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Toward Digital Hospital Services: Developing an Integrated Model to Understand Patient Intentions for Utilizing Online Hospital Service Platforms

Abstract: - In view of the low user acceptance rate of online medical, this study aims to explores the factors affecting users' intention to use online hospital service platform (OHP) based on the unified theory of acceptance and use of technology (UTAUT) and the health belief model (HBM). This study adopts a quantitative research method, collects 440 valid responses from Sichuan province by convenience sampling. The reliability and validity analysis are conducted by SPSS and AMOS, and the proposed research hypotheses are verified by structural equation model. The results uncovers facilitating condition, performance expectancy, effort expectancy, perceived susceptibility and perceived severity significantly positively affect users' intention to use OHP. Furthermore, this study constructs a integrated model to encourage the users to accept the online hospital service platform, hence enhancing the accessibility and efficacy of healthcare services in a digital landscape.

Keywords: HBT; UTAUT; Online hospital service platform; Structural equation model

1. Introduction

OHP is an online medical platform combining online and offline healthcare services, which is a combination of information technology and traditional medical (Chang & Chen,2016; Han et al., 2020). OHP uses information technology to extend hospital medical resources to the Internet, medical institutions can directly provide patients with a variety of medical services, significantly improve resource allocation efficiency and reduce medical costs (Alzahrani et al., 2022; Siripipatthanakul et al., 2023). Patients can achieve online communication with doctors to ensure timely adjustment of medication and improve treatment effects through online hospital platform (Han et al., 2020). It not only addresses the issue of uneven distribution of medical resources but also reconciles the contradiction between inadequate medical resource supply and the escalating health demands of the populace (Degavre et al., 2022; Zhao et al., 2022). Limited high-quality medical resources can be reserved for those in emergency situations, especially during the outbreak of COVID-19 (Tian & Wu, 2022; Qin et al., 2023).

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While online medical services have many advantages, they are not always consistently used and accepted by potential users (Bakshi & Tandon, 2019). The failure rate of telemedicine projects is 75% globally (Healy, 2008), increasing to 90% in developing countries (Alaboudi et al., 2016). The utilization rate of online hospital in China is 23.7% (Chinabgao,2021).

Lack of user acceptance is of great concern to online healthcare providers and governments. The factors that affect users' acceptance and use of online healthcare include internal factors and external factors. For example, perceived ease of use, perceived usefulness, facilitating condition, social influence, attitude, trust, etc (Kim et al.,2019; Wang et al., 2022). The factors that affect users' intention to use online hospitals include user perception, technology perception and environment perception (Rahi et al., 2021; Hosseinzadeh et al., 2023). The acceptance of information technology is a complex phenomenon that needs to be studied by integrating multiple theories (Yamin & Alyoubi, 2020). In model development, most studies are based on a single theory and lack of context variables, which is a major limitation of previous studies (Or & Tao, 2016). Although the literature reveals a large number of studies in the field of online medical, few studies have been conducted on users' intention to use OHPs in the post-epidemic (Rahi et al, 2021).

Drawing upon the unified theory of acceptance and use of technology (UTAUT) and the health belief model (HBM), and contextualized within the social dynamics of the pandemic, this study investigates the determinants influencing users' intentions to engage with Online Hospital Platforms (OHPs). The research aims to explore the impact of performance expectancy, effort expectancy, social influence, facilitating conditions, perceived susceptibility, and perceived severity on the intention to utilize OHPs. Furthermore, it aims to develop an integrated model to promote the adoption of online hospital service platforms among users, enhancing the accessibility and efficacy of healthcare services in a digital landscape.

This paper is organized as follows. Part two introduces the literature review. Part three describes the research methodology and part four presents data analysis. In part five, we discussed research findings, including the limitations of the study and the direction of future research. Part 6 gives the research conclusion.

