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Determinants of Continuance Intention to Use a Hospital Information System in a Public Hospital in Sichuan, China

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Abstract

Purpose: This study aimed to identify the determinants of Factors affecting continuance intention to use the hospital information system in a public hospital in Sichuan, China: an integration of TAM, ISS, and UTAUT. With the rapid development of the economy, informatization has emerged as a pioneering endeavor, influencing all aspects of life, including the medical field. Hospitals, as the main carriers of healthcare, have undergone significant transformations through the deep integration of traditional medical care and information technology. **Research Design, Data, and Methodology:** Under the continuous promotion of hospital information systems, the disadvantages caused by their usage have also received more and more attention. Integrating the different perspectives of the users, the system, and the organizational management can help analyze the important factors that affect the users' continuance intention. 506 questionnaires were collected online, and the structural equation model (SEM) was used for data analysis. **Results:** The results suggest that information quality, facilitating conditions, and perceived usefulness can significantly influence continuance intention, while self-efficacy negatively affects continuance intention. **Conclusions:** This research provides solid evidence for the validity of the integrated ECM, ISS, and SCT model in the hospital in the model formation system field, which can be a theoretical basis for enhancing medical efficiency.

Keywords: Perceived Usefulness, Information Quality, Facilitating Conditions, Self-Efficacy, Continuance Intention

JEL Classification Code: E44, F31, F37, G15

1. Introduction

With the rapid development of the economy and the continuous evolution of technological products, people's daily lives are being enriched in various ways. In this era, informatization has emerged as a pioneering endeavor, influencing all aspects of life, including the medical field. Hospitals, as the main carriers of healthcare, have undergone significant transformations through the deep integration of traditional medical care and information technology. This integration has initiated a new wave of change. Under the strong encouragement of the government, hospitals at all levels within the country have allocated substantial resources to implement and develop hospital information systems. Second- and third-tier hospitals have widely adopted these systems by this stage, which has markedly enhanced the quality of medical services. In 2018, the State Council issued multiple directives emphasizing developing and enhancing the "Internet and medical health" service model to improve the informatization of hospitals and the level of convenient services offered. Within this context, the hospital information system has become a crucial indicator of a hospital's informatization level.

Supported by medical informatization and aimed at establishing smart hospitals, hospital information systems provide comprehensive data support. This support enables users, including doctors, nurses, and administrative workers, to access more accurate medical information, thereby enhancing work efficiency and overall medical quality. However, despite these positive intentions, some issues have arisen during implementation. Out of plenty of process-oriented tasks, the unique circumstances within the hospital

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reveal that users of the hospital information system frequently encounter various challenges in their daily activities1. The information system, being generally highly standardized, fails to assist in addressing these unforeseen situations. Instead, they may increase the workload and diminish work autonomy. Given these challenges, it becomes crucial to investigate the factors influencing users' continuance intention to use the hospital information system and to conduct an in-depth theoretical exploration of these factors and their mechanisms. Based on previous studies, we found that perceived usefulness, information quality, facilitating conditions, and self-efficacy have a direct or indirect relationship with continuance intention1-5. A seminal framework, the Technology Acceptance Model6, centralizes the concept of perceived usefulness as a determinant of technology adoption. This concept has been consistently defined across various studies as the extent to which individuals believe using a specific system will positively impact their job performance. The correlation between perceived usefulness and continuation intention has been verified in many studies7-10.

Continuance intention11 represents the decision of a user to persist with the use of an Information System or Information Technology after its initial adoption. Information quality is a major component of IS success, and later, it was re-specified in version 12; most subsequent research was just optimization or derivation. Facilitating conditions13 are defined as objective factors present in the environment that either aid or hinder a specific behavior. The theory of self-efficacy14 posits that individuals often grapple with anxiety when facing tasks, they perceive as beyond their capabilities. According to the theory, this anxiety diminishes as their belief in their own efficacy strengthens. This perspective highlights the role of facilitating conditions in shaping the user's interaction with and attitude toward a system, emphasizing the importance of a supportive environment in promoting system usage15,16. Under the wave of continuous promotion of hospital information systems, the disadvantages caused by their usage have also received more and more attention. For instance, the data is predominantly static, offering limited insight into disease progression or patient group trends. This situation complicates the information department's ability to use data for enhanced management and for the management department to understand hospital operations, leading to reduced overall efficiency. These challenges align with findings from a national survey, underscoring the need for a more nuanced approach to hospital informatization.

