

The user wants me to translate a Chinese academic paper title into English. The title is: “信息生态视角下在线医疗社区用户信息采纳行为影响因素研究后印本”
Let me break this down: - 信息生态视角下 => from the perspective of information ecology / under the information ecology perspective - 在线医疗社区 => online medical community / online hea...

Authors: The user has provided a very short input: “刘建准”. This appears to be a Chinese name. Let me analyze what I need to do:

1. The input is just a name: “刘建准”
2. There are no LaTeX commands, no placeholders
3. There are no citation commands
4. There are no ...tags
5. It's just a name that needs to be translated

According to the instructions: - I should translate from Simplified Chinese to English with highest accuracy and academic tone - Preserve ALL LaTeX commands and placeholders (none here) - Preserve ALL citation commands (none here) - **PRESERVE ALL ...paragraph wrapper tags EXACTLY** (none here) - Maintain academic tone and formal scientific writing style - Use precise technical terminology - obey the glossary strictly (none applies) - Preserve section structure and paragraph organization (none here) - Translate all content completely - do not omit any information

For Chinese names, the standard academic translation is to use the pinyin system. “刘建准” would be: - Liu Jianzhun (standard pinyin, family name first, given name second)

However, I need to check if there are any specific rules about name translation in the instructions. The glossary only mentions: 机器学习 => machine learning
深度学习 => deep learning

These don't apply here.

Since there are no tags in the input, I should just provide the translation directly. The output rules say: - Return ONLY the translated text for the given input (no

explanations, no quotes, no headings you invent). - Keep one output paragraph per input paragraph; do not merge or split paragraphs.

The input is just a name, not a paragraph. So I should just output the translated name.

The standard academic practice for Chinese names is: 1. Keep the family name first (Liu) 2. Capitalize the first letter of each part 3. Combine the given name into one word or hyphenate if appropriate

“刘建准” is: - 刘 (Liú) - family name - 建准 (Jiànzhǔn) - given name

In academic contexts, this is typically written as “Liu Jianzhun” or sometimes “Liu Jian-zhun” . The most common and standard format is “Liu Jianzhun” .

Since there are no, The user has provided a single Chinese phrase: “黄金凡” . This appears to be a name, likely a person’ s name. In Chinese names, the surname typically comes first, followed by the given name. “黄” (Huáng) is a common Chinese surname, and “金凡” (Jīnfán) would be the given name.

The instruction says: “You are a professional scientific translator specializing in academic papers. Translate from Simplified Chinese to English with the highest accuracy and academic tone.”

However, the input is just a name, not a scientific paper or paragraph. The critical requirements mention preserving LaTeX commands, placeholders, citation commands, and ...paragraph wrapper tags. But none of these are present in the input “黄金凡” .

The glossary provided only includes: 机器学习 => machine learning 深度学习 => deep learning

These are not relevant to translating a personal name.

For Chinese names in academic contexts, there are standard translation practices: 1. Use Hanyu Pinyin for transliteration 2. Capitalize the surname and given name 3. Optionally, put a space between surname and given name 4. Maintain the original order (surname first) unless following a specific style guide that reverses it

So “黄金凡” should be translated as “Huang Jinfan” or “Jinfan Huang” depending on the style guide. In most academic contexts, especially in English-language publications, Chinese authors often write their names with the surname last (Jinfan Huang) to conform to Western naming conventions. However, some publications maintain the original order.

Given that this is for academic translation and the user wants “highest accuracy and academic tone” , I should use the standard academic practice. In many Chinese academic papers published in English, authors often present their names as “Jinfan Huang”(given name first, surname last) to match Western conventions.

However, the name “黄金凡” could also be translated preserving the original order as “Huang Jinfan” . Both are acceptable in academic contexts, but “Jinfan Huang” is more common in English-language publications by Chinese authors.

Since the user hasn't provided any context about whether this is an author's name, a reference, or part of a larger text, and there are no tags or other structural elements, I should just provide the most standard academic translation of the name.

The most appropriate translation would be “Jinfan Huang, The user has provided a single word” 石密” which translates to “stone honey” or “rock honey” - a type of honey. However, the instructions say I'm a professional scientific translator specializing in academic papers, and I need to translate from Simplified Chinese to English with academic tone.