2. Literature Review

2.1 The Unified Theory of Acceptance and Use of Technology

In view of the limitations of other technology acceptance models in predicting users' acceptance of new information technologies, Venkatesh et al. (2003) proposed the Unified Theory of Acceptance and Use of Technology (UTAUT). It is an authoritative models to study the degree of user acceptance of new technologies. Many researchers have used UTAUT to explore the online medical users' intention to use, confirming that social influence, facilitating condition, performance expectancy, and effort expectancy significantly affect users' intention to use (Quaosar & Hoque, 2018; Zhang et al., 2018; Alkhalifah, 2022; Batucan et al., 2022).

For online healthcare, performance expectancy is defined as a kind of health expectation, which means that the online medical can provide effective medical and health services (Sun & Lu,2014). When studying users' intention to use online hospitals, Yang (2022) defined performance expectancy as the degree of help perceived

by users when using the online hospital platform (Yang, 2022). Based on the research context, this study refers to the views of Venkatesh (2003) and Yang (2022), and defines performance expectancy as the degree of benefits perceived by users in using online hospital service platform.

The higher the performance expectancy of users on online hospitals, the stronger the intention to use them (Zhang et al., 2018; Qin et al., 2023). In various applications of online healthcare, performance expectancy have been found to be a key determinant of user acceptance (Kaium et al., 2020). Performance expectancy have a positive impact on users' intention to use online healthcare (Sun & Lu, 2014; Yang, 2020). OHP, with its unique advantages, can help users save time and money, improve the ability of health management. Therefore, the following hypothesis is proposed:

H1：Performance expectancy positively affects the users' intention to use OHP

Effort expectancy refers to the ease of use that users feel when using a new system or platform (Venkatesh et al., 2003). In the study of online health websites, effort expectancy is defined as how easy it is for users to use the website platform (Sun & Lu, 2014). In this study, effort expectancy is defined as the user's awareness of the difficulty of using the OHPs.

Effort expectancy represent users' subjective assessment that online healthcare will be simple and effortless (Zhang et al., 2018;; Kaium et al., 2020). Emotion expression is significantly correlated with behavioral intention and has also been identified as an important predictor of users' intention to use medical technology (Kaium et al., 2020). There is a strong correlation between effort expectancy and users' intention to use the online health system (Alkhalifah, 2022; Qin et al., 2023). When users perceive that the OHP is easy to operate and use, they are more willing to accept it. Therefore, this study believes that effort expectancy has a positive impact on the users' intention to use OHP. The hypothesis is as follows:

H2：Effort expectancy positively affects the users' intention to use OHP

Social influence refers to the extent to which individuals perceive themselves to be influenced by the surrounding social groups, including subjective norms, social factors, and public image (Venkatesh et al., 2003). Sun & Lu (2014) defines social influence as the user being influenced by the certain feelings, thoughts, and behaviors of a particular person or group to decide whether they are willing to use healthcare websites. This study defines social influence as the extent to which users are affected by social environment, policies, as well as relatives and friends when using the OHPs.

Individual behavior is influenced by the people and environment around them (Priescu & Oncioiu, 2022). During the pandemic, China has introduced policies to encourage people to choose online medical (Han et al., 2020). When people receive publicity about encouraging the use of online medical services in daily life, or when relatives and friends around them recommend the use of online medical services, they will naturally understand the functions and advantages of OHPs, which will subtly increase their willingness to use OHPs. At the same time, due to the harmfulness and infectiousness of the COVID-19 on the body, people around them are not willing to be infected, which will also encourage people to use the OHPs (Siripipatthanakul et al.,2023).

Therefore, this study believes that social influence has a positive impact on users' intention to use OHPs. The hypothesis is as follows:

H3：Social influence positively affects the users' intention to use OHP

Venkatesh et al. (2003) defined facilitating condition as the degree to which users perceive that existing technologies, capabilities, and infrastructure support the use of new information technology systems. In this study, facilitating condition refers to the degree to which users perceive that the existing technology and infrastructure can support their use of the OHPs. The accessibility of the Internet and the accessibility of online health information have an impact on users' willingness to use online health services (Wahyuni, 2017). To use an online hospital service platform, the necessary network, tools (computer, PDA, mobile phone), skills and technology must be available (Tarhini et al.,2016). The necessary access conditions and network infrastructure can incentivize users' use of information technology (Napitupulu et al. 2021).

