Research Article

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Developing a Model of Actual Adoption Technology and Innovation for Health in Thailand

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Abstract

The medical hub industry is one of the industries that use new technologies and innovations as a mechanism to drive the economy in the future. With advances in technology, innovation, and personalized health, it plays an important role in supporting health care and livelihoods. Health promotion, prevention and treatment of disease, and physical rehabilitation are necessary to ensure good health and safety in life. The objective of this study is to develop a causal relationship model of the actual adoption of technology and innovation for health in Thailand and to check the consistency of the causal relationship. The research data was collected by an online questionnaire from 800 people who had used technology and innovation for health while living in Thailand from a simple sampling using a causal relationship model and a structural equation (SEM). This research has noted relationships between health belief, ease of use, credibility, consumer innovation, perceived usefulness, and attitude toward use that have a direct positive correlation with the adoption intention and actual adoption of technology and innovation. Additionally, the results also reveal that perceived credibility is one of the most important predictors of the intention to actually adopt healthcare technology and innovation.

Keywords: *Actual Adoption, Adoption Intention, Perceived Credibility, Attitude toward use, Healthcare*

1. Introduction

Health care has been revolutionized by Industry 4.0. This new era of connected healthcare is known as Healthcare 4.0. It has been observed that there is an interest in healthcare technology guidelines related to the rapid development of wellness equipment, advancements, and analytics. The combination of technological attributes and health attributes, health technology, and innovative helps to track user health information very well (Chan et al., 2012). Users can accurately track their health status, monitor their sleep status, heart rate, and walking conditions in real-time by wearing a bracelet This leads to analysis and management and reminds people to start healthy activities and improve their health (Li, et al., 2016). Health technology that has attracted attention from people includes wireless health innovations and health monitoring devices through mobile health devices

that can be easily carried, such as smartwatches and smartphones. The latest in digital wellness (e.g., electronic medical savings, fitness audits, and wearables). The medical and healthcare industries have advanced and are continuously developing technologies and innovations to promote good health, making healthcare easier and more convenient. They can continuously monitor health physiology, which is useful to track changes in users' health data, such as pressure, pulse, and oxygen in the body. Sleep pattern event notifications check body temperature and the amount of calories burned. Devices are now available that enhance exercise performance to improve cardiovascular health. Movement tracking devices can be used to reduce health risks. Health technical equipment has a number of advantages for the sports and wellness industries (Chau et al., 2019). For instance, applying health tech equipment can improve the accuracy of health data, encourage people to live healthier lives, significantly improve their health, and reduce health costs (Kalantari, 2017). Healthcare devices contribute to saving medical costs. Therefore, the adoption of wearable medical equipment is vital for people to save costs (Roman et al., 2015). At present, health issues are of widespread public interest, with an emphasis on health promotion. To achieve good health, health technology and innovation are therefore very important for one's health and daily life. Despite the capabilities and significant expected benefits of health technologies and innovative devices, few studies have investigated individuals' intentions to adopt wearable health devices because this equipment is still in the early stages of commercialization (Chau et al., 2019). Studies show that a significant number of people are interested in using wellness equipment (Barnes, Kauffman, & Connolly, 2014).

Education in all these developments should help in predicting the adoption and analysis of the important effects of the actual adoption of technology and innovation. The models in this study included well-known predictors of new technology adoption, such as perceived usefulness and perceived ease of use, as well as factors such as health interest, perceived trustworthiness, consumer innovation, and user attitude toward use. Therefore, education aims to address the key drivers that affect the actual adoption of technology and innovation. This has strong and significant implications for consumer acceptance of health technologies and innovations.

2. Literature Review

The researcher aims to develop equation models of the actual adoption of technology and innovation for health in Thailand. The literature review will provide information for a preliminary study based on interviews with experts and entrepreneurs about the actual adoption of technology and innovation for health in Thailand.

