom provider is growing its business by partnering with drugstore chains to provide medication after a telemedicine consultation.

Due to the rise of telemedicine, the accessibility of the smartphone's video camera, and the affordable internet are the ease of use in everywhere you live. Thus, the aim of this study is to define the factors influencing intent towards to use end-to-end telemedicine health service rooms in Bangkok shopping malls from the patient's perspective in such a way that comprehend the customers' intention by developing the key value message through marketing promotion and campaign with the communication service.

1.3 Research Questions

- What are the factors that influence patients' behavioral intention to use end-to-end telemedicine health service rooms in Bangkok malls?
- Which factor is most influencing patients' behavioral intention towards using end-to-end telemedicine health service rooms in Bangkok malls?

1.4 Research Objectives

The purpose of this study is

- Determine factor influencing behavioral intention towards using end-to-end telemedicine health service rooms in Bangkok malls from the patients' perspective.
- Gain the understanding in the reason of motivation in customer behavior towards using telemedicine health service rooms.
- Develop the marketing communication to raise brand awareness during the early stages of adoption.

CHAPTER II
LITERATURE REVIEW

2.1 The unified theory of acceptance and use of technology

The Unified Theory of Acceptance and Use of Technology (UTAUT) is established in order to examine user behavior towards the intention and usage of technology (Venkatesh et al, 2003). The model has unified eight outstanding IT acceptance and use models: Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Motivation Model, Theory of Planned Behaviour (TPB), Combined TAM and TPB (C-TAM-TPB), Model of PC Utilization (MPCU), Innovation Diffusion Theory (IDT) and Social Cognitive Theory (SCT) (Venkatesh et al, 2003).

The UTAUT theory comprises four main factors, namely: performance expectancy (PE), effort expectancy (EE), social influence (SI) and facilitating condition (FC). This theory used the gender, age, experience, and voluntariness of use to be control variables to confirm the integral feature that presented the strength relationship on usage intention of technology. In addition, Venkatesh et al. (2012) had confirmed the basic structure of UTAUT theory had significant impact on use and supported the applicability and validity of UTAUT to predict consumers' behavioral intention and technology use. One notable difference between the findings related to UTAUT and UTAUT2 is the effect of behavioral intention on technology use. While behavioral intention had a positive direct effect on use in UTAUT, in the consumer context (in UTAUT2), the effect was moderated by experience with the target technology (Venkatesh et al, 2012). These tests provided strong empirical support to comprehend the meaningful insight to play the important role in driving behavior intention, developing the strategies for technology implementation, and predicting technology user intention.

In healthcare, refer to the systematic review, the majority of studies used the adoption theories UTAUT of 20% in research publication. The primary advantages of the Internet of Things (IoT) have included the providing of sustainable healthcare

services, continued to improve health, and more cost-effective treatment (Al-rawashdeh et al, 2022). This study's primary objective was to synthesize literature on the behavioral usage intention of patients' perspective for smart healthcare. The study results indicated that unified theory of acceptance and use of technology (UTAUT) increased the usage intention of telemedicine equipment has significant implications for the reduction of overall costs, as well as the reduction of unnecessary visits to emergency rooms and hospital readmissions. It is crucial that clinicians participate in the process of adopting telehealth equipment (Kohnke et al, 2014). This study aims to focus on two aspects of UTAUT theory which are the performance expectancy (PE) and social influence (SI) that were found the main aspects of several research design to indicate the patient perspective in terms of the intention to use end-to-end Telemedicine health service rooms. Furthermore, the personal innovativeness is the individual believe towards to decide to use the technology in customers' perception (Agarwal and Prasad, 1998).

2.1.1 Performance expectancy (PE)

Performance expectancy is conceptually and empirically identical to perceived usefulness from TAM (Venkatesh et al, 2003). The Performance expectancy is defined as 'degree in which patient believes that the use of telemedicine health services will increase his/her task performance. The performance expectancy construct within each individual model is the strongest predictor of intention and remains significant at all points of measurement (Venkatesh et al, 2003). In addition, the result of research indicate that was essential to focus particularly on the role of PE which have the highest level of influence over mHealth usage intention (Alam et al, 2020). A systematic review indicated that performance expectancy is the technology level component that influences the Internet of Things (IoT) application intended for Telemedicine in the healthcare sector (Al-rawashdeh et al, 2022). Furthermore, Telemedicine service have clearly proven that integrated technologies have the capability to improve healthcare services and support healthcare professionals in delivering healthcare solutions in the most efficient and effective way possible. Besides, the technology advancement, users find it in the efficient healthcare technology to meet their healthcare needs, the researcher will illustrate more positive intentions.

2.1.2 Social influence (SI)

Social influence includes three conceptually identical constructs mapped from the previous models: subjective norm (TRA, TAM2, TPB, and C-TAM-TPB), social factors (MPCU), and image (IDT) (Venkatesh, et. al., 2003). Social influence is the degrees to which customers believe that influential persons (e.g., family and friends) believe they should be using a particular technology. 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. Social influence appears to be important only in the early stages of individual experience with the technology, with its role eroding over time and eventually becoming nonsignificant with sustained usage. The role of social influence in technology acceptance decisions is complex and subject to a wide range of contingent influences (Venkatesh et al, 2003). Furthermore, social gains attributed to the use of an artifact, for instance, video-on-demand via mobile phones may position individuals as trendy and sophisticated (Turel et al, 2010). Nowadays, innovative technology has evolved into a variety of techniques through which consumers acquire well-known influencers, who conduct positive usage and recommendation to create acceptance in consumers' intentions. There is the important role to play on social worldwide. There is an important role to play in attracting customers on social platforms all over the world. According to the effects of social influence fall into three broad categories – compliance (people appear to accept with other purposes to avoid the disapproval, but normally keep their own opinions private), identification (people are influenced by someone who is liked and respected to maintain the self-defining among groups), and internalization (people agree to integrate the individual belief or behavior both publicly and privately) (Kelman, 1958).

2.1.3 Personal innovativeness (PI)

Personal innovativeness in the domain of information technology can potentially be utilized to enrich more broadly focused models of IT implementation that include constructs other than individual beliefs or perceptions as drivers of technology adoption decisions (Agarwal and Prasad, 1998). The results showed the significant correlation between PIIT and usage intention. Based on the results of this research, it appears that innovative behaviors will play an important role in the future of

organization. Explaining adoption of a new system/technology, several researchers examined the level of innovativeness of individuals (Lu, 2014). They all found personal innovativeness played a major role in intention to use. In addition, the users with a sense of personal innovativeness would adopt an innovation more speedily (Agarwal and Prasad, 1998). They argued that in order to identify individual responses to innovation, this definition must be reconceived in a domain-specific rather than a global context. Thus, personal innovativeness could be considered one of the factors of technological acceptance behavior. The relationship between personal innovativeness and system utilization was partially mediated by the innovation's ability to be distributed to other individuals. There was a significant correlation between personal innovativeness and their system usage (Donmez-Turan and Zehir, 2021). As mentioned before, UTAUT theory indicated a significant relationship between four main factors and usage intention. On the other hand, UTAUT theory didn't include the individual impact to usage intention.