Providing necessary promotion conditions for users to use OHPs, such as appropriate information and communications technology infrastructure, low-cost network access, can improve users' intention to use (Batucan et al., 2022). With the popularization of mobile phones and mobile devices, people can quickly access the Internet and obtain related network services, which provides strong conditions for users to use online hospitals. At the same time, users can use the artificial online service function to obtain more help and reduce the difficulty of system use, which helps to improve users' intention to use. Therefore, the following hypothesis is proposed:

H4：Facilitating condition positively affects the users' intention to use OHP

2.2 Health Belief Model

The health belief model is one of the most comprehensive models to explain preventive health behaviors. This model assumes that an individual's health behavior depends on the presence of certain beliefs about a given condition (Alhaimer,2022). Four health beliefs are used in this model to explain why people take action to prevent or control disease: perceived susceptibility, perceived severity, perceived benefit, and perceived impairment. After the outbreak of COVID-19, many scholars have used the health belief mode to explore people's preventive behaviors, including the motivation to vaccinate COVID-19 vaccines and the preventive behaviors of medical staff (Reiter et al.,2020; Detoc et al.,2020).

Perceived severity and perceived susceptibility are two core concepts of the health belief model. Based on the social context of the COVID-19 pandemic, this study incorporated perceived severity and perceived susceptibility into the research model. Based on the views of Alharbi et al. (2022), perceived severity is defined as the degree to which an individual may perceive physical pain or death after infection with COVID-19, as well as the adverse impact on work and family. Perceived susceptibility was defined as the probability that an individual believes he or she may be infected with COVID-19 (Alharbi et al., 2022).

The COVID-19 pandemic has affected almost every aspect of human life. People have had to adopt new behaviors in their daily activities to cope with the constraints of the pandemic. Such changes in human behavior

are likely to persist even in the post-pandemic. This paper argues that if users are aware of the seriousness of COVID-19 infection, they are more likely to make preventive health decisions and then choose to use online hospital service platforms. Therefore, this paper believes that the perceived severity positively affects the intention to use the OHP. The hypothesis is as follows:

H5：Perceived severity positively affects the users' intention to use OHP

When individuals assess their own body and environment, they make predictions about the likelihood of infection. If they find that they have a high probability of contracting COVID-19 , they will avoid reducing the risk of cross-infection and choose online medical treatment to seek medical services (Alharbi, 2022). Consumers' fear of COVID-19 health risks outweighs their fear of technology-related risks (Al Nawayseh, 2020). Therefore, this paper believes that perceived susceptibility positively affects users' intention to use the OHP. The hypothesis is as follows:

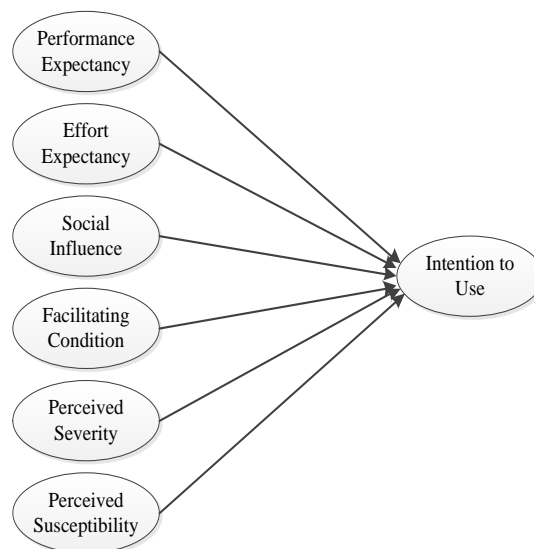H6：Perceived susceptibility positively affects the users' intention to use OHP

Figure 1 Research model

3. Research Methods

3.1 Survey Design and Data Collection

The questionnaire was designed to verify whether the hypothetical variable has an impact on the users' intention to use OHPs, and it contains two parts: basic personal information and variable measurement items.