2.1 Consumer Innovation (CI)

Consumer innovation is a person's readiness to test new technologies, which is intrinsically linked to general consumer beliefs about information technology. More innovative people take advantage of new technologies, trust they have fewer problems, and tend to accept and use new technology and innovation to reach private targets (Kim and Chiu, 2018). Consumer innovation has a significant positive impact on consumers' wellness when they adopt technology (Slade et al., 2015). Health technologies, have shown that highly innovative consumers can cope with uncertainty and have greater adoption intentions (Zhang et al., 2017; Li et al., 2016; Talukder et al., 2019).

2.2 Health Belief (HB)

Health beliefs explain the personal trust of dedicated individuals in adjusting their health. One of the most important functions of health technology is to change consumer behavior in healthcare (Zhang et al., 2017). The above benefits improve their health, encourage them to be active, and improve their quality of life (Kim & Chiu, 2019). The research on health technology uses health beliefs to explain consumer acceptance of actual adoption health technology adoption.

2.3 Perceived Ease of Use (PEOU)

Perceived usefulness is the degree to which consumers perceive the service to be useful, while perceived ease of use is the consumer's perception of the ease of use of the service system (Davis, 1989). If users find a particular system easy to use and it helps them accomplish tasks and activities, and they find using that system convenient for them, then they will want to use that system accordingly (Yadegaridehkordi et al., 2018). It is critical to consider ease of use as a key factor in adoption and use, especially during the development phase. A study found that simplicity and ease of use were among the top three criteria for wearable technology (Schooler, 2014).

2.4 Perceived Usefulness (PU)

Perceived usefulness is identified as one of the most important factors in predicting intentions to adopt information technology (Kalantari, 2017; Chuah et al., 2016). If customers think that technological equipment is useful for their life, this positive result will stimulate their willingness to use technological equipment (Kim & Chiu, 2018). In the context of health technology, when devices such as health apps, smartwatches, and sports wearable technology innovation are believed to help improve consumers' health, such positive expectations can enhance consumers' willingness to accept them (Kim & Shin, 2015; Dutot, Bhatiasevi & Bellallahom, 2019).

2.5 Perceived Credibility (PC)

Perceived credibility is inextricably related to trustworthiness and expertise, and indicates the extent to which information technology is perceived as reliable (Ayeh, 2015; Featherman, Miyazaki, and Sprott, 2008; Shin, Lee, and Hwang, 2017). These studies report that perceived trustworthiness increases user acceptance of IT products and services (Shaw, 2014; Shin, Lee, and Hwang, 2017). Applied in the context of health technology, perceived trustworthiness is formulated through perceived privacy and perceived technological accuracy (Zhang, Luo, Nie & Zhang 2017).

2.6 Attitude Toward Use (ATU)

Attitude toward use is a behavior determinant because the perceptions of personal and social incentives are the positive or negative states of mind that affect a person’s response. Attitude toward use is a component of a person's personality. (Gibson & Sullivan, 2018). A person's attitude consists of three dimensions: emotional, intellectual, and behavioral. Attitude is how the mind feels and tends toward those around it. (Chuchai, 2018). An assessment of something, such as an individual object, or scenario, that is identified as pleasant or unpleasant, is certain to accept or reject an understanding of an individual's intentions to be pleased to apply goods, as that person's attitude is linked to their perception (Gursoy, Spangenberg & Rutherford 2006).

2.7 Adoption Intention (AI)

Adoption intention is defined as the likelihood that a person will perform a specific behavior (Yueh, Huang, and Chang 2015). In part, it refers to an individual's intention to use a technological system (Celik, 2016; Venkatesh, Thong & Xu 2012) or the impression of using and recommending it to others (Pahnila, Siponen & Zheng 2011). Adoption intent refers to people's perceived likelihood of adopting a medical device. Although in most of the previous literature related to behavior, adoptive intentions are generally considered a proxy for behavior (Wang et al., 2014; Li, 2012),

2.8 Actual Adoption (AA)

Consumers' intention assesses whether consumers are willing to use a device and seeks actual adoption (Akbar et al., 2019). When consumers have strong intentions, they are more likely to take action (Lai, & Cheng, 2016; Testa, Sarti, & Frey, 2019). Customer intent plays a key role in actual technology adoption and actual behavioral outcomes. User acceptance is often strongly correlated with each person's intentions as a predictor of usage behavior (Dinev, Smith & Hart 2013).