2.1.4 Perceived Risk (PR)

Perceived risk is an important factor that is used in various areas of social sciences as such several studies have examined consumer behavior regarding risk-taking and risk-reducing. The risk levels that consumers perceive and tolerate are those attitudinal factors that affect their users. Since both characteristics vary from person to person, the acceptance of technology varies from person to person (Jacoby and Kaplan, 1972). In addition, the influence of several aspects of perceived risk (financial, performance, social, psychological, time, and privacy) on customers' attitudes toward really-new services (RNS) and their adoption intentions should be investigated (Savas-Hall et al, 2021). There is a chance that confidential information will be disclosed or illegally obtained, altered, and exploited. This perceived risk decreases the user's perception of the system, the extent to which the system improves the user's quality of life, and the assessment of the new system's efficiency (Liu et al, 2022). Although the advancement and use of digital health management has provided significant convenience for the majority of patients, patients may be concerned about their healthcare information, including payment transactions. Furthermore, many studies

have found that perceived risk leads to the expectation of negative consequences, which harms the intention to adopt.

2.1.5 Accessibility (AC)

One component of access, accessibility as “the relationship between the location of supply and the location of clients”, is often operationalized as how far people are from health services, regardless of their immediate need for those services (Seymour et al, 2022). Access is the ability of populations to obtain appropriate services in response to need for care; it may be realized and expressed as use of health services, or it may be unrealized and expressed as unmet need for care. Accessibility, on the other hand, describes the nature of the health services whose location, organization or cost allow, facilitate, or impede the ability of a wide range of potential patients to seek and obtain care (Haggerty et al, 2014). By merging healthcare and infrastructure with Internet technology in shopping malls, telecom service providers will have broader access to the telemedicine platform, which has the potential to increase accessibility in the Bangkok region. In addition, the position and location of shopping malls are the most convenient in the customer's mind in terms of accessibility to entertainment and relaxation areas. The reason is that telecom firms are adapting to telehealth technology, in addition to the continuous investment in the digital health market at this moment. Therefore, this study's objective is to investigate how the accessibility of end-to-end telemedicine health service rooms influences patients' healthcare access decisions in Bangkok metropolitan communities.

2.1.6 Behavioral Intention of Use (INTU)

Behavioral intention has a significant positive effect on use behavior or system usage (Venkatesh et al, 2003). The significance of intention as a predictor of behavior has been founded in IS and other related disciplines. Finally, from a practical standpoint, the rich understanding gained can help telecom and healthcare organizations in the consumer intention to create better designs and market technologies to drive the consumers’ experience in various demographic groups at various stages of the use curve. Furthermore, if a patient believes that telemedicine health services can help improve his or her health, the probability of him or her adopting telemedicine health services

improves, according to the literature on health information systems (Samar et al, 2021). Thus, it is highly essential to investigate how behavioral intention to use and patients' behavior can influence the intention to use the end-to-end telemedicine service rooms. Intention to recommend is important to include in this study since that provides marketers and commercial developers with information into what should be enhanced or maintained to promote future service performance and marketing.

CHAPTER III
METHODOLOGY

In this study, modifications have been made on the Unified Theory of Acceptance and Use of Technology (UTAUT) which was developed by Venkatesh et al. (2003). In the field of the end-to-end Telemedicine service rooms, this study considers the Unified Theory of Acceptance and Use of Technology models that explain the factor in determining patients' behavioral intention to use end-to-end telemedicine health service rooms.

3.1 Theoretical Framework

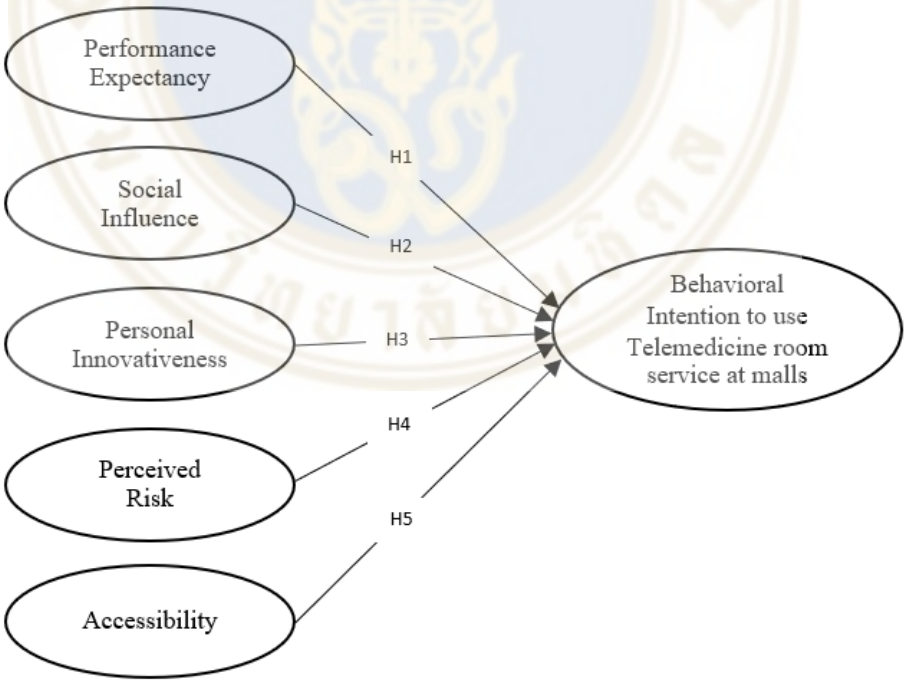

Figure 3.1 Proposed research model

Referring to the literature review and theoretical framework, this study developed the following hypothesis:

Hypothesis 1: Performance expectancy has positive influence on usage intention towards end-to-end telemedicine health service rooms.

Hypothesis 2: Social influence has positive influence on usage intention towards end-to-end telemedicine health service rooms.

Hypothesis 3: Personal innovativeness has a positive influence on usage intention towards end-to-end telemedicine health service rooms

Hypothesis 4: Perceived risk has a negative influence on usage intention towards end-to-end telemedicine health service rooms.

Hypothesis 5: Accessibility has a positive influence on usage intention towards end-to-end telemedicine health service rooms.

3.2 Survey design

All survey items were adopted from studies regarding telemedicine for health technology including the service room as a private room. Perceived risk in this study refers to the transaction process and security in the Telemedicine health service rooms. The questionnaire items were first forward-translated from English to Thai who is an expert in English and Thai languages. A panel of experts then reviewed the translated questionnaire, and some modifications took place to adjust and smoothen the translation. The items were measured with a 5-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (4). Context-specific adjustments were then made to suit the adoption criteria of telemedicine application in the telehealth rooms. The researcher performed a pilot test on 100 respondents to identify other issues and further improve the study.

3.3 Selection of respondents

This study uses some of study design. Our inclusion criteria adult users' target population are the patient who go to visit physicians at hospital or clinic and go to buy a medicine at pharmacy for medical and health treatment in the last 6 months. At

the beginning of the survey, we described the purpose of the questionnaire and explained end-to-end Telemedicine service rooms definition, and informed consents were then obtained. After that, the respondents will fill up 36 questionnaires that serve as the determinant for them to be included or excluded in our studies. The questions concern their patient perspectives who may use used to access the application, and previous use of mHealth applications. If respondents have not the health issue in last 6 months, had never visited the physicians at clinic or hospital, or had never bought the medicine at pharmacy shop before, they are excluded from the study.