Questionnaire was distributed online with an platform named WenJuanXing. The target population is the users in Sichuan province, China. Samples were obtained by convenience sampling. We collected a total of 465 questionnaires and removed 25 invalid questionnaires. Finally, we obtained 440 valid questionnaires with an effective recovery rate of 94.62%. The demographics of the respondents are shown in Table 1.

Table 1. Demographics of the Respondents

Measure	Item	Frequency	Percent(%)
Sex	Male	215	48.90%
	Female	225	51.10%
Age	18-30 years old	281	63.90%
	31-40 years old	119	27.00%
	41-50 years old	34	7.70%
	Above 51 years old	6	1.40%
Education	No Diploma	42	9.50%
	College Diploma	42	9.50%
	Undergraduate College	277	63.00%
	Master's degree or above	79	18.00%
Income	Under ￥3000	205	46.60%
	￥3001-￥5000	70	15.90%
	￥5001-￥8000	89	20.20%
	￥8001-￥10000	28	6.40%
	￥Above ￥10000	48	10.90%

3.2 Instrument Development

The definitions and references for research variables in the context of OHPs are presented in Table 2.

Table 2 Variable Definition

Variable name	Definition	Source
Performance Expectancy	The degree of benefits perceived by users in using the OHPS	Venkatesh et al., 2003;Yang, 2022
Effort Expectancy	The user's perception of the difficulty of the operational processes when using the OHPs.	Qin et al., 2023
Social Influence	The extent to which users are affected by social environment, policies, as well as relatives and friends when using the OHPs.	Yang,2022
Facilitating Conditions	The extent to which users perceive that the existing technology and infrastructure can support their use of the OHPs.	Yang,2022
Perceived Susceptibility	The probability that an individual believes he or she may be infected with COVID-19.	Alharbi et al.,2022
Perceived Severity	The extent of an individual's perception of physical suffering or death they might face if infected with COVID-19, as well as the adverse impact on their	Alharbi et al.,2022

	work and family.	
Intention to Use	The likelihood that a user's expect to use an online hospital service platform at a certain time in the future.	Yang,2022

The measurement scale refers to the maturity scale of previous studies and is modified appropriately according to the study context. Measurement items consists of 22 questions with 7 constructs, as shown in Table 3. All constructed items were evaluated using a 7-point Likert scale, with a score of 1 indicating strong disagreement and 7 indicating strong agreement.

Table 3 The Measurement Items

Constructs	Items	Sources
Social Influence (SI)	SI1: The support of national policies will affect my use of online hospital service platform.	Lee et al.(2021); Yang (2022)
	SI2: The people around me who are important to me think I should use the online hospital service platform to avoid unnecessary cross-infection.	
	SI3: After the outbreak of the COVID-19 pandemic, people around me began to use the online hospital service platform.	
Facilitating Condition (FC)	FC1: I have the necessary resources to use online hospital service platform, such as the Internet and phone.	Lee et al.(2021); Yang (2022)
	FC2: The online hospital platform is more compatible and can be used by a variety of phones and computers.	
	FC3: The service items of the online hospital platform are complete and perfect, which can meet my medical needs .	
Performance Expectancy (PE)	PE1：Using the online hospital service platform has saved me a lot of time for medical consultations.	Venkatesh & Zhang(2010),Yang (2022)
	PE2：Various functions of the online hospital service platform have provided me with a lot of convenience (such as appointment registration, online return visit, nucleic acid test results query and other functions).	
	PE3：Using the online hospital service platform has enhanced my ability to manage my health .	
	PE4：Using the online hospital service platform helped me manage my daily health care during the pandemic.	
Effort Expectancy (EE)	EE1：Is it easy for me to learn how to use online hospital service platform .	Rahi et al. (2021); Venkatesh & Zhang(2010)
	EE2：It is very easy to use the online hospital service platform to register, pay and buy medicine.	