2.9 Theoretical Framework and Hypothesis

This research is a mix of methodological approaches that collect or analyze both qualitative and quantitative research. The aim of the research was to develop a structural equation model of the actual adoption of technology and innovation for health in Thailand. It was constructed to illustrate the causal relationship of ATU, PU, and AI to AA (see Figure 1).

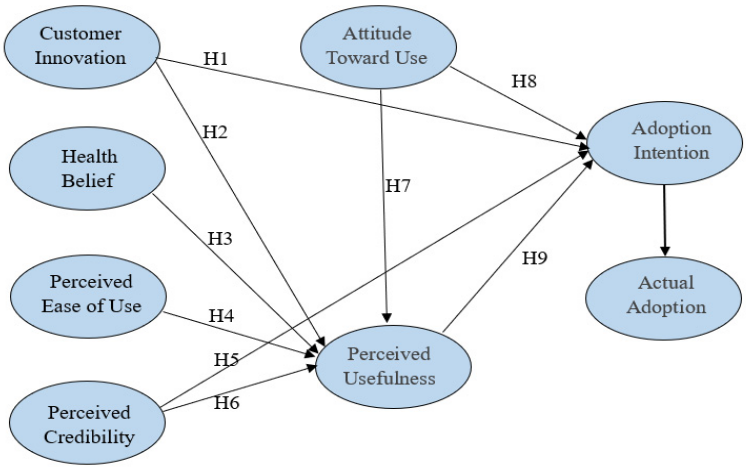

Figure 1: Conceptual framework of the study

H1 Consumer Innovation (CI) directly affects Adoption Intention (AI)
H2 Consumer Innovation (CI) directly affects Perceived Usefulness (PU)
H3 Health Belief (HB) directly affects Perceived Usefulness (PU)
H4 Perceived Ease of Use (PEOU) directly affects Perceived Usefulness (PU)
H5 Perceived Credibility (PC) directly affects Adoption Intention (AI)
H6 Perceived Credibility (PC) directly affects Perceived Usefulness (PU)
H7 Attitude Toward Use (ATU) directly affects Perceived Usefulness (PU)
H8 Attitude Toward Use (ATU) directly affects Adoption Intention (AI)
H9 Perceived Usefulness (PU) directly affects Adoption Intention (AI)
H10 Adoption Intention (AI) directly affects Actual Adoption (AA)

3. Research Methodology

This study uses a mixed-methods approach that collects or analyzes both qualitative and quantitative research. The objective is to develop a structural equation model of the actual adoption of technology

and innovation for health in Thailand and to examine the consistency of the causal relationship model of actual adoption of technology and innovation for health. The researchers used research analysis to develop structural equation modeling (SEM).