The hospital information system, deployed within hospital environments, must cater to needs distinct from those of conventional units or enterprises due to the unique nature of healthcare settings. The specificity of hospitals dictates that the information systems supporting their operations differ fundamentally from general information systems. Firstly, the medical services rendered by hospitals are intrinsically linked to the patients' lives, health, and safety. The absence of essential information can lead to errors in judgment and diagnostic and therapeutic mistakes, with severe repercussions potentially culminating inpatient mortality. Erroneous or incomplete information provision by the system may have equally grave consequences, if not more so. Secondly, the role of a physician is inherently bound to the health and life of the patient, necessitating a degree of autonomy for doctors to manage and allocate necessary resources and personnel independently. This requirement mandates that the system be logical and adaptable to accommodate the dynamic nature of medical care. Thirdly, hospitals typically operate under a stringent hierarchical structure, where managerial influence over subordinates is pronounced. Physicians often navigate a complex interplay between their professional responsibilities, autonomy, and the organizational hierarchy. In a nutshell, hospital information systems should meticulously consider the integration of clinical practice with organizational dynamics, aiming to harmonize the interrelation between healthcare provision and systemic structure, to which extent to integrate the different perspectives of the users themselves, the system itself and the organizational management, in order to analyze the important factors that affect the user's continuance intention.

2. Literature Review

2.1 Perceived Usefulness

As to the relationship between perceived usefulness and continuance intention, Structural equation modeling and partial least squares method for data analysis were used to explore the continued use intention of mHealth apps in developing countries (Oppong et al., 2021). Among them, the relationship between perceived usefulness and continuance intention is significantly supported by a standardized coefficient of 0.708 in the SEM model. This conclusion is like the other research (Cho, 2016; Hsiao & Chen, 2019). Groups paying attention to mobile health include medical workers and students on campus (Xu et al., 2022). In addition to the positive relationship, perceived usefulness has become a new mediating relationship between them (Hsieh et al., 2022). The conversational agents in outpatient departments, which gather symptoms and medical history through patient dialogue and aim to enhance doctor-patient communication efficiency, applied an extended expectation confirmation model to analyze the potential and ambiguous relationship between them, and a positive and significant correlation is in line with expectations (Lutfi,

2022). Although EMR plays an important role in health information and patient care, the usage process must be revised. Taking developing countries as an example, the results of 450 questionnaires show that perceived usefulness has a strong positive relationship with continuance intent (Meidani et al., 2021). When looking at the relationship in a generalized information system, the performance of the original perceived usefulness far exceeds that of the improved perceived extended usefulness. The reason is that the original one includes dimensions of efficiency and effectiveness, but two dimensions are just the main components of the improved one (Yeh & Teng, 2012).

H1: Perceived usefulness has a significant impact on continuance intention.

2.2 Information Quality

Medical workers from Malaysia were selected to explore the continuance of the emerging radio frequency identification technology in the medical care industry (Iranmanesh et al., 2017). With the help of technology continuance theory's outstanding performance in measuring continuance intention, it is concluded that when users reach their satisfaction expectations, the positive relationship between information quality and continuance intention is often enhanced, and a more user-centric dimension was considered. Here, information quality is characterized by attributes such as usability, flexibility, and ease of use; the electronic appointment system gradually emerged in the hospital, being not only functional but also accessible and convenient for its target audience, using patients as a valid research sample (Lee et al., 2020), the unified technology acceptance and use theory, together with the information system quality model, quantified the positive association between them. Using large organizations, such as enterprises outside of hospital information systems, and creatively starting from the organizational level (Walther et al., 2015), the positive relationship and the moderating effect of technical integration and system investment on continuance intention are concluded. The organizational perspective has received more attention in the hospital or medical atmosphere, and there is still room for research.

H2: Information quality has a significant impact on continuance intention.