There is only one company that promoted the telemedicine health service rooms by True company in this study. These telemedicine health service rooms are placed on the pharmacy shop at the shopping malls. The researcher limited the sample population to residents currently staying in Bangkok, Thailand. The reason for this demographic limitation is because these areas are the well-developed in terms of infrastructure. Therefore, the results will represent the understanding in the reason of motivation in customer behavior towards using end-to-end telemedicine health service rooms expanding the demographic to rural areas. In addition, the results will be used to develop the marketing and service more user friendly for patients. Lastly, this study was not carried out in partnership with doctors or any medical professionals. The researcher would like to focus our study on the patients and users who have the usage of intention.

3.4 The measurement models

For data analysis, Statistical Package for the Social Sciences Program (SPSS), is a flexible, customizable way to get super granular on even the most complex data sets. This gives the researcher has more time to identifying trends, developing predictive models, and drawing informed conclusions. After collecting the data, SPSS analysis shows the difference is significant (sig. less than 0.05) in the various types of analysis. There are six types of analysis in which the research should present the difference between significant data from the dependent and independent analysis in each type of table.

The transformation of data into a format that is simple for researchers to comprehend and interpret is called descriptive statistics. It was a typical way to organize,

summarize, and present the variable. In this study, a descriptive analysis was performed to summarize information about the population or sample. It turned raw data into a set of information that describes a set of situational variables. In the descriptive analysis, the mean score and standard deviation of the gathered data were given. The standard deviation will explain the spread of variability of the sample values from the mean. If the standard deviation is small, most of the numbers in a sample distribution will be close to the mean.

To test for the reliability, Cronbach's Alpha was used. The most common measure of scale reliability is equivalent to Cronbach's Alpha. Cronbach's Alpha is indicated the reliability coefficient and how the items correlated to one another. Cronbach's Alpha can be explained as a correlation coefficient that ranges from 0 to 1. The closer the coefficient to 1 is the better the result. Reliabilities ranging from 0.50 to 0.60 are sufficient for exploratory studies, in the range of 0.70 are acceptable and over 0.80 are good. The values of Cronbach's Alpha closer to 1 ensure the higher internal consistency reliability (Ibrahim et al, 2017).

T-Test is the most commonly used method to evaluate the differences in mean between two groups. Levene's Test for Equality of Variances whenever run an independent samples t-test to see the significant difference. Furthermore, ANOVA is used for testing whether two or more sample means came from the same or equal populations of demographic profile and the general question part. When the between group variances are the same, mean differences among groups seem more distinct in the distributions with smaller within group variances compared to those with larger within group variances. Therefore, the ratio of between group variance to within group variance is of the main interest in the ANOVA (Kim, 2014).

Correlation is the study of the relationship and also defined the strength to measure the association between two variables. It presents the negative, positive, and no relationship in the analysis. If the value of the Pearson correlation coefficient (r) showed a positive (+) 1.0, so there is a positive correlation between the two variables. If the negative (-) 1.0 then there is a negative correlation between the two variables. While the correlation coefficient indicates zero then there is no relationship between two variables. If the correlation coefficient indicates between 0 and 1.0, there are some positive correlation coefficients which is positive or between 0 and negative (-) 1.0 showed a

negative relationship between two variables (Ibrahim et al, 2017). In addition, a correlation coefficient value between 0.00 and 0.10 indicates a negligible correlation, thus a value between 0.10 and 0.39 indicates a weak correlation. In the meantime, correlation coefficients between 0.40 and 0.69 indicate a moderate correlation, while correlation coefficients between 0.70 and 0.89 indicate a strong correlation. Certainly, correlation coefficients between 0.90 and 1.00 indicates a very strong relationship between two variables (Schober et al, 2018).

Multiple regression analysis is performed in order to further explain the relationship between independent variables and dependent variable. It will present the negative or positive relationship, and cause or effect relationship in the analysis. In addition, this analysis also helps in understanding the extent to which the variance in the dependent variable explained by the independent variables. Therefore, it gives explanation significant on affects between five factors i.e., performance expectancy, social influence, personal innovativeness, perceived risk, and accessibility with patients' behavioral intention to use end-to-end telemedicine health service rooms. The dependent variable is the main factor that is trying to understand or predict the intention to use end-to-end Telemedicine health service rooms at malls. Independent variables are the factors that are hypothesized in an impact on the dependent variable (Performance expectancy, Social influence, Personal innovativeness, Perceive risk, and Accessibility).

CHAPTER IV
FINDINGS & ANALYSIS

4.1 Data collection

Due to the COVID-19 pandemic, data were collected using Google Forms from tentative period (October 15, 2022 to November 30, 2022). We sent the survey link to family, friends, and colleagues, who then shared the survey link through their contacts' network. The questionnaire is divided into four main parts: screening questions, general questions, factors research, and demographics of the respondents. Among 154 respondents, 107 returned the questionnaire with a response rate of 69% (Figure 4.1). The study Thus, 107 valid responses were coded for inferential data analysis using Statistical Package for the Social Sciences program (SPSS software version 25.0). It aims to test the influence of independent variables on the patients' behavioral intention to use end-to-end telemedicine health service rooms.

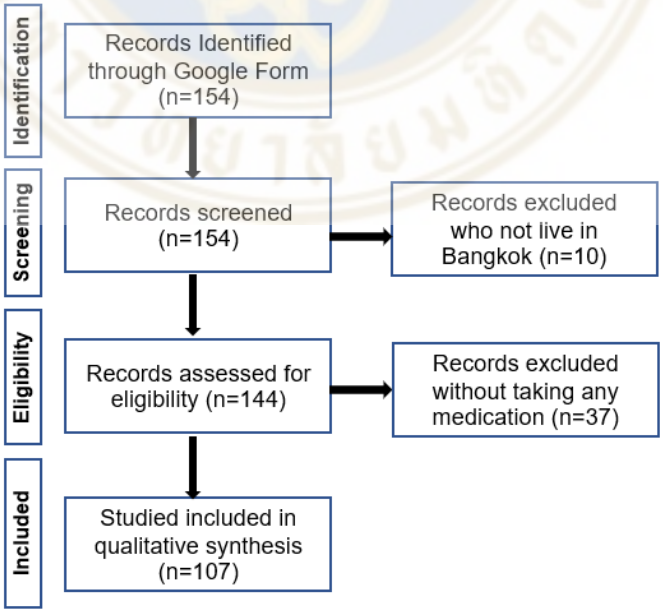

Figure 4.1 Sampling procedure and results

The first demographic profile of the respondents indicates that among 107 respondents, 32% of respondents were males and 68% of respondents were female (Figure 4.2).

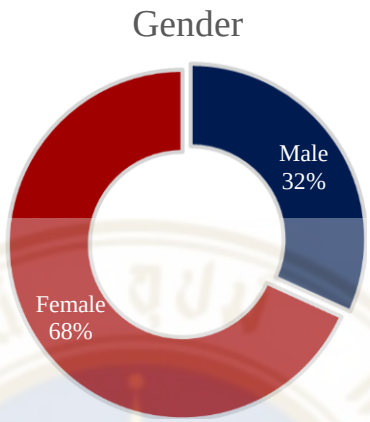

Figure 4.2 Demographic data of the respondents (n=107): Gender

The second respondents 'profile, there were 38% respondents of age range from 21 to 30 years, 38% respondents of age range from 31 to 40 years, 13% respondents of age range from 41 to 50 years therefore 11% respondents had an age range over than 50 years (Figure 4.3).