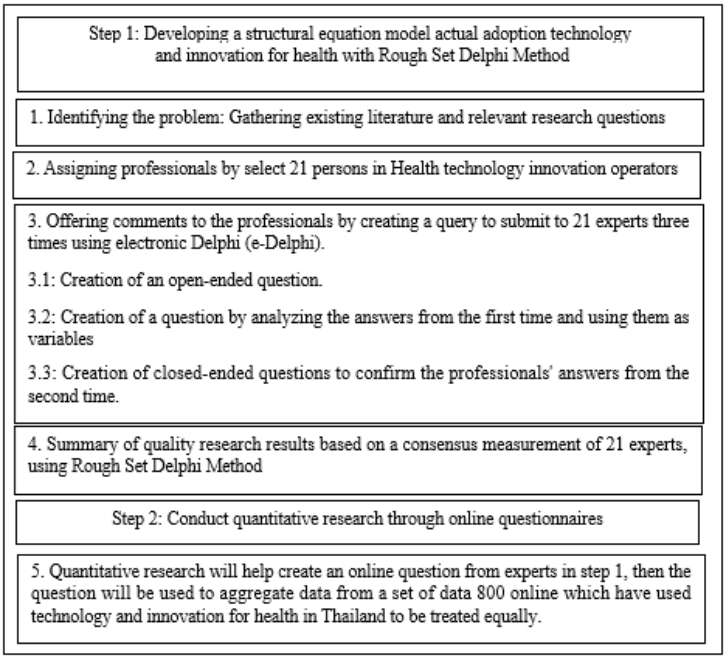

Figure 2. Research procedures

3.1 Developing a structural equation model of actual adoption of technology and innovation for health with the Rough Set Delphi Method (Chairaksa & Pankham, 2023).

3.1.1 Population and Sampling

The population is separated into three groups: Group 1- doctors and nurses (7 people); Group 2 - professors of the Faculty of Science and Technology (7 people) and Group 3 - health technology innovation operators (7 people), so all four groups consist of a total of 21 people.

3.1.2 Research Instrument

This study collected data using an online questionnaire (e-Delphi) that developed a structural equation model of the actual adoption of technology and innovation for health in Thailand. We researched relevant data and added divided into 2 parts questions, an open question, and a 7-level rating scale to submit to 21 experts.

3.1.3 Data Collection

The researchers obtained data from three online email surveys conducted over a four-month period from January 2021 to April 2021.

3.1.4 Data Analysis

We used the Rough Set Delphi Method for the analysis. Any ambiguity in the data was examined using the simplified concepts of lower bound estimation and upper bound estimation of a data group to determine the decisions of the experts according to the following steps:

3.2 Developing a model of actual adoption of technology and innovation for healthcare in Thailand.

3.2.1 Population

People who use health technology and innovation in Thailand.

3.2.2 Sampling

The sample group for this research was users of health technology and innovation. It has been suggested that the ideal sample size should be within 1 observed variable 10–20 times (Kline & Rex, 2011), or the least acceptable sample size based on the Hoelter statistic which must be greater than 200 (Hoelter, 1983). The causal relationship model was considered to be harmonious with the empirical data. In this study, there were 40 observable variables, requiring a sample of at least 400 subjects. The online survey resulted in 1040 responses. After dropping the incomplete or invalid responses, 800 were retained for the final analysis. The data could then be used to analyze the preliminary data from the sample. (See Table 1).

4. Results

4.1 Respondents' Profile

Table 1 shows the demographics of the respondents, the majority of whom (32.50%) were from central Thailand. About 46.75% of the respondents were aged 30 to 50 years of age. Most respondents were married (41.13%). The highest qualification among the respondents was a bachelor's degree (47.38%). The average monthly income was B.(Baht)15,000–30,000 (34.62%). We used health technology and innovative to reduce morbidity and mortality, which was 40.50%. The respondents preferred using innovation for home use (46.0%), followed by innovation for wear (40.75%). Respondents who use technology and innovation occasionally prefer to use 42.50%, followed by daily use of 30.00%.