2.3 Facilitating Conditions

Whether in a hospital or portable medical setting, the importance of facilitating conditions is unquestionable. Nurses' continuance intention to electronic health record systems in Jordanian public hospitals was explored (Alsyouf & Ishak, 2018). The facilitating conditions positively promoted continuance intention, and this association passed the test at a 99% confidence level. The same answer exists in the Internet hospital (Lee et al., 2020). The application of mHealth in the elderly can only fully realize its value when used for a long time. They are taking mobile health devices that can effectively detect chronic diseases as the research object; the joint action of performance expectations and facilitating conditions can make continuance intention bring out a positive effect outlined (Tian & Wu, 2022). When the research entered the generalized information system, the collision of e-books and paper books was the research background (Maduku, 2017). Thus, the structural equation model derived a positive correlation between facilitating conditions and continuance intention. Even with the research subject as the GO-JEK mobile application (Erwanti et al., 2018), a positive correlation remains and emphasizes that habits and price value also have a certain impact. Considering the usage of accounting information systems among Jordanian enterprises, only when accountants and auditors believe there are sufficient facilitating conditions are they more likely to have continuance intention to use the system (Lutfi, 2022). The positive and obvious relationship between facilitating conditions and continuance intention can be seen in travel agency information systems, mobile banking, and e-government systems (Islam et al., 2023; Kusuma et al., 2017).

H3: Facilitating conditions has a significant impact on continuance intention.

2.4 Self-Efficacy

Self-efficacy is a direct factor affecting mobile health among the many factors studied (Wang et al., 2022). Focusing on the realm of mobile health services, users with a high perception of self-efficacy were noted, coupled with response efficacy, demonstrating a greater willingness to embrace these services and systems (Yuan et al., 2017). Redefining self-efficacy in the context of personal health, it was characterized as an individual's capability to harness health beliefs and behaviors to achieve health objectives in daily life (Tsai et al., 2021). This perspective underscored the significance of self-efficacy in personal health management. Finally, the scope of self-efficacy was broadened (Hassan et al., 2016), depicting it as a belief system that profoundly influences comprehensive view and highlights the far-reaching impact of self-efficacy on the human psyche and behavior. In essence, the evolution of the self-efficacy concept has transitioned from its initial focus on mitigating anxiety to a broader recognition of its role in enabling technology use, stress management, health behavior, and overall psychological well-being. Compared with indirect factors, the former often shows a stronger effect. When the vision shifts from the satisfaction of basic survival materials, such as life and health, to the satisfaction of developmental

materials, such as learning (Suzianti & Paramadini, 2021; Wang et al., 2023), entertainment and travel, there exist many types of research between self-efficacy and continuance intention. The positive role of self-efficacy in predicting accountants to test the role of top management support (Lutfi, 2022).

H4: Self-efficacy has a significant impact on continuance intention.

2.5 Continuance Intention

Continuance intention represents the decision of a user to persist with the use of an Information System or Information Technology after its initial adoption (Bhattacherjee, 2001). This concept is crucial in understanding user behavior in the context of various information systems. The study on E-appointment systems illustrates this concept by highlighting that continuance intention specifically refers to users' determination to keep utilizing the e-appointment system (Chen et al., 2014). This example underscores the importance of continuance intention in the context of specialized systems designed for specific functions, such as scheduling appointments electronically. This ongoing engagement reveals the system's effectiveness and value to its users. A more user-centric view of continuance intention was described as the willingness of users to keep using the information system, thus framing it as a measure of user satisfaction and acceptance(Larsen et al., 2009). This approach emphasizes the user experience and the system's perceived value in its users' eyes, highlighting the importance of meeting user needs and expectations for long-term adoption (Boakye, 2015). In addition, the significance of continuance intention was described as a driving force for the long-term use of m-Health applications (Boakye, 2015), emphasizing its critical role in the sustained success of mobile health technologies. This perspective is particularly relevant in the rapidly evolving field of mobile health, where user engagement and continued use are essential for the effectiveness of health interventions delivered through mobile platforms.

3. Research Methods and Materials

3.1 Research Framework

To study the hospital information system users' continuance intention to use the system in a public hospital in Chengdu. The conceptual framework contains all variables used in this study. This framework is drawn from four major theories (ECM, ISS, UTAUT, SCT) and published studies. The first research framework borrowed highlighted the relationship between facilitating conditions and continuance intention (Tian & Wu, 2022). The second research framework clarifies the relationship between information quality and continuance intention (Malanga & Chigona, 2022). The third research framework suggested that there may be a direct effect between information quality and continuance intention without being mediated through satisfaction (Walther et al., 2015). In the last research framework, integrating the expectation confirmation model, considering the individual's subjective initiative outside of sensory experience provides a direct path from self-efficacy to continuance intention (Sampat & Sabat, 2020). Therefore, the conceptual framework of this study was developed based on five variables and contains two categories of variables in this study: independent variables and dependent variables. The research model is shown in Figure 1.