	EE3：It's easy for me to interact with the online hospital service platform.	
Perceived Susceptibility (PSu)	PSu1：During the pandemic, I think I am very likely to be infected with COVID-19. PSu2: Offline medical treatment is likely to increase the probability of contracting COVID-19 . PSu3: During the COVID-19 pandemic, in order to avoid cross infection, I prefer to use the online hospital platform.	Ahadzadeh et al.(2015)
Perceived Severity (PSe)	PSe1：It is easy to cause underlying diseases after infection with COVID-19. PSe2：Being infected with COVID-19 will affect my work and life. PSe3: Contracting COVID-19 takes a toll on the body.	Ng et al. (2009); Yang (2022)
Intention to Use (UI)	UI1：I am willing to use the online hospital service platform. UI2：I am willing to continue to understand other functions of the online hospital service platform. UI3：I believe I will use the online hospital service platform in the future.	Hoque et al.(2017) ; Yang (2022)

4. Data Analysis

4.1 Reliability Analysis and Validity Analysis

The Cronbach's α reliability coefficient method is used to test the internal reliability of the sample. The obtained Cronbach' α coefficient are all greater than 0.8. The results indicate that the internal reliability of the questionnaire is reliable (Hair et al., 2010).

This study uses exploratory factor analysis to measure the construct validity of the questionnaire. KMO value for the questionnaire was 0.80 and the significance level of Bartlett sphere test was 0.000 , which indicate that the questionnaire data was suitable for factor analysis (Yu et al., 2021). Factor loadings for each construction is greater than 0.7, and they are larger than the loadings for the same items in other variable dimensions, indicating that the questionnaire has a good structural validity (Hair et al., 2010).

Finally, we uses AMOS to construct a confirmatory factor analysis(CFA) . As shown in Table 4, composite reliabilities range from 0.826 to 0.939, and average extracted variance range from 0.613 to 0.793. All indexes meet the reliability and validity criteria of the measurement model (Hair et al., 2010; Rahi et al., 2021).

Table4　Reliability and Validity of the Questionnaire

Items	M	SD	Factor loadings	α	AVE	CR
PE1	5.69	0.955	0.919	0.936	0.793	0.939
PE2	5.67	0.913	0.877			

PE3	5.58	1.051	0.863			
PE4	5.42	1.12	0.902			
EE1	5.52	1.046	0.901			
EE2	5.63	0.983	0.843	0.865	0.693	0.871
EE3	5.53	1.131	0.747			
SI1	5.15	1.205	0.728			
SI2	5.24	1.146	0.832	0.823	0.613	0.826
SI3	5.17	1.105	0.786			
FC1	5.57	1.015	0.822			
FC2	5.45	1.075	0.890	0.863	0.684	0.866
FC3	5.48	1.109	0.764			
PSu1	5.18	1.105	0.698			
PSu2	5.55	1.058	0.833	0.824	0.619	0.829
PSu3	5.59	1.016	0.822			
PSe1	5.59	1.004	0.721			
PSe2	5.66	1.062	0.806	0.832	0.627	0.834
PSe3	5.68	1.059	0.843			
UI1	6.02	0.927	0.824			
UI2	5.88	0.915	0.811	0.872	0.694	0.872
UI3	5.97	0.943	0.864			

The discriminate validity of the scale is shown in Table 5, where the numbers on the diagonal are the square root of each variable AVE. The correlation values of all constructs were greater than 0.7 and higher than the correlation coefficients with other constructs, indicating good discriminate validity (Rahi et al., 2021).