Table 1: Respondents' Profile

Variables	Quantity	Percentage
Have you ever used technology and health innovation in Thailand?		
-Yes	800	100.00
-No	0	0
Place of residence		
-Central	260	32.50
-North	162	20.25
-South	122	15.25
-Eastern	122	15.25
-Western	134	16.75
Age		
- under 30 years	175	21.87
- 30-50 years	374	46.75
- more than 50 years	251	31.38
Sex		
- male	284	35.50
- female	414	51.75
- other	102	12.75

Variables	Quantity	Percentage
Status		
- single	351	43.87
- married	329	41.13
- widowed/divorced	120	15.00
Education Level		
- Undergraduate	257	32.12
- Bachelor's degree / equivalent	379	47.38
- Postgraduate	164	20.50
Employees of a company or a state enterprise		
- Students	79	9.87
- Company employee	242	30.25
-Government/state enterprise	191	23.88
- Personal business	226	28.25
- Other	62	7.75
Average monthly income (Baht)		
- Less than or equal to 15,000 baht	72	9.00
- 15,000 – 30,000 baht	277	34.62
- 30,001 – 45,000 baht	230	28.75
- 45,000 baht or more	221	27.63
What types of technology and innovation have you used?		
-Examination and treatment	199	24.87
-Disease prevention	324	40.50
-Health promotion	277	34.63
What kind of technology and innovation have you used?		
- Portable innovation	106	13.25
- innovation to wear	326	40.75
- innovation for home use	368	46.00
How often do you use technology and innovation for health?		
- occasionally	340	42.50
- every day	240	30.00
- only with symptoms	220	27.50

4.2 Normality

The researcher computed skewness and kurtosis to assess normality. Skewness was measured from -0.533 to 0.034 and kurtosis from -0.512 to 0.462. Data were considered normal when the skewness was between -2 and +2 and the kurtosis was between -7 and +7 (George & Mallery, 2019; Hair Jr et al., 2010).

4.3 Measurement Model Evaluation

A confirmatory factor analysis (CFA) was conducted to test the validity and reliability of the measurement models to assess whether the latent variables were accurately indicated by observable variables. A reliable assessment was conducted using construction reliability (CR) and average variance extraction (AVE). AVE > 0.50 and CR > 0.70 were the established baseline scores for reliability (Joreskog and Sorborn, 1993; Ferdinand, 2002; Kusnendi, 2009; Hair et al., 2010; Haryono and Wardoyo, 2013; Sarjono and Yulianita, 2019).

Table 2. Validity and Reliability Results

Latent variables	Consumer Innovation (CI)	Health Belief (HB)	Perceived Ease of Use (PEOU)	Perceived Credibility (PC)	Perceived Usefulness (PU)	Attitude Toward Use (ATU)	Adoption Intention (AI)	Actual Adoption (AA)
Cronbach's Alpha	0.79	0.88	0.80	0.89	0.91	0.85	0.88	0.91
CR	0.80	0.87	0.80	0.88	0.90	0.83	0.87	0.90
AVE	0.51	0.54	0.50	0.52	0.63	0.50	0.60	0.58
Mean	4.87	5.07	4.71	4.95	4.48	4.73	5.06	4.88
DV	0.68	0.73	0.67	0.72	0.79	0.71	0.77	0.76

Latent variables	Consumer Innovation (CI)	Health Belief (HB)	Perceived Ease of Use (PEOU)	Perceived Credibility (PC)	Perceived Usefulness (PU)	Attitude Toward Use (ATU)	Adoption Intention (AI)	Actual Adoption (AA)
Construct Validity use CFA								
CMIN/df	0.36	1.85	1.79	1.64	1.84	0.21	0.58	1.60
CMIN	0.73	7.41	7.17	13.11	11.01	0.42	0.58	9.59
df	2	4	4	8	6	2	1	6
P-value	0.70	0.12	0.13	0.11	0.09	0.81	0.45	0.14
RMSEA	0.00	0.03	0.03	0.03	0.03	0.00	0.00	0.03
GFI	1.00	0.99	0.99	0.99	0.99	1.00	1.00	0.99
CFI	1.00	0.99	0.99	0.99	0.99	1.00	1.00	0.99

4.4 Structural Model and Hypotheses Testing

The results of the data analysis are shown in Table 3. (CMIN = 1412.545, df = 1209, CMIN/df = 1.168, GFI = 0.918, AGFI = 0.910, CFI = 0.972, RMSEA = 0.017, SRMR = 0.043). It has therefore been shown that the revised model is consistent with the statistical analysis of the structural equation model.