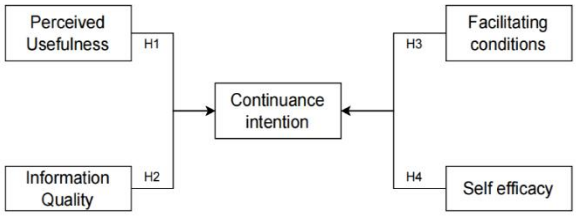

Figure 1: Conceptual Framework

H1: Perceived usefulness has a significant impact on continuance intention.

H2: Information quality has a significant impact on continuance intention.

H3: Facilitating conditions has a significant impact on continuance intention.

H4: Self-efficacy has a significant impact on continuance intention.

3.2 Research Methodology

The study will adopt a descriptive research design to evaluate users' continuance intention to use the hospital information system of a public hospital in Chengdu. Questionnaires, the main survey tool, should ensure validity by testing the item-objective consistency index (IOC) test before distributing it to the target population. Next, pilot testing is necessary, which can help the researcher revise the questionnaire structure and specific definitions of variables based on feedback from the questions to finalize the questionnaire. Finally, after collecting valid data, we should use construct validity, which includes convergent and discriminant validity, and structural equation modeling, which contains measurement and structural model, to analyze and test the proposed theoretical hypotheses. The target

population of our study is users who have used the hospital information system before, which includes doctors, nurses, and administrative staff. The specific units and number of people to be selected will be determined through non-probability sampling.

3.3 Population and Sample Size

Therefore, the initial selection of samples is based on tertiary hospitals in Chengdu. Considering that there are differences in economic development between different districts in Chengdu, it is best for this hospital to have branches in more and less economically developed districts.

The hospital also has a general surgery system, a general internal medicine system, other departments, medical technology departments, platform departments, and management departments. This is another layer of this study, making a difference in the sampling procedure according to the composition ratio. Given the reliability of the estimation, the sample size was set at 500, so the theoretical sample size for the Department of General Surgery in Tian-Fu District was 132, and so on. Random sampling is performed according to the ideal number of each stratum to ensure that the sample size of each stratum matches the theoretical value. After excluding unqualified questionnaires, the questionnaire recovery rate of this paper was 85%, and a total of 504 valid questionnaires were obtained.

3.4 Sampling Technique

Considering the differences in economic development between different districts in Chengdu, this hospital should have branches in more economically developed and less developed districts. In order to understand the overall average information construction situation of hospitals in Chengdu, this hospital should be among the hospital quality rankings, as at least ranked Intermediate and above. Under this series of conditions, the final selected sampling unit was the seventh People's Hospital of Chengdu. This third-level modern hospital integrates medical treatment, prevention, health care, scientific research, and teaching. It consists of the Tian-Fu district in the Shuang-Liu district and Xin-Nan district in the Wu-Hou district.

Table 1: Sample Units and Sample Size

District	Department	Population Size	Proportional Sample Size
Tian-Fu	General surgery	426	132
	General internal medicine	376	117
	Other	85	26
	Medical technology	93	29
	Platform type	32	10
	Management department	73	23
Xin-Nan	General surgery	115	36
	General internal medicine	255	79
	Other	40	12
	Medical technology	63	20
	Platform type	16	5
	Management department	35	11
	Total	**1609**	**500**

4. Results and Discussion

4.1 Demographic Information

Table 2 presents the sociodemographic data of 504 medical professionals and their attributes related to the utilization of the hospital information system, including sex, age, occupation, educational background, the frequency and duration of using hospital information systems, history of medical accidents, and income. The study included 504 participants: 31.5% males and 68.5% females. Occupation-wise, the composition ratio of doctors to nurses is close to one-to-one. Medical issues were reported by 6.0% of participants, while 94.0% had no such issues. Regarding income, 82.3% earned below 10,000 yuan monthly, while 17.7% earned above 10,000 yuan.