Table 5 Result of Discriminate Validity Tests

	PE	EE	SI	FC	PSu	PSe	UI
PE	**0.891**						
EE	0.057	**0.833**					
SI	0.066	-0.006	**0.783**				
FC	0.045	0.048	0.063	**0.827**			
PSu	0.023	0.075	0.035	0.044	**0.787**		
PSe	0.06	0.026	-0.015	0.044	0.008	**0.792**	
UI	0.447	0.393	0.079	0.319	0.382	0.359	**0.833**

4.2Structural Equation Model Analysis

4.2.1Fit Test of Structural Equation Model

AMOS software was used to estimate the research model. The goodness-of-fit indices are presented in Table 6. The various fit indices of the model meet the fit criteria, indicating a good fit between the model and

the data (Kline, 2023). The model's fit is satisfactory, allowing for further analysis of the results.

Table 6 Results of Fit Test of Structural Equation Model

Test index	Absolute Fit Indices					Incremental Fit Indices			Parsimonious Fit Indices		
	χ^2	df	χ^2/df	RMSEA	GFI	NFI	RFI	CFI	PNFI	PCFI	PGFI
Fit Standard			1~3	<0.08	>0.9	>0.9	>0.9	>0.9	>0.5	>0.5	>0.5
Model fit values	239.288	203	1.179	0.02	0.953	0.957	0.951	0.993	0.841	0.873	0.765
Fit or not			YES	YES	YES	YES	YES	YES	YES	YES	YES

4.2.2 Path Analysis

The fitting results of the structural equation model can be observed in Figure 2, while the path analysis results of the model are presented in Table 7.
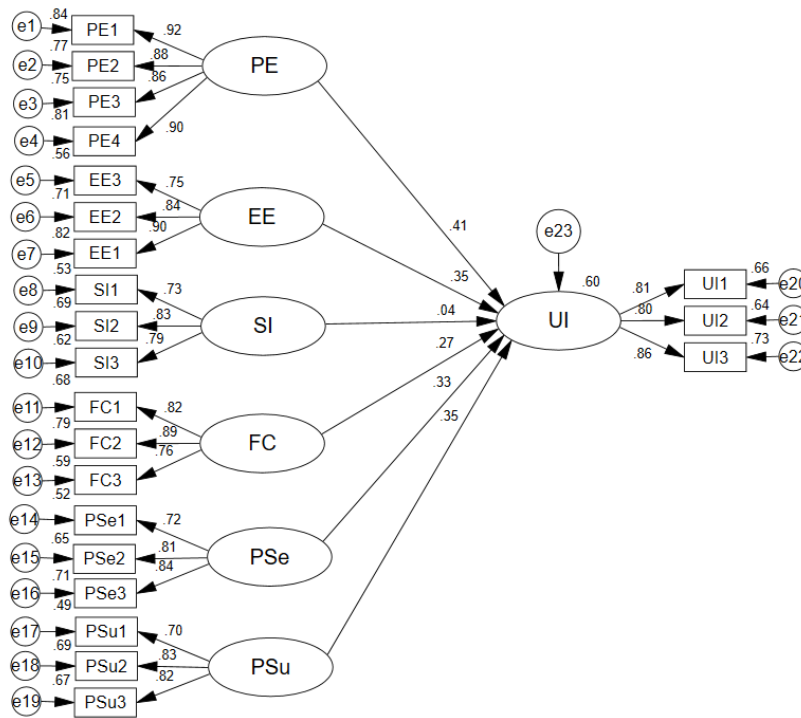

Figure 2 Fitting Results of Structural Equation Model

Note: PE=Performance Expectancy; EE=Effort Expectancy; SI=Social Influence; FC=Facilitating Conditions; PSu=Perceived Susceptibility; PSe=Perceived severity; UI=Intention to Use

Table 7   Model Path Analysis Results

Path	Non-standardized Path Coefficient	Standardized Path Coefficient(β)	S.E.	C.R.	P	R²
PE→UI	0.333	0.412	0.035	9.654	***	0.596
EE→UI	0.269	0.346	0.033	8.101	***	

SI→UI	0.032	0.037	0.035	0.901	0.367
FC→UI	0.236	0.273	0.037	6.376	***
PSe→UI	0.271	0.329	0.036	7.449	***
PSu→UI	0.309	0.351	0.039	7.829	***

Note: C.R. = the test statistic that affects path significance; * p < 0.1,** p < 0.05, ***P<0.001; R^2 = the squared multiple correlation.