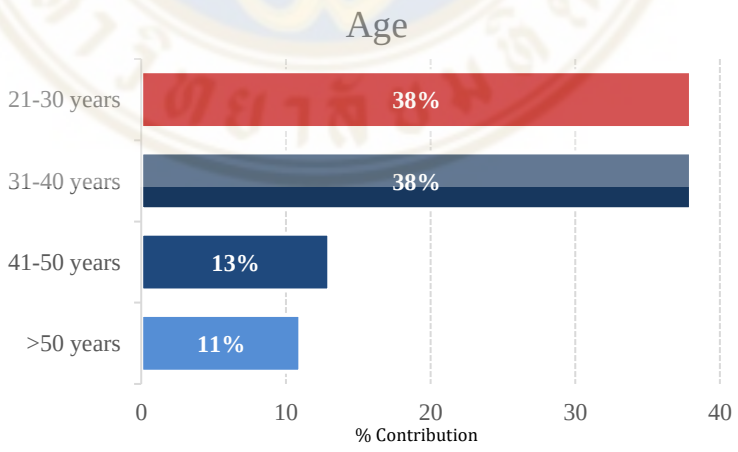

Figure 4.3 Demographic data of the respondents (n=107): Age

The third demographic information that respondents 76% were single and 24% respondents were married in terms of the marital status in this descriptive analysis (Figure 4.4).

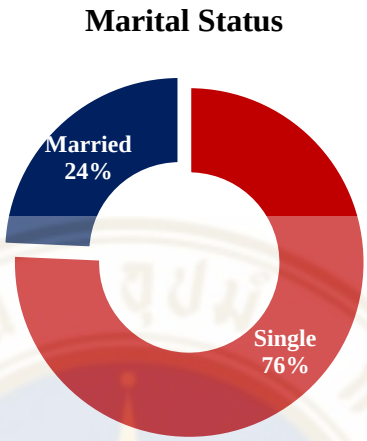

Figure 4.4 Demographic data of the respondents (n=107): Marital Status

The fourth respondents' profile, respondents 36% had Master-level education or higher. Interesting that the bachelor-level education or below was found 64%of respondents (Figure 4.5).

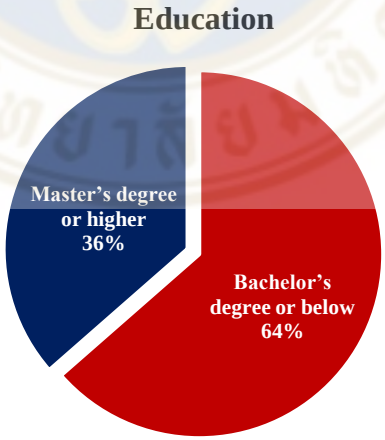

Figure 4.5 Demographic data of the respondents (n=107): Education

Lastly, the research was collected the personal income that found 22% respondents having the personal income below 15,000 baht, 21% respondents of personal income from 15,001 to 30,000 baht, 21% respondents of personal income between 30,001 and 45,000 baht, and 36% respondents of personal income above 45,000 baht (Figure 4.6).

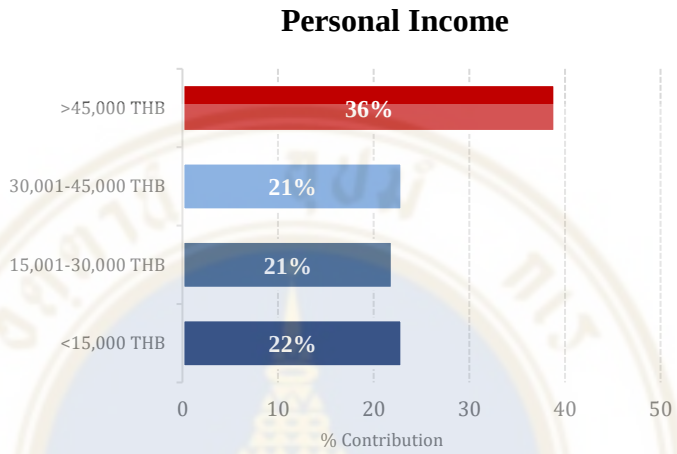

Figure 4.6 Demographic data of the respondents (n=107): Personal Income

4.2 Questionnaire

This survey was designed in order to examine patients' behavioral intent to use End-to-end Telemedicine service rooms in Bangkok malls by using both independent and dependent constructs. The independent construct consists of five constructs: Performance Expectancy (PE), Social Influence (SI), Personal Innovativeness (PI), Perceived Risk (PR), and accessibility (AC). Each construct contains four questions, and the total number of questionnaires is twenty questions. In the meanwhile, the dependent construct for which there are three questions is Behavioral Intention to Use. In total, 23 questionnaires are included in this research (Table 4.1).

Table 4.1 Questionnaire in each construct

Construct	Items
Performance Expectancy	PE1: I expect the End-to-end Telemedicine service rooms to help me get the health benefits efficiently. PE2: I expect that the End-to-end Telemedicine service rooms have a user-friendly access design. PE3: I expect that End-to-end Telemedicine service rooms will assist me in receiving prompt service. PE4: If I have medical insurance, I expect End-to-end Telemedicine service rooms will connect to the claim information immediately.
Social Influence	SI1: Patient feedback has added value to my decision to use End-to-end Telemedicine service rooms. SI2: A reputable certified physician influenced me, resulting in my thinking I should use End-to-end Telemedicine service rooms. SI3: Family members are important to me, and they can persuade me to use the End-to-end Telemedicine service rooms. SI4: The mall's surrounding environment seems to be what motivates me to use End-to-end Telemedicine service rooms.
Personal Innovativeness	PI1: If I heard about new information technology, I would look for ways to experiment with it. PI2: I like to experiment with new information technologies. PI3: Among my peers, I am usually the first to try out new information technologies. PI4: In general, I am hesitant to try out new information technologies.
Perceived risk	PR1: It would be risky to expose my personal health information through using End-to-end Telemedicine service rooms. PR2: There would be too much uncertainty associated with giving my personal health information to End-to-end Telemedicine service rooms that makes me feel insecure. PR3: End-to-end Telemedicine service rooms may run the risk of my losing benefits (e.g., personal information, personal banking information). PR4: End-to-end Telemedicine service rooms may be using my health information for health insurance purposes in an unethical manner.
Accessibility	AC1: I would rather go to the mall for medical consultations and medications than waste time and energy driving to and from the hospital. AC2: I believe telemedicine consultations can be easily done at department stores using End-to-End Telemedicine service rooms. AC3: I think it is convenient for me that the End-to-End Telemedicine service rooms as medical facilities are open during the same hours as the shopping malls. AC4: Health Consulting for End-to-end Telemedicine service rooms are located in a mall that allows me to seek medical assistance in an emergency.
Behavioral intention of usage	INTU1: I intend to use End-to-end Telemedicine service rooms.at malls to consult on health issues when needed in the next months. INTU2: I predict to use End-to-end Telemedicine service rooms.at malls to consult on health issues when needed in the next 3 months. INTU3: I plan to use End-to-end Telemedicine service rooms.at malls to consult on health issues when needed in the future.