Table 2: Demographic Profile

Demographic and General Data (N=504)		Frequency	Percentage
Gender	Male	159	31.5%
	Female	345	68.5%
Occupation	Doctor	249	49.4%
	Nurse	255	50.6%
Education	College degree or be	58	11.5%
	Undergraduate	321	63.7%
	Master degree	123	24.4%
	PhD degree	2	0.4%
Experienced medical problems	Yes	30	6%
	No	474	94%
Income	below 10000	415	82.3%
	above 10000	89	17.7%

4.2 Confirmatory Factor Analysis (CFA)

Confirmatory factor analysis (CFA) is a powerful statistical tool for examining latent constructs' nature and relations); assessing the reliability and validity of the questionnaire and measurement items is imperative. The reliability test was conducted using R version 4.3.2. In this test, a general level is indicated by a range of 0.6 to 0.7, a

good level is indicated by a value less than 0.8, a very good level is indicated by a value less than 0.9, and an excellent level is indicated by a value greater than 0.9. The measurement model utilized in this work has favorable qualities, as indicated by the data presented in Table 2. Notably, the main standardized factor loading values range from 0.8 to 0.9. The only variable with a measurement value of 0.2 is the information quality. The average variance retrieved by each variable and the composite reliability exceeds 0.7 and 0.8, respectively. In general, the model demonstrates satisfactory convergent validity and dependability.

Table 3: Confirmatory Factor Analysis Result, Composite Reliability (CR) and Average Variance Extracted (AVE)

Variables	Source of Questionnaire (Measurement Indicator)	No. of Item	Cronbach's Alpha	Factors Loading	CR	AVE
Perceived usefulness (PU)	Davis (1989)	3	0.914	0.781-0.930	0.704	0.870
Information quality (IFQ)	DeLone and McLean (1992)	4	0.766	0.858-0.918	0.603	0.786
Continuance intention (CI)	Bhattacherjee (2001)	4	0.939	0.834-0.950	0.794	0.924
Facilitating Condition (FC)	Venkatesh et al. (2003)	3	0.896	0.726-0.941	0.741	0.864
Self-efficacy (SE)	Bandura (1977)	3	0.903	0.798-0.941	0.792	0.900

As shown in Table 4, the model fit was assessed using a comprehensive set of indicators, including CMIN/DF, GFI, AGFI, NFI, TLI, CFI, and RMSEA. The results indicated that all these measures, particularly the GFI statistics, were satisfactory in the CFA testing of this scientific study.

Table 4: Goodness of Fit for Measurement Model

Fit Index	Acceptable Criteria	Statistical Values
CMIN/DF	< 3.00 (Hair et al., 2006)	2.040
GFI	≥ 0.90 (Hair et al., 2006)	0.930
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.900
NFI	≥ 0.90 (Hair et al., 2006)	0.850
CFI	≥ 0.90 (Hair et al., 2006)	0.950
IFI	≥ 0.90 (Hair et al., 2006)	0.950
RMSEA	< 0.08 (Pedroso et al., 2016)	0.170
Model Summary		**Acceptable Model Fit**

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = goodness-of-fit index, AGFI = adjusted goodness-of-fit index, NFI = normalized fit index, CFI = comparative fit index, IFI=Incremental Fit Indices and RMSEA = root mean square error of approximation

Discriminant validity is an important consideration while conducting latent variable analysis. Determining discriminant validity entails comparing the correlation coefficients of different latent variables to the square roots of their corresponding average variance extracted values. Suppose the former is less than the latter, meaning the diagonal value is greater than the values in each row and column. In that case, the latent variable has strong discriminant validity. The values in each row and column are also lower than their diagonal counterparts, ranging from 0.4 to 0.6. In a nutshell, the five latent variables exhibit a high level of discriminant validity.

Table 5: Discriminant Validity

	PU	IFQ	CI	FC	SE
PU	**0.839**				
IFQ	0.981	**0.777**			
CI	0.655	0.616	**0.891**		
FC	0.403	0.429	0.612	**0.861**	
SE	0.507	0.526	0.513	0.557	**0.890**

Note: The diagonally listed value is the AVE square roots of the variables
Source: Created by the author.

4.3 Structural Equation Model (SEM)

In structural equation modeling, the test to confirmatory factor analysis is necessary. The below three categories of Goodness of Fit measures need measuring, namely, absolute fit measures, incremental fit measures, and parsimony fit measures, as shown in Table 6. Compared with the reference values of each indicator, the actual values under the research framework constructed in the study all indicate that they are worthy of use in exploring the continuance intention of hospital information systems.