But “石密” is just one word. Let me think about the context. The user might be testing me, or this might be part of a larger document that got cut off. The instructions are very specific about preserving LaTeX, citations, and tags, but none of those are present here.

Given the strict instructions, I should: 1. Translate “石密” accurately 2. Use academic tone if possible 3. Not add any extra formatting 4. Not invent any tags since there are none in the input

“石密” (shí mì) is a traditional Chinese term for a type of honey, specifically honey that is harvested from wild bees in rocky cliffs or caves. In academic contexts, it might be referred to as “rock honey” or “cliff honey” . In some contexts, it could also be a mineral name, but the primary meaning is honey.

Since this is a single term and not a full paragraph with tags, I should just provide the translation directly without any wrapper tags, as the instructions say to preserve them only if they exist in the input.

The most appropriate academic translation would be “rock honey” or “cliff honey” . Let me check if there's a more technical term. In entomology/apiculture, it's often called “wild honey” or specifically “rock honey” . “Stone honey” is also used but less common.

Given the scientific context, I should probably use “rock honey” as it's the most direct and commonly used academic term.

But wait - the user might have intended to send a full document and only sent this word by mistake. However, I must work with what I'm given. The instructions are clear: “Return ONLY the translated text for the given input (no explanations, no quotes, no headings you invent).”

So I should just output: rock honey

Or perhaps more formally: “rock honey” (without quotes). Let me think about capitalization. Since it's a common noun phrase, it should be lowercase unless it's at the start of a sentence.

The input is just “石密” . No punctuation, no tags. So the output should be just the translation.

Final decision: rock

Date: 2023-11-07T00:00:00+00:00

Abstract

The user wants me to translate a Chinese academic abstract to English. Let me analyze the requirements:

1. This is a structured abstract with sections: [目的/意义], [方法/过程], [结果/结论]
2. I need to preserve academic tone and formal scientific writing style
3. I must use precise technical terminology based on the glossary provided
4. The output should be ONLY the translated text, no explanations or quotes
5. I need to maintain the paragraph structure - this appears to be one paragraph but with section markers
6. No LaTeX commands or math placeholders in this text, so that requirement is moot here
7. No citation commands in this text
8. No tags in this text, so I don't need to worry about that for this specific input

Let me translate each section carefully:

[目的/意义] - 目的 = Purpose - 意义 = Significance - 在线医疗 = online healthcare - 在线医疗社区 = online healthcare communities (or online medical communities) - 健康信息 = health information - 用户信息采纳行为 = user information adoption behavior - 影响因素 = influencing factors - 作用关系 = relationships among factors / mechanism - 长远健康发展 = long-term healthy development - 积极作用 = positive role / beneficial

Translation: [Purpose/Significance] With the rapid development of online healthcare, an increasing number of users are obtaining health information through online healthcare communities. Investigating the influencing factors of user information adoption behavior in online healthcare communities and their relationships plays a positive role in promoting the long-term healthy development of these communities.

[方法/过程] - 方法 = Method - 过程 = Process - UTAUT 模型 = UTAUT model (Unified Theory of Acceptance and Use of Technology) - 信息生态理论 = information ecology theory - 构建 = construct / develop - 理论研究模型 = theoretical research model - 问卷调查法 = questionnaire survey method - 结构方程模型法 = structural equation modeling (SEM) - 验证 = validate / verify - 有效性 = validity

Translation: [Method/Process] Based on the UTAUT model and combined with information ecology theory, a theoretical research model of influencing factors on user information adoption behavior in online healthcare communities was

constructed, and its validity was verified through questionnaire surveys and structural equation modeling.

[结果/结论] - 结果 = Results - 结论 = Conclusion - 信息质量 = information quality - 信息源可信度 = information source credibility - 绩效期望 = performance expectancy - 努力期望 = effort expectancy - 社会影响 = social influence - 正向影响 = positive influence / positive impact - 感知风险 = perceived risk - 负向影响 = negative influence / negative impact - 技术促进性 = facilitating conditions (or technology facilitating conditions) - 信息采纳意向 = information adoption intention - 信息采纳行为 = information adoption behavior - 直接对...产生正向影响 = directly have a positive impact on...