4.3 Data Analysis

4.3.1 Reliability analysis

The number of items that measured the variables in the study and the Cronbach Alpha Coefficients that were computed for the items that make up each construct. Cronbach's Alpha was used to assess the internal consistency reliability of the instrument (Table 4.2). A general accepted rule is that Į of 0.6-0.7 indicates an acceptable level of reliability, and 0.8 or greater an exceptionally proficient level. However, values higher than 0.95 are not necessarily good, since they might be an indication of redundance (Hulin et al, 2001). The Cronbach Alpha Coefficients in the ranking from 0.71 to 0.91 (Table 4.2). This demonstrates that the instrument is trustworthiness and suitability for use in the research.

Table 4.2 Reliability Analysis (n=107)

Construct	Number of Items	Cronbach's Alpha
Personal Innovativeness	4	0.91
Accessibility	4	0.86
Performance Expectancy	4	0.83
Behavioral Usage of Intention	3	0.83
Perceived Risk	4	0.82
Social Influence	4	0.71

4.3.2 Mean score analysis

In order to determine the behavioral aim of understanding from the patients' perspective, the mean scores of each questionnaire are evaluated from highest to lowest. From the total indicated questions, the research found that "If I have medical insurance, I expect that the end-to-end telemedicine service rooms will connect to the claim information immediately." in terms of performance expectancy (PE), with the highest mean score of 3.66 (Table 4.3). The second-highest ranking is for the user-friendly access design of end-to-end telemedicine service rooms, which shows a mean score of 3.65 (Table 4.3). The prompt service of the end-to-end telemedicine service rooms ranks third among patients, with a score of 3.64 (Table 4.3). There are two indicators, which

are sorted to have the fourth highest ranking with a mean score of 3.52 (Table 4.3). It indicates that end-to-end telemedicine service rooms have been able to assist them in getting the health benefits efficiently according to the patients' expectations. In the meantime, the statement "A reputable certified physician influenced me, resulting in my thinking I should use end-to-end telemedicine service rooms." can be the influence for using end-to-end telemedicine service rooms in terms of the social influence factor.

"Among my peers, I am usually the first to try out new information technologies.", "I intend to use telemedicine health service rooms at malls to consult on health issues when needed in the next months.", and "I predict that I will use telemedicine health service rooms at malls to consult on health issues when needed in the next 3 months." These three statements are placed toward the end of the low-scoring group, which has mean scores of 2.91, 2.91, and 2.89, respectively (Table 4.3). As a result, the four highest mean scores in this study are associated with performance expectancy, whereas the two lowest values are related with behavioral intention of usage end-to end telemedicine service rooms.

Table 4.3 Descriptive results of each item in every variable studied. (n=107)

	Indicator	Indicator Mean	Std. Deviation
PE4	If I have medical insurance, I expect that the End-to-End Telemedicine service rooms will connect to the claim information immediately.	3.66	0.55
PE2	I expect that the End-to-End Telemedicine service rooms have a user-friendly access design.	3.65	0.53
PE3	I expect that End-to-End Telemedicine service rooms will assist me in receiving prompt service.	3.64	0.57
PE1	I expect the End-to-End Telemedicine service rooms to help me get the health benefits efficiently.	3.52	0.60
SI2	A reputable certified physician influenced me, resulting in my thinking I should use End-to-End Telemedicine service rooms.	3.52	0.73
SI1	Patient feedback has added value to my decision to use End-to-End Telemedicine service rooms.	3.50	0.62

Table 4.3 Descriptive results of each item in every variable studied. (n=107) (cont.)

	Indicator	Indicator Mean	Std. Deviation
PI2	I like to experiment with new information technologies.	3.36	0.79
PR3	End-to-End telemedicine service rooms may run the risk of losing my losing benefits (e.g., personal information, personal banking information).	3.36	0.72
PR1	It would be risky to expose my personal health information through using End-to-End telemedicine service rooms.	3.35	0.80
SI4	The mall's surrounding environment seems to be what motivates me to use End-to-End Telemedicine service rooms.	3.35	0.86
SI3	Family members are important to me, and they can persuade me to use the End-to-End Telemedicine service rooms.	3.34	0.81
PI1	If I heard about new information technology, I would look for ways to experiment with it.	3.33	0.79
AC4	Health Consulting for End-to-End Telemedicine service rooms located in a malls that allows me to seek medical assistance in an emergency.	3.33	0.70
AC3	I think it is convenient for me that the End-to-End Telemedicine service rooms as medical facilities are open during the same hours as the shopping malls.	3.32	0.76
PR2	There would be too much uncertainty associated with giving my personal health information to End-to-End telemedicine service rooms that makes me feel insecure.	3.30	0.83
PR4	End-to-End telemedicine service rooms may be using my health information for health insurance purposes in an unethical manner.	3.26	0.80
INTU3	I plan to use telemedicine health service rooms at malls to consult on health issues when needed in the future.	3.25	0.81
AC2	I believe telemedicine consultations can be easily done at department stores using End-to-End Telemedicine service rooms.	3.20	0.81
PI4	In general, I am hesitant to try out new information technologies.	3.15	0.87
AC1	I would rather go to the malls for medical consultations and medications than waste time and energy driving to and from the hospital.	3.05	0.87
PI3	Among my peers, I am usually the first to try out new information technologies.	2.91	0.95
INTU1	I intend to use telemedicine health service rooms at malls to consult on health issues when needed in the next months.	2.91	0.99
INTU2	I predict that I will use telemedicine health service rooms at malls to consult on health issues when needed in the next 3 months.	2.89	0.93

From the above Table 4.4, the mean score of each indicator is gathered and evaluated to determine the mean score of each construct. These can be summarized by

ranking the highest score to the lowest score, and it was found that Performance Expectancy has the highest mean score of 3.62. Social Influence is placed second with a mean score of 3.43, while perceived risk is placed third with a mean score of 3.32. The mean score of accessibility and personal innovativeness are 3.22 and 3.19, respectively. The final ranked variable is held by Behavior of Usage Intention, which has a mean score of 3.02 (Figure 4.7).

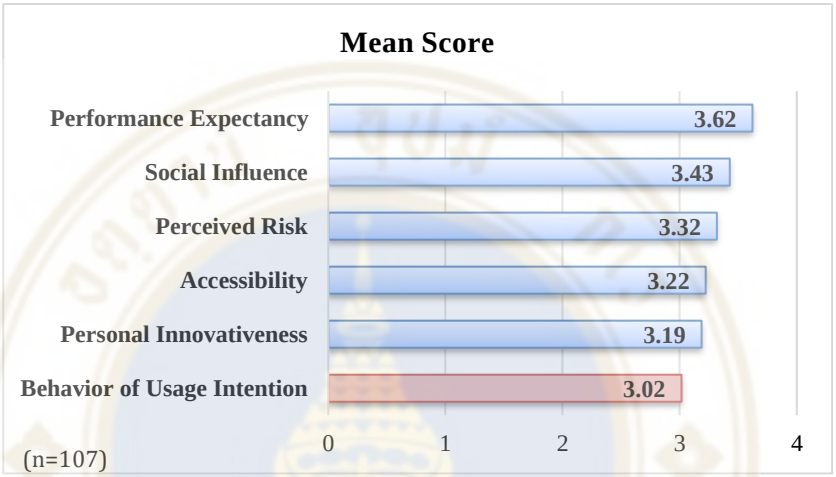

Figure 4.7 Mean score in each variable including the behavioral usage of intention

4.3.3 T-Test Analysis

Gender

There is a significant difference (sig.<0.05) between the group of gender in the performance expectancy factor, resulting in group of male patients having more significant difference than group of male patients in the user-friendly access design. They also find the easy understanding in access and design for choosing and influencing to drive their intention for using the end-to-end telemedicine service rooms at shopping malls, with a mean score of 3.82 (Table 4.4).