Table 6: Goodness of Fit for Structural Model

Fit Index	Acceptable Criteria	Statistical Values
CMIN/DF	< 3.00 (Hair et al., 2006)	3.402
GFI	≥ 0.90 (Hair et al., 2006)	0.851
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.823
NFI	≥ 0.90 (Hair et al., 2006)	0.825
CFI	≥ 0.90 (Hair et al., 2006)	0.870
IFI	≥ 0.90 (Hair et al., 2006)	0.856
RMSEA	< 0.08 (Pedroso et al., 2016)	0.869
Model Summary		**Acceptable Model Fit**

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = goodness-of-fit index, AGFI = adjusted goodness-of-fit index, NFI = normalized fit index, CFI = comparative fit index, IFI=Incremental Fit Indices and RMSEA = root mean square error of approximation

4.4 Research Hypothesis Testing Result

The significance of the relationship between variables was measured from its regression weights variances in the structural model. The causal relationships among the variables are presented in Table 7.

Table 7: Hypothesis Results of the Structural Equation Modeling

Hypothesis	(β)	t-value	Result
H1: PU→CI	0.674	4.894*	Supported
H2: IQ→CI	0.550	2.647*	Supported
H3: FC→CI	0.588	3.957*	Supported
H4: SE→CI	-0.654	-4.206*	Not Supported

Note: * p<0.05
Source: Created by the author

Regarding information quality, when other factors remain unchanged, users' continuance intention to utilize the hospital information system increases significantly with information quality improvement. Specifically, each standard deviation increase in information quality is associated with a 0.550-unit increase in continuance intention, which is highly statistically significant (β=0.550, P<0.001). The results for perceived usefulness show that when users perceive the system to be more useful, their continuance intention will, in turn, increase significantly. Each standard deviation increase in perceived usefulness leads to a 0.674-unit increase in continuance intention, which is statistically significant (β=0.674, P=0.008). The results for facilitating conditions indicate that better-facilitating conditions can increase users' continuance intention. Each standard deviation increases in facilitating conditions is expected to increase continuance intention by 0.588 units, along with a statistically significant effect (β=0.588, P<0.001). However, the analysis of self-efficacy, when extended from external factors to user subjective initiative, yielded contrary results, showing that an improvement in self-efficacy reduced the user's continuance intention. Each standard deviation increase in self-efficacy is expected to lead to a 0.654-unit decrease in continuance intention, and this negative effect is statistically significant (β=-0.654, P<0.001).

5. Conclusion and Recommendation

5.1 Conclusion

This study's results emphasize the importance of information quality, perceived usefulness, and convenience in increasing users' desire to use hospital information systems. The findings indicated that enhancements in the information quality substantially impacted continuance intention in using the system. This aligns with prior studies highlighting the significance of information correctness, timeliness, and relevance. It underscores the crucial role of high-quality information in enhancing users' happiness and system success (DeLone & McLean, 2003). Users' trust and accuracy in information directly impact their dependence on the system (Wixom & Todd, 2005).

Furthermore, enhancements in the information quality can boost users' productivity and enhance the standard of medical services, elevating users' contentment, and their inclination to persist in using (Gorla et al., 2010). The perceived usefulness of a product or service plays a crucial role in determining whether users will continue to use it. For every one-unit increase in perceived usefulness, there is a corresponding increase of 0.674 units in continuance intention. This outcome provides evidence in favor of the Technology Acceptance Model (TAM), which suggests that users' acceptance and ongoing usage of information systems is primarily influenced by their perception of usefulness (Davis, 1989). Users are more inclined to persist in utilizing a system when they perceive its advantages in enhancing work performance or medical results.

Convenience is a significant factor in determining the continuance intention. The investigation revealed that an improvement in convenience, including factors such as management support and trustworthy technical assistance, can increase the intention to continue using the product by 0.588 units for every standard deviation of convenience improvement. This discovery provides evidence for the Unified Theory of Acceptance and Use of Technology (UTAUT) model, which posits that convenience plays a crucial role in technology adoption and ongoing usage (Venkatesh & Davis, 2000). Users are more inclined to sustain their information system usage when provided with proficient technical assistance and ample resources (Thong et al., 2002). The study revealed a noteworthy inverse relationship between self-efficacy and the intention to continue using, which contradicts prior research findings (Compeau & Higgins, 1995). More precisely, there was a correlation between an increase in self-efficacy and a drop in the desire to continue using by 0.654 units. The surprising outcome could be attributed to the notion that individuals with elevated self-efficacy possess greater assurance in transitioning to alternate systems or implementing other strategies to reduce their reliance on the hospital information system. Hence, future studies must delve deeper into this reciprocal correlation and ascertain the fundamental causes contributing to it.