Table 3. The statistical values used to test the conformity and harmonization of the model

IT Index	Criteria for consideration	Structural Models	Conclusion
CMIN	-	1412.545	Yes
df	-	1209	Yes
CMIN/df	< 2.00	1.168	Yes
GFI	≥ 0.90	0.918	Yes
AGFI	≥ 0.90	0.910	Yes
CFI	≥ 0.90	0.972	Yes
RMSEA	< 0.08	0.017	Yes
SRMR	< 0.08	0.043	Yes
Hoelter	> 200	563	Yes

4.5 Structural Relationship Analysis

Data processing using this program produces a structural equation model of the study variables and indicators, as shown below in Figure 3.

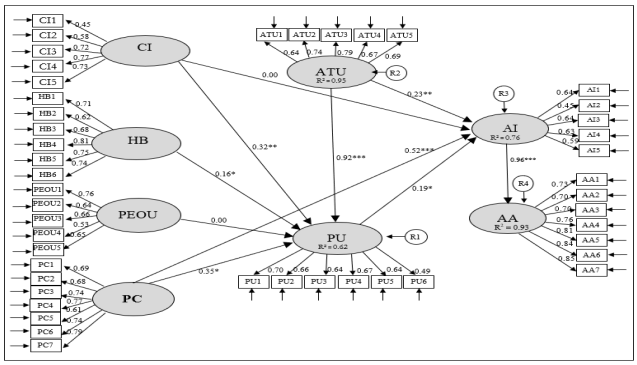

Figure 3. The statistical values of the causal relationship model which affect the actual adoption of technology and innovation for health in Thailand.

Figure 3 shows the causal factors that affect the actual adoption of technology and innovation for health in Thailand. It was found that actual adoption of technology and innovation in Thailand is directly influenced by adoption intention when the influence size was 0.96, with a statistical significance at the 0.001 level. Table 4 shows the relationship between observed and unobserved

variables A confirmatory factor analysis (CFA) was performed.