For the group of female patients place on the higher mean scores on perceived risk of the intention to use end-to-end telemedicine service rooms that indicates their concerns on the losing personal benefits as well as the health insurance information about unethical manner. There are the significant differences (sig. <0.05 in column two-sided P) with the higher mean score of 3.53 in the personal benefits lose and 3.37 in unethical manner of the health insurance information (Table 4.4).

Table 4.4 Gender in T-Test analysis

Variable	End-to-end Telemedicine service rooms usage of intention	Descriptive		t-test for Equality of Means	
		Could you please provide us with your physical gender?	Mean	t	Significance Two-Sided p
Performance Expectancy	I expect that the End-to-End Telemedicine service rooms have a user-friendly access design.	**Male**	**3.82**	2.63	0.01
		Female	3.58		
Perceived Risk	End-to-End telemedicine service rooms may run the risk of losing my losing benefits (e.g., personal information, personal banking information).	Male	3.00	-3.80	0.00
		Female	**3.53**		
Perceived Risk	End-to-End telemedicine service rooms may be using my health information for health insurance purposes in an unethical manner.	Male	3.03	-2.07	0.04
		Female	**3.37**		

Education

Group of master's degree or higher who have agreed more than another group in terms of performance expectancy in the access and design of end-to-end telemedicine service rooms. The higher mean score is indicated to the question "I expect that the End-to-End Telemedicine service rooms have a user-friendly access design." with the score of 3.82 (Table 4.5).

In the contrast, the statement is "End-to-End telemedicine service rooms may run the risk of losing my losing benefits (e.g., personal information, personal banking information)." in order to perceived risk which shows the significant difference in bachelor's degree or below group (sig. <0.05 in column two-sided P). It indicates that they have a concern on losing benefit risk more than master's degree or higher group with a mean score of 3.47 (Table 4.5).

Table 4.5 Education in T-Test analysis

Variable	End-to-end Telemedicine service rooms usage of intention	Descriptive		t-test for Equality of Means	
		May I ask which education degree you fall with?	Mean	t	Significance Two-Sided p
Performance Expectancy	I expect that the End-to-End Telemedicine service rooms have a user-friendly access design.	Bachelor's degree or below	3.56	-2.78	0.01
		Master's degree or higher	**3.82**		
Perceived Risk	End-to-End telemedicine service rooms may run the risk of losing my losing benefits (e.g., personal information, personal banking information).	Bachelor's degree or below	**3.47**	2.05	0.04
		Master's degree or higher	3.18		

Obtaining insurance

This study indicates that the patients without the medical insurance have a significant difference than another group with the statement "Patient feedback has added value to my decision to use End-to-End Telemedicine service rooms." in order to account for social influence factor with a mean score of 3.68 (Table 4.6). Patients' feedback will influence their willingness to use end-to-end telemedicine at Bangkok malls in patients without the medical insurance.

Table 4.6 Insurance in T-Test analysis

Variable	End-to-end Telemedicine service rooms usage of intention	Descriptive		t-test for Equality of Means	
		Have you obtained health insurance?	Mean	t	Significance Two-Sided p
Social Influence	Patient feedback has added value to my decision to use End-to-End Telemedicine service rooms.	Yes	3.43	-2.13	0.04
		No	**3.68**		

Medical Treatment Location

Hospital visiting

According to the findings of this study, there is no statistically significant difference between the perspectives of patients who have visited the hospitals for their medical treatment in the previous six months compared to those who have not visited the hospitals.

Clinic visiting

In terms of the social influence factor, there is a significant difference between the perspectives of patients who have visited the clinics in the past six months compared to those who have not. Patients who had visited the clinic during the past six months for medical treatment agreed more with the statement "The mall's surrounding environment seems to be what motivates me to use end-to-end telemedicine service rooms." with a mean score of 3.62 (Table 4.7).

Table 4.7 Clinic visiting in T-Test analysis

Variable	End-to-end Telemedicine service rooms usage of intention	Descriptive		t-test for Equality of Means	
		Have you visited a clinic for medical treatment in the past six months?	Mean	t	Significance Two-Sided p
Social Influence	The mall's surrounding environment seems to be what motivates me to use End-to-End Telemedicine service rooms.	Yes	**3.62**	2.28	0.02
		No	3.22		

Pharmacy visiting

Patients who have purchased medicines from the pharmacy within the past six months have a considerable social influence over those who have not. With a mean score of 3.40, patients who had visited the pharmacy within the past six months for medical purchases were more willing to agree with the statement *"The mall's surrounding atmosphere appears to be what drives me to use end-to-end telemedicine service rooms"* (Table 4.8).

Table 4.8 Pharmacy visiting in T-Test analysis

Variable	End-to-end Telemedicine service rooms usage of intention	Descriptive		t-test for Equality of Means	
		Have you visited a pharmacy to purchase medication in the past six months?	Mean	t	Significance Two-Sided p
Social Influence	The mall's surrounding environment seems to be what motivates me to use End-to-End Telemedicine service rooms.	**Yes**	**3.40**	2.11	0.04
		No	2.78		

4.3.4 ANOVA Analysis

The hypothesis testing (ANOVA) is used to determine the significant differences between more than two groups for each variable. According to the findings of this study, there are no statistically significant differences between age groups, income groups, and the frequency with which medication is purchased from malls.

4.3.5 Correlation Analysis

In statistics, the Pearson correlation coefficient is a measurement of the strength of the relationship between two variables and their relationship. Correlation value is presented overall outcome from this study (Table 4.9).

All of these findings have positive correlation coefficients in this study. The correlation between perceived risk and behavioral usage intention was measured as Pearson Correlation of 0.26 (sig. (2-tailed) $p = 0.01$) (Table 4.10), that can be explained by the weak relationship between these two variables. While the social influence and performance expectancy represent a moderate relationship to the behavioral usage intention that has a coefficient of 0.60 and 0.40, respectively (sig. (2-tailed) $p < 0.01$) (Table 4.9). On the other hand, this finding was predicted because accessibility and personal innovativeness appear to have a strong relationship with behavioral usage intention. There are Pearson correlation coefficients of 0.71 and 0.70, respectively (sig. (2-tailed) $p < 0.01$) (Table 4.9), resulting in these findings being clinically important relationships in this study. Therefore, these two independent variables are the significant factors in the population effect size, which appears to be a considerable association.