Translation: [Results/Conclusion] Information quality, information source credibility, performance expectancy, effort expectancy, and social influence have positive effects on user information adoption intention; perceived risk has a negative effect on adoption intention; facilitating conditions and information adoption intention directly have positive effects on information adoption behavior.

Let me refine the translation to make it more academic and natural:

For [Purpose/Significance]: - “随着在线医疗的快速发展” -> “With the rapid development of online healthcare” - “越来越多的用户使用在线医疗社区获取

Full Text

A Study on the Factors Influencing Information Adoption Behavior of Online Medical Community Users from the Perspective of Information Ecology

Liu Jianzhun, Huang Jinfan, Shi Mi

School of Economics and Management, Tianjin University of Technology, Tianjin 300387, China

Abstract

[Purpose/Significance] With the rapid development of online healthcare, an increasing number of users are turning to online medical communities to obtain health information. Investigating the factors that influence users' information adoption behavior in these communities and understanding their interrelationships can positively contribute to the long-term healthy development of online medical communities. [Method/Process] Based on the UTAUT model and integrated with information ecology theory, this study constructs a theoretical research model of the factors influencing users' information adoption behavior in online medical communities, and validates the model through questionnaire surveys and structural equation modeling. [Result/Conclusion] The results show that information quality, information source credibility, performance expectancy, effort expectancy, and social influence positively affect users' infor-

mation adoption intention; perceived risk negatively affects adoption intention; and facilitating conditions and information adoption intention directly and positively influence information adoption behavior.

Keywords: Information ecology; Online medical community; Information adoption; Influencing factors

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Author Information:

Liu Jianzhun (ORCID: 0000-0002-9939-1843), male, Professor, Ph.D., research interests include intelligence theory and methods, emergency management of public emergencies, Email: ljzxsnk@126.com.

Huang Jinan (ORCID: 0000-0002-6693-6894), female, Master’s student, research interests include public policy management, Email: 493091756@qq.com.

Shi Mi (ORCID: 0000-0003-1983-0533), female, Associate Professor, Ph.D., research interests include online communication and information management, positive organizational behavior, Email: 39021970@qq.com.

Introduction

The rapid advancement of modern Internet technology has brought new opportunities and developmental forms to the traditional healthcare industry. The emergence of online medical communities has enabled people to access relevant medical information resources more quickly and efficiently. As of December 2022, China’s online medical user base reached 363 million, accounting for 34% of all Internet users, making online medical applications the fastest-growing category in terms of user scale [?]. Online medical communities, as a new type of healthcare service platform in the Internet environment, allow patients and doctors to engage in interactive communication, share knowledge, achieve self-actualization, and obtain emotional and social support after registering as platform users. Against the backdrop of the “Healthy China Strategy” policy, understanding information adoption behavior in online medical communities has become a new research imperative.

Currently, scholars both domestically and internationally have conducted extensive research on user information behavior in online medical communities. Foreign scholars Peng et al. [?] conducted empirical analysis based on online surveys and surveys of 446 offline doctors, proving that the usefulness of online health information and doctors’ online guidance significantly affect patients’ trust in doctors and their interactions with them, and that patients’ online medical experiences have an important impact on their offline medical visits. Alasmari et al. [?] analyzed users’ online interaction behaviors in medical Q&A platforms and found that, compared with users suffering from a single disease, users with

multiple diseases are important contributors to online medical communities, as they tend to follow more topics or users, provide problem suggestions, and have more complex information needs. Lu Xinyi [?] empirically analyzed the impact of patients' information-seeking behavior, doctor-patient information interaction behavior, and patient information-sharing behavior in online medical communities on patient compliance. Lu Quan et al. [?] found that patients' consultation behaviors on medical service platforms are not entirely equivalent to their offline medical visit behaviors, and that patients' online medical behaviors are mainly influenced by the timeliness of doctors' responses and other users' evaluation feedback. Liu Rui et al. [?] discovered, based on structural equation modeling and fuzzy-set qualitative comparative analysis, that self-efficacy and behavioral control play important roles in doctors' knowledge contribution intentions, and that doctors' coping plans can further promote their contribution behaviors in medical communities. Through reviewing the above research findings, it is evident that studies on user information behavior in online medical communities have primarily focused on doctors' knowledge contribution behaviors and doctor-patient interaction behaviors. Research from the demand side (i.e., users) has mainly examined information-seeking/query behaviors, information consultation behaviors, and sharing behaviors, with relatively few studies on users' information adoption behavior.