According to the path analysis result, the following conclusions can be drawn. Performance expectancy positively affects the users' intention to use OHP (β=0.333,C.R.=9.654,P<0.001), H1 is established; Effort expectancy positively affects the users' intention to use OHP (β=0.269,C.R.=8.101,P<0.001), H2 is established; Social influence (SI) has no significant influence on users' intention to use OHP (C.R.=0.032, C.R.=0.901, P=0.367>0.05), H3 is not valid; Facilitating condition significantly positively affects the users' intention to use OHP (β=0.236，C.R.=6.376, P<0.001), H4 is established; Perceived severity significantly positively affects users' intention to use OHP (β=0.271, C.R.=7.449, P<0.001), H5 is established; Perceived susceptibility positively affects users' intention to use OHP (β=0.309,C.R.=7.829, P<0.001), H6 is established. The comprehensive effect value of the UI, represented by R^2, is 0.596, demonstrating that the model elucidates 59.6% of the variance in UI. The test results of the research hypothesis of the model are shown in Table 8.

Table 8 Result of Testing the Structure Equation Model

Hypothesis	Content	Decision
H1	H1：Performance expectancy positively affects the users' intention to use OHP.	Supported
H2	H2：Effort e.xpectancy positively affects the users' intention to use OHP.	Supported
H3	H3：Social influence positively affects the users' intention to use OHP.	No Supported
H4	H4：Facilitating condition positively affects the users' intention to use OHP.	Supported
H5	H5：Perceived severity positively affects the users' intention to use OHP.	Supported
H6	H6：Perceived susceptibility positively affects the users' intention to use OHP.	Supported

5. Discussion

5.1 Theoretical implications

Performance expectancy and effort expectancy significantly affect users' intention to use OHPs. When people choose to use an OHP, the ease of use and usefulness of the platform are the first considerations (Chu et al., 2018; Kamal et al., 2020). Performance expectancy and effort expectancy have been proved to be significant factors affecting users' intention to use (Al et al.,2018; Siripipatthanakul et al., 2023; Alkhalifah, 2022). The research result is consistent with the results of previous studies.

Social influence has no significant effect on users' intention to use OHPs. This finding is inconsistent with

previous research. Previous studies believed that individuals' use intention would be influenced by social factors such as recommendations from relatives and friends, media publicity, and national policies (Al et al., 2018; Byun & Park, 2021). There are two potential reasons for the result. on the one hand, people have formed the habit of online medical treatment during the COVID-19, and are no longer affected by the surrounding environment as before. On the other hand, people now have more and more of their own opinions and awareness of prevention. When facing the information brought by the outside world, they can decide whether to accept a new thing according to their own needs and judgments.

Facilitating conditions significantly affect the users' intention to use OHPs. The better the infrastructure provided by the government, the more complete the functions of the platform provided by the hospital and the more comprehensive the technology application, the stronger the user's intention to use the OHP (Alkhalifah, 2022; Batucan et al., 2022). Therefore, in order to improve users' intention to use OHPs, it is necessary to improve the existing network facilities and technology, reduce the cost of the OHPs, so that users can get more technical and resource support when using the OHPs.

Perceived susceptibility and perceived severity have significant positive effects on users' intention to use OHPs. The findings suggest that when people are aware of a possible external threat to their bodies, they take preventive measures. Government awareness of the pandemic helps people adopt preventive behaviours (Karimy et al., 2021). According to the study, in the event of a pandemic, governments should communicate its severity through the media, remind users to take necessary precautions, take measures to avoid infection, and increase the use of OHPs.