This study explores the determinants of users' continuance intention towards hospital information systems,

assessing the influence of constructs such as confirmation, perceived usefulness, information quality, facilitating conditions, and self-efficacy on continuance intention. Concurrently, this article synthesizes frameworks from expectation confirmation theory, technology acceptance theory, and additional theoretical perspectives to examine users' intentions to persist with hospital information systems post-adoption. It investigates potential influencing factors across the individual, system, and external environmental dimensions to elucidate potential impact mechanisms and formulate pertinent recommendations based on these findings. Firstly, from a theoretical perspective, this article analyzes the factors that potentially influence the satisfaction levels of medical staff with office automation systems across various strata, addressing the limitations of existing research that has predominantly focused on a singular dimension. It contributes to enriching current research findings and addresses the gaps in existing literature. This study incorporates established theories, such as the widely recognized Technology Acceptance Model and Customer Satisfaction Theory. It adopts a tripartite approach encompassing individual, system, and external environmental dimensions to examine the applicability of these theories within the public health domain. This enriches the discourse on the progression from identifying 'what' influences users' continuance intention to understanding 'why' these factors are influential. Unlike traditional research that often centers on clinical medical information systems, this study provides a multi-dimensional theoretical foundation for exploring how a generalized hospital information system can effectively contribute to medical informatization. Secondly, from a practical standpoint, this article validates the practical applicability of theoretical constructs in real-world settings, assisting hospitals in enhancing their information systems to support medical staff better. In turn, the study aims to augment the efficiency of diagnosis and treatment processes and elevate hospital management standards, thereby fostering a positive image of the hospital. Although the hospitals selected for this study represent a small fraction of the broader research objective, they offer valuable insights that can serve as a reference for future investigations into hospital information systems.

5.2 Recommendation

With the advancement of emerging information technologies, such as mobile Internet, traditional diagnosis and treatment methods are undergoing significant changes. As direct users, medical staff must adapt to these developments by enhancing their technical and operational adaptability to hospital information systems. They should actively engage with these systems rather than passively implementing them. Simultaneously, medical staff should provide continuous feedback on the quality of the information systems during use, assessing factors such as interface design, operational complexity, and the system's ability to perform its intended functions. This feedback is essential for maximizing the "effectiveness" of the information system.

From the perspective of hospital administrators, there remains a lack of interconnectivity between the hospital information systems across different departments. It is crucial to establish more effective standards to ensure the optimal use of resources and improve the efficiency of diagnosis and treatment processes. Additionally, there is a need to increase system operation training and enhance the information literacy of medical staff. These are individual tasks and a collective effort towards a common goal. Only through the combined efforts of users and managers can hospitals maximize their competitiveness and strengthen medical quality control. Each member of the team, from the medical staff to the administrators, has a crucial role to play in this process.

5.3 Limitation and Further Study

First, the sample selected for this study is a tertiary hospital in Chengdu. Considering the development levels of different regions, the importance of different hospitals, and the different levels of hospital information system providers, the study's results may not apply to other hospitals. Similarly, for other companies that use information systems, when the operating processes of information systems are similar, applying this research framework may lead to different research results. Secondly, some researchers have focused on investigating the role of factors such as race in continuation intention. However, this study only considered the direction of the existing path under general demographic factors, namely gender, age, income, and education; the impact of other moderating factors on the potential structure has not been comprehensively examined. Thirdly, according to various previous empirical studies, many factors may affect users' continuance intention to use the hospital information system, such as attitudes, subjective norms, perceived ease of use, and perceived risks (Malanga & Chigona, 2022; Sampat & Sabat, 2020; Suzianti & Paramadini, 2021; Tian & Wu, 2022; Walther et al., 2015). However, this study focused on only four constructs. These structures are perceived usefulness, information quality, facilitating conditions, and self-efficacy. Therefore, the measurement dimensions must continuously evolve and adapt to align with modern advancements, ensuring they remain relevant and effective in addressing the change.

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