Table 4. Value models of fit and CFA results

			Estimate	S.E.	C.R.	P
PU	<---	CI	0.32	0.20	3.06	**
PU	<---	HB	0.16	0.09	2.51	**
PU	<---	PEOU	0.00	0.30	0.01	1.00
PU	<---	PC	0.35	0.23	2.20	*
AI	<---	CI	0.00	0.11	0.02	0.99
AI	<---	PC	0.53	0.09	6.65	***
PU	<---	ATU	0.92	0.03	18.52	***
AI	<---	PU	0.19	0.07	2.03	*
AI	<---	ATU	0.23	0.11	2.62	*
AA	<---	AI	0.96	0.05	17.36	***
CI1	<---	CI	1.00			
CI2	<---	CI	0.97	0.08	11.69	***
CI3	<---	CI	1.35	0.12	11.67	***
CI4	<---	CI	1.44	0.12	12.10	***
CI5	<---	CI	1.45	0.12	11.77	***
HB1	<---	HB	1.00			
HB2	<---	HB	0.88	0.05	19.69	***
HB3	<---	HB	0.95	0.05	20.10	***
HB4	<---	HB	1.32	0.06	21.47	***
HB5	<---	HB	1.09	0.06	19.86	***
HB6	<---	HB	1.07	0.06	19.49	***
PEOU1	<---	PEOU	1.00			
PEOU2	<---	PEOU	0.99	0.05	19.42	***
PEOU3	<---	PEOU	0.91	0.05	18.88	***
PEOU4	<---	PEOU	0.68	0.05	14.82	***
PEOU5	<---	PEOU	0.91	0.05	18.33	***
PC1	<---	PC	1.00			
PC2	<---	PC	1.02	0.04	24.83	***
PC3	<---	PC	1.10	0.06	19.01	***
PC4	<---	PC	1.11	0.06	19.62	***
PC5	<---	PC	0.88	0.06	15.92	***
PC6	<---	PC	1.00	0.05	18.30	***
PC7	<---	PC	1.17	0.06	19.09	***
PU1	<---	PU	1.00			
PU2	<---	PU	0.92	0.03	27.18	***
PU3	<---	PU	0.93	0.04	26.50	***
PU4	<---	PU	0.93	0.03	27.28	***
PU5	<---	PU	0.88	0.03	26.08	***
PU6	<---	PU	0.82	0.04	20.61	***
ATU1	<---	ATU	1.00			
ATU2	<---	ATU	1.20	0.05	22.92	***
ATU3	<---	ATU	1.36	0.08	18.04	***
ATU4	<---	ATU	1.26	0.08	15.90	***
ATU5	<---	ATU	1.39	0.09	16.00	***
AI1	<---	AI	1.00			
AI2	<---	AI	0.65	0.05	13.35	***
AI3	<---	AI	1.03	0.05	21.76	***
AI4	<---	AI	0.91	0.04	20.44	***
AI5	<---	AI	0.78	0.04	17.64	***
AA1	<---	AA	1.00			
AA2	<---	AA	0.89	0.05	19.40	***
AA3	<---	AA	0.91	0.05	19.91	***
AA4	<---	AA	1.07	0.05	20.83	***
AA5	<---	AA	1.11	0.05	20.86	***
AA6	<---	AA	1.18	0.05	21.75	***
AA7	<---	AA	1.28	0.06	21.74	***
CMIN = 1240.31, df = 651, CMIN/df = 1.91, GFI = 0.94, AGFI = 0.90 CFI = 0.98, RMSEA = 0.03, SRMR = 0.03, Hoelter = 459						

By utilizing SEM (structural equation modeling), a suitable structural model for hypothesis testing is presented in the path model analysis of this study. To conduct hypothesis testing, coefficients with p-values less than 0.05 are compared in the test results. Table 5 displays the significant assumptions, as some have a p-value below 0.05, and some are not significant.

Table 5. Hypothesis Test Results

				Standardized path coefficient	t-Value	P	Decision
H1	PU	<---	CI	0.32	3.061	0.00	Supported
H2	PU	<---	HB	0.16	2.514	0.01	Supported
H3	PU	<---	PEOU	0.00	0.005	1.00	Not Supported
H4	PU	<---	PC	0.35	2.203	0.03	Supported
H5	AI	<---	CI	0.00	0.017	0.99	Not Supported
H6	AI	<---	PC	0.53	6.653	0.00	Supported
H7	PU	<---	ATU	0.92	18.523	0.00	Supported
H8	AI	<---	PU	0.19	2.034	0.04	Supported
H9	AI	<---	ATU	0.23	2.624	0.01	Supported
H10	AA	<---	AI	0.96	17.355	0.00	Supported

5. Discussion

We need to verify the synergy between health-related characteristics and consumer character as this will contribute to the research on healthcare technology and innovation. It offers several theoretical implications because it reveals the factors that drive consumer adoption of healthcare technology and innovation in practice. Technology offers us unique benefit by improving consumers' healthcare (Kim & Shin, 2015; Lee & Lee, 2018; Li et al, 2019). These studies complemented the original literature by auditing the effect of health belief, consumer innovation, perceived ease of use, attitude toward use, and perceived credibility on consumers' perceived usefulness of healthcare technology and innovation and adoption intention. The findings reveal what has actually been adopted in technology and innovation. Thailand is directly influenced by adoption intention where the influence size is 0.96. Adoption Intention is directly influenced by perceived usefulness, perceived credibility, and attitude toward use by 0.19, 0.32, and 0.52, respectively, perceived usefulness is directly influenced by consumer innovation, perceived credibility, and attitude toward use by 0.32, 0.35, and 0.92, respectively, with a statistical significance at 0.001.