The research of this paper enriches the object of online healthcare. While there are a wealth of research on online healthcare, few studies focusing on user intention to use OHPs. Previous research has mostly focused on telemedicine, community health, health websites, and medical apps (Tao et al., 2020). As a novel online healthcare model, there is relatively limited theoretical research. This research can fill the gap in exploring the factors influencing user intention to use OHPs.

This study extends the theoretical model of online medical users' intention to use. Based on the characteristics of OHP and previous researches, this paper proposes a new technology acceptance model by combining UTAUT and HBM, and explores the factors that hinder users' acceptance of OHP from the aspects of threat perception, technology use and psychological cognition. Previous research theories, mainly based on TAM, planned behavior theory, information system success model, etc., have limited explanations for online medical users' behavioral intentions, and the explanatory variance of most research models is 17-53% (Venkatesh et al., 2003; Kim et al., 2016; Alkhalifah, 2022). The variance explained by the research model in this paper is 59.6%.

The research enriches the research context of online healthcare. People's acceptance of OHPs may change due to the impact of the COVID-19. The outbreak of the pandemic has provided opportunities for the development of OHPs. However, it needs to be confirmed whether people will still be willing to accept OHPs after COVID-19. In the post-epidemic era, the factors that affect user's intention to use OHPs also need to be

explored. Previous studies have rarely considered the impact of social context. In view of the social background of the COVID-19, two potential variables, perceived susceptibility and perceived severity, were proposed in this paper to deeply explore the impact of social environment on users' intention to use OHPs.

5.2 Managerial implications

Firstly, from the perspective of OHPs providers, the research on users' intention to use will help guide operators to scientifically manage online health services, establish relevant safeguard measures, and improve the credibility of online medical services. People trust OHPs and will try to use new technology services. In this way, the user utilization rate of the online hospital service platform will be improved.

Secondly, from the perspective of information system developers, the research on the key factors for users to accept the OHPs can put forward suggestions for service providers to improve the platform functions. For example, when designing an OHP, the software interface should be simple and clear, and the functions should be complete, so as to further enhance the user's appeal.

Thirdly, from the government's point of view, it can help governments better cope with the pandemic. Perceived threats can improve users' intention to use OHPs. Therefore, when the pandemic explodes, the government can increase publicity and encourage users to OHPs, which can reduce cross-infection and alleviate the current situation of insufficient medical resources.

5.3 Limitations and future research

Firstly, the target population of this study is the users in Sichuan, which cannot represent the whole Chinese users. At the same time, the sample size was small, and the number of participants was only 440 . In the future, the research scope can be expanded, and the population of different regions can be selected as the research group to improve the representativeness of the research.

Secondly, this study is a static study, and there is no further verification of the research results. In the future, we can combine the expectation confirmation theory to study the behavioral intention of users before and after using the OHP, explore whether experience affects the behavioral intention of users, and what factors users pay more attention to after use.

Thirdly, the study is limited in geographical scope. This study was conducted in developing countries, and the study samples were only online hospital users in Sichuan Province. So, the real extent of reflecting macro problems is relatively limited. Therefore, replicating the current research model in developed regions may make a difference in the results.

6. Conclusion

Based on the social background of COVID-19 pandemic, this study integrated UTAUT and HBM to explore the users' intention to use OHPs. The results show that performance expectancy, effort expectancy, facilitating condition, perceived susceptibility, and perceived severity significantly affect users' intention to use. Inconsistent with previous research, social influence has no significant effect on users' intention to use.

This study theoretically confirms that the UTAUT and the HBM are applicable to the study of users intention to use OHP. This study can provide reference for enterprises, governments and hospitals to develop online hospital. As enterprises and hospitals, it is necessary to develop a simple system interface according to the needs of users, improve the system functions, and improve the ease of use and usefulness of the system. For the government, it can introduce policies to improve the basic network services, improve the credibility of the platform, and increase the confidence of users.

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