Table 4.9 The Pearson Correlation Coefficient between Independent Variables and Dependent Variable

		Performance Expectancy	Social Influence	Personnal Innovativeness	Perceived Risk	Accessibility	Behavioral Usage Intention
Performance Expectancy	Pearson Correlation	1	.64**	.36**	.23*	.40**	.40**
	Sig. (2-tailed)		0.00	0.00	0.02	0.00	0.00
	N	107	107	107	107	107	107
Social Influence	Pearson Correlation	.64**	1	.45**	.39**	.54**	.60**
	Sig. (2-tailed)	0.00		0.00	0.00	0.00	0.00
	N	107	107	107	107	107	107
Personnal Innovativeness	Pearson Correlation	.36**	.45**	1	.20*	.58**	.70**
	Sig. (2-tailed)	0.00	0.00		0.04	0.00	0.00
	N	107	107	107	107	107	107
Perceived Risk	Pearson Correlation	.23*	.39**	.20*	1	.23*	.26**
	Sig. (2-tailed)	0.02	0.00	0.04		0.02	0.01
	N	107	107	107	107	107	107
Accessibility	Pearson Correlation	.40**	.54**	.58**	.23*	1	.71**
	Sig. (2-tailed)	0.00	0.00	0.00	0.02		0.00
	N	107	107	107	107	107	107
Behavioral Usage Intention	Pearson Correlation	.40**	.60**	.70**	.26**	.71**	1
	Sig. (2-tailed)	0.00	0.00	0.00	0.01	0.00	
	N	107	107	107	107	107	107

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

4.3.6 Regression Analysis

4.3.6.1 Original Regression Analysis

All of these variables can explain the changes in the behavioral intention of usage by 67% (Table 4.10).

Regression model reaches statistically significant as the p-value is less than 0.01. Based on the analysis, social influence shows a significant effect on the patients' behavioral intention to use end-to-end telemedicine health service rooms (β=0.24, p=0.01). The result also shows a significant affecting between personal innovativeness with patients' behavioral intention to use end-to-end telemedicine health service rooms (β=0.40, p<0.01). Same result with accessibility which shows a significant effect on patients' behavioral intention to use end-to-end telemedicine health service rooms (β=0.36, p<0.01). In contrast, there is no significant effect between performance expectancy on patients' behavioral intention to use end-to-end telemedicine health service rooms (β=-0.05, p=0.53). It was the same result for perceived risk where also shows no significant effect on patients' behavioral intention to use end-to-end telemedicine health service rooms (β=0.02, p=0.79) (Table 4.10).

The standardized coefficients for variable in this present study were -0.05 (performance expectancy), 0.24 (social influence), 0.40 (personal innovativeness), 0.02 (perceived risk) and 0.36 (accessibility) respectively (Table 4.10). According to the finding, personal innovativeness scored the highest beta value among the five independent variables at 0.40 (Table 4.10). Therefore, in this study, the most influential factors that affect the patients' behavioral intention to use end-to-end telemedicine health service rooms fall under the personal innovativeness.

Table 4.10 Regression of Performance Expectancy, Social Influence, Personal Innovativeness, Perceived Risk and Accessibility

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	**-0.67**	**0.40**		**-1.68**	**0.10**
Performance Expectancy	-0.08	0.13	-0.05	-0.63	0.53
Social Influence	0.35	0.12	0.24	2.83	0.01
Personal Innovativeness	0.42	0.08	0.40	5.49	0.00
Perceived Risk	0.02	0.08	0.02	0.27	0.79
Accessibility	0.44	0.09	0.36	4.75	0.00

Note: $p \leq 0.01$ (significant), $R^2 = 0.67$, Adjusted $R^2 = 0.65$, F statistic = 40.27, Sig. = 0.00

This study confirm that personal innovativeness is the most important factor affect the patients' behavioral intention to use end-to-end telemedicine health service rooms. In addition, accessibility is the second most significant factor while social influence is the third most significant factor influencing patients' behavioral intentions (Figure 4.3).

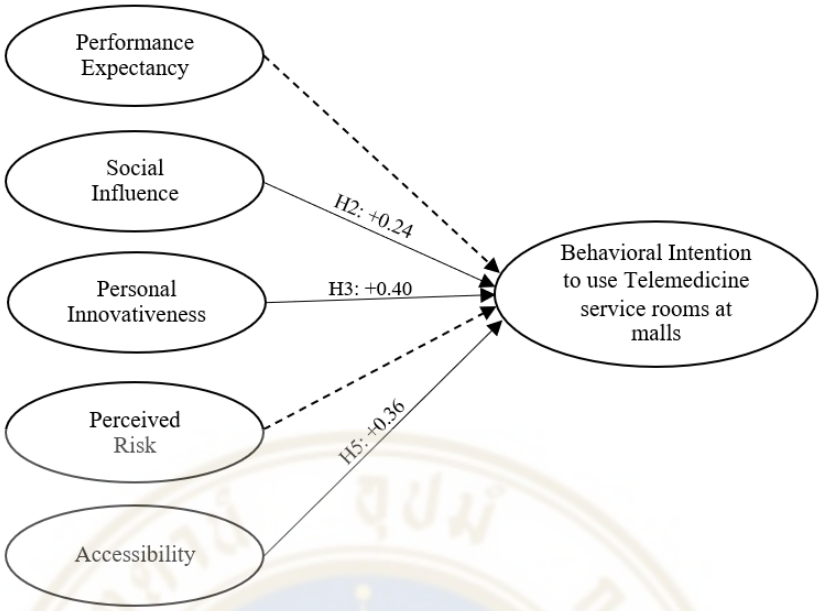

Figure 4.8 Regression model result

4.3.6.2 Modified Regression Analysis

After excluding the non-significant variables in performance expectancy and perceived risk from the original regression study, these three remaining variables can explain the changes in behavioral intention to use End-to-end Telemedicine service rooms by 66% (Table 4.11), which is 1% less than the original regression analysis (Table 4.10).

The modified regression model reaches statistically significant as the p-value is less than 0.01. Based on the analysis, social influence shows a significant effect on the patients' behavioral intention to use end-to-end telemedicine health service rooms *(β=0.22, p<0.01)* (Table 4.11), as well as a slight decline in beta score from the original regression analysis *(β=0.24, p=0.01) (Table 4.10).* The result also shows a significant affecting between personal innovativeness with patients' behavioral intention to use end-to-end telemedicine health service room *(β=0.39, p<0.01)* (Table 4.11) and a quite falling beta score result from the original regression analysis *(β=0.40, p<0.01) (Table 4.10).* Same result with accessibility which has a significant effect on patients' behavioral intention to use end-to-end telemedicine health service rooms *(β=0.36, p<0.01) (Table 4.11),* and

is consistent beta score with the first regression analysis *(β=0.36, p<0.01)* (Table 4.10).

The standardized coefficients for variable in this modified regression study were 0.22(social influence), 0.39(personal innovativeness), and 0.36(accessibility) respectively (Table 4.11). According to the finding, personal innovativeness scored the highest beta value among the three significant factors of independent variables at 0.39 (Table 4.11).

Table 4.11 Modified Regression of Social Influence, Personal Innovativeness, and Accessibility

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	**-0.78**	**0.30**		**-2.63**	**0.01**
Social Influence	0.31	0.10	0.22	3.20	0.00
Personal Innovativeness	0.41	0.08	0.39	5.51	0.00
Accessibility	0.43	0.09	0.36	4.78	0.00

Note: $p<0.01$ (significant), $R^2 = 0.66$, Adjusted $R^2 = 0.66$, F statistic = 67.96, Sig. = 0.00

In the conclusion, this modified regression study indicates similarly to the factor in the original regression, that personal innovativeness is also the most significant factor influencing patients' behavioral intention to use end-to-end telemedicine health service rooms. Additionally, accessibility also represents the second most significant factor while social influence remains the third most significant factor influencing patients' behavioral intentions to use end-to-end telemedicine health service rooms. (Figure 4.9).