This shows that the adoption intention factor directly influences actual adoption because of the adoption intention, allowing consumers to benefit from the expected results. To be confident every time you use a product that truly meets the needs of consumers. Adoption intention is a good proxy for actual adoption behavior. With wellness equipment, personal electronics have become a tool for intensifying the adoption intention to use it, thus resulting in easier actual behavior (Li, Wu, Gao & Shi 2016). Intention plays a key role in a consumer's decision to purchase a product, as it has a direct impact on their behavior. This relationship between adoption intention and actual adoption has been widely acknowledged as a positive one (Morwitz & Schmittlein, 1992).

Perceived credibility factors also have a direct effect on the actual adoption of healthcare technology and innovation because healthcare technology and innovation have a stable measurement effect and an accurate display, and consumers can be confident about the quality of health care. The analysis shows that the stable measurement effect and display make the strongest contribution to perceived credibility. Amidst ongoing research on healthcare technology and innovative, a key goal is to address the anxiety that consumers experience when they worry about mismanaging their health due to unreliable data from such technology (Marakhimov & Joo 2017).

Attitude toward use has a direct effect on the actual adoption of technology and innovation in healthcare, because technology and innovation in healthcare help consumers achieve their healthcare

goals. Consumers can benefit and improve their quality of life. Results show that perceived usefulness positively influences the adoption intention to use smartphones (Park & Kim, 2013). so that consumers do not worry about health, they are satisfied when using products, and they feel confident that technology and innovations for health can be used beneficially in daily life. This is in line with the research that shows attitude toward use are behavior determinants because they connect the perception of personal incentives, positive or negative, that affect a person's response to a person or thing, which shows that the concept of attitude toward use is a component of a person's personality (Gibson & Sullivan, 2018).

Actual adoption is positively impacted by all the above variables. Our research indicates that adoption intention significantly influences healthcare technology and innovation adoption in a positive way. Furthermore, research that focuses on the experiences of electronic health records reveals that attitude toward use is a positive correlate of perceived usefulness and perceived ease of use. Additionally, Perceived Usefulness is positively associated with the adoption intention behavior (Kowitlawalu et al., 2015). Research indicates that there is a favorable correlation between a person's adoption intention and their subsequent act of adopting a particular product. Essentially, adoption intention serves as a guiding force for consumers. The results of recent studies reveal that demonstrate a greater usage of electronic health record systems when their level of behavioral adoption intention and acceptance is elevated (Iqbal et al., 2013).

6. Conclusion

Innovative technology and applications have opened the doors to new ways of dealing with health-related issues. Therefore, this study aimed to prioritize and anticipate the factors that affect the adoption intention and implementation of healthcare technology and innovation (Nasir & Yurder, 2015). In order to promote technology and innovation in healthcare, marketers, and developers can refer to the various managerial implications provided by this study. A notable finding is that perceived usefulness plays a pivotal role in shaping consumers' attitude toward use of healthcare technology and innovation. Thus, marketers should focus on effectively communicating what technology brings, including features like fitness monitoring, measurement of sports routines, and wellness state tracking (Kim & Chiu, 2018).

Future research should focus on iteration in other countries, as this current study was only conducted in Thailand and may not be applicable globally. We recommend that similar research should be conducted in various regions with different cultures so that comparisons can be made between them. While this study has offered insightful findings on the adoption behavior of consumers, it should be noted that further research needs to address (Talukder et al., 2019).

For providers, developers, and practitioners, the outcomes of this research offer a wealth of practical insights. These insights can help individuals who have incorporated a health application into their daily routine, or who plan to do so, by providing a framework to facilitate the decision-making process. Additionally, this study presents a potential opportunity for corporations to modify the features of their new merchandise to influence positive feedback and increase the rate of adoption.

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