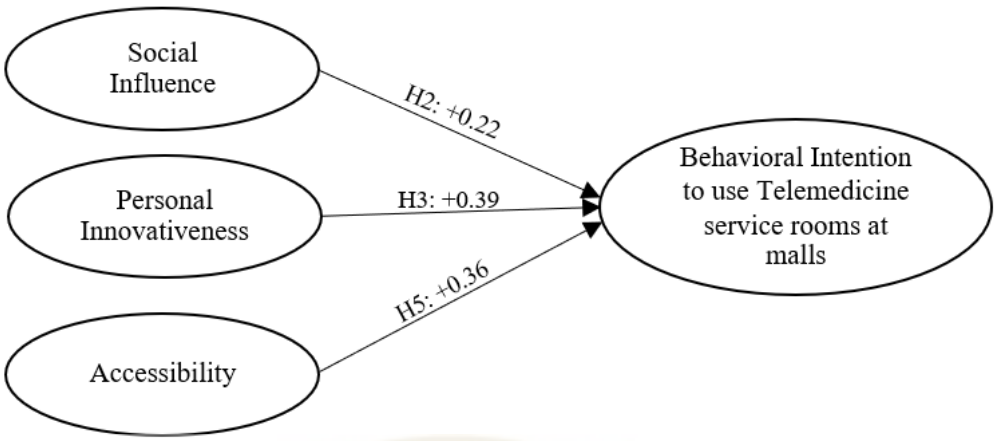

Figure 4.9 Modified Regression model result

CHAPTER V
CONCLUSIONS & RECOMMENDATIONS

5.1 Recommendation

The purpose of this research paper is to examine the factors influencing behavioral intention to use end-to-end telemedicine service rooms at Bangkok malls. This research model has confirmed that a coefficient of determination explains 66.0% of the variance in patients' behavioral intentions, which is substantial. The effect size analysis showed that personal innovativeness had the largest effect size when determining patients' behavioral intention to adopt end-to-end telemedicine service rooms. In the meantime, accessibility is the second-largest effect, followed by social influence, in predicting patients' behavioral intention towards using end-to-end telemedicine health service rooms.

Several healthcare organizations are adopting end-to-end telemedicine service rooms to prepare for the future. They could joint venture with Telecom Corporate to serve the new experience to fit the circumstances, especially the COVID-19 pandemic. Marketing communication is the fundamental part of communicating with the patients in the market for improving behavioral intentions. It also describes the technology's process and method for achieving early adoption. Consequently, there are opportunities to influence the patients' behavioral intentions by promoting the advanced technology system, which is tailored to explain what and how to technology enthusiasts and visionaries. And it also shows the benefit of this healthcare service, which is to help them improve their health and wellness in terms of influencing patients' personal innovativeness.

Furthermore, the result shows that a reputable certified physician plays an important role in motivating patients, which is a critical insight in terms of social influence. As a result, by displaying them on telemedicine information searches, the marketing message should convey the specialty of treatment and physicians' experiences. It can improve alternative evaluation during the early stages of adoption.

Moreover, the malls' surrounding environment influences patients who visited pharmacies and clinics for medical treatment, as is found in this study. These also seem to be promoted by the efficiency of end-to-end telemedicine service rooms. Patient feedback can refer to user experience in sharing about medical treatment in end-to-end telemedicine service rooms to express the surrounding environment and whether it is possible to build trust among patients.

Given the enhanced patients' behavioral intention of end-to-end telemedicine service rooms at Bangkok malls, the accessibility is to focus on the seeking of medication in case of an emergency condition and open-close time with malls, which are the results of this study. As a result, Bangkok malls represent convenience stores, which have the potential to create more medical value than shopping malls. These positive effects should gain the patients' belief by using malls' accessibility, such as location, medical facilities, or more. It also takes advantage of opportunities to engage with customers and reach potential customers in the markets by showing them the tailor's video and image to create their experiences.

In conclusion, there are three reasons to communicate to the patients about the features, attributes, and benefits of the end-to-end telemedicine service rooms they offer. It can establish a relationship with customers in various stages, such as pre-selling, selling, and post-selling, since it can raise brand awareness until it develops brand loyalty. Additionally, healthcare organizations and/or telecom service providers should create and deliver relevant information to patients throughout each step of customer-facing channel partners in order to meet the patients' needs.

5.2 Conclusions

Telemedicine offers a healthcare service that can be more rapidly expanded for patient care during the COVID-19 pandemic. Additionally, it has positive advantages for medical personnel, including patients. Certainly, telemedicine is a valuable technology for developing the end-to-end telemedicine health service rooms. These service rooms have been incorporated into the purchase of medications immediately after finishing a consultation at the pharmacy counter. These medical

service rooms have been constructed in department shops in Bangkok which are urban locations.

This study is to evaluate factors influencing behavioral intention to use end-to-end telemedicine healthcare service rooms in Bangkok malls from the patient's perspective. Therefore, a well-known theory, namely, the unified theory of acceptance and use of technology (UTAUT), was integrated to examine patients' behavioral usage intentions by selecting performance expectancy and social influence. Furthermore, it also included personal innovation, perceived risk, and accessibility. The result indicates that personal innovativeness is the most critical determinant of the patients' intention to use end-to-end telemedicine service rooms, followed by accessibility and social influence. Ultimately, immediate insurance coverage is important to enhance patients' intent to use telemedicine. Besides, other context-related determinants such as performance expectancy and perceived risk should be examined to better understand patients' behavioral usage intentions.

5.3 Limitations and Future Research

Author was able to identify limitation that existed in this study. Research focusing on the behavioral usage intention in the patients' perspective by focusing more on end-to-end telemedicine service rooms. First, this study was based on web-based survey by using Google Forms. The researcher could not administer the questions directly or clarify some points of end-to-end telemedicine healthcare service Rooms when filling up questionnaires. Therefore, future studied should applied the qualitative analysis to gain more insights in order to understanding their behavioral usage intention to use end-to-end telemedicine healthcare service Rooms at malls. Second, this survey is conducted during COVID-19 pandemic. Therefore, the behavioral usage intention towards use end-to-end telemedicine rooms at malls may differ in normal condition. Thus, this research model could conduct once COVID-19 had not spread to investigate the patients' behavioral usage intention. Thirdly, the study only had 107 patient responses, which is a significant limitation. In consideration of the respondents' youth, middle age, modest education, and high monthly revenues, disease prevention and healthcare awareness will be prioritized. This demographic background could have

affected some of the outcomes. Some articles were unable to demonstrate healthcare knowledge as credible sources of information. Therefore, it should include a greater number of participants in order to determine the positive or negative effects on patient behavioral usage intention. Finally, the scope of the study is limited to the Bangkok region as the capital of a developing country; therefore, future research examining this research model in upcountry regions of a developing country, or a developed country could reveal interesting findings regarding patients' behavioral usage intention.

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