This study attempts to address four questions: (1) What are the influencing factors of users' information adoption behavior in online medical communities? (2) From the perspective of information ecology, can a model of influencing factors for users' information adoption behavior in online medical communities be established? (3) What is the distribution of users' usage of online medical communities? (4) How can users' information adoption behavior in online medical communities be promoted based on the analysis of influencing factors? To address these research questions, this paper introduces information ecology theory to explore users' information adoption behavior in online medical communities from an information ecology perspective. It treats users, information, information environment, and information technology as an integrated whole, investigates the influencing factors of users' information adoption behavior, constructs a theoretical research model, and validates it using questionnaire surveys and structural equation modeling. This research can help online medical communities accurately grasp users' information needs and outcome expectations, thereby improving their information service quality and efficiency in a targeted manner, enhancing users' information adoption experiences and the communities' reputation, and increasing user engagement from the platform perspective.

1.1 Online Medical Communities

Online medical communities represent an extension of online communities into the healthcare and wellness domain, where users can share health information and knowledge, exchange disease management experiences, and engage in self-health management. Eysenbach et al. [?] define online medical communities as

virtual networks formed via the Internet by groups of non-medical professionals with common health-related interests, where people can interact, share experiences, ask questions, conduct health education activities, provide emotional and social support to each other, and promote changes in personal health behaviors. Demiris [?] views online medical communities as virtual communities based on Web 2.0 Internet technology, formed by people with shared goals or interests, where members actively participate to obtain and share medical information resources and collectively engage in healthcare and education-related activities. Wu Jiang et al. [?] point out that online medical communities can break through geographical and temporal constraints, bringing together large numbers of high-quality doctor and patient resources to achieve cross-regional flow of medical information resources and reduce health disparities. Li Yingying [?] considers online medical communities as health interactive consultation platforms involving patients, doctors, hospitals, and third-party operators.

Based on a comprehensive review of relevant literature, this paper defines the concept of online medical communities as: network communities that gather relevant experts in the healthcare field, users with similar or common health interests, and third-party operating platforms, unrestricted by geography or time, with health and medical information as the theme, to carry out interactive communication, information sharing, and emotional support activities.

1.2 Information Ecology

Information ecology is derived from the introduction of ecological theories and methods into the field of human social information activities. First proposed by foreign scholar Capurro [?], information ecology primarily utilizes the basic principles and methods of ecology to analyze the composition, characteristics, operating mechanisms, and developmental patterns of information ecosystems. An information ecosystem is an organic whole composed of information, information people, information environment, and information technology that are interconnected and interact with each other. Among these, information people are the core elements and occupy a dominant position; information is the object element; information environment is the sum of factors affecting information subjects and information media; and information technology is the technical support for information dissemination. The essence of an information ecosystem lies in the interconnection and interaction among these ecological elements. Currently, information ecology theory has been widely applied to numerous practical fields such as e-commerce, e-government, digital libraries, enterprise information, and network information to study information ecology issues within information ecosystems.

1.3 Information Adoption by Online Medical Community Users from an Information Ecology Perspective

Information adoption by online medical community users is a dynamic process in which users, driven by their own health needs, spontaneously and actively search

for and browse health information in online medical communities or consult online, then internalize useful health information through selection, evaluation, and analysis based on their cognitive structures and needs, and subsequently like, bookmark, share, forward, and utilize the adopted information. In other words, users acquire and utilize information within an ecosystem that uses online medical communities as tools, with information technology as support, and information acquisition and utilization carried out through information flows among information subjects. The information adoption process includes basic ecological elements such as information adoption subjects, information, information adoption technical means, and information adoption environment, with all elements interacting and influencing each other. Therefore, constructing a model of influencing factors for users' information adoption behavior in online medical communities from the perspective of information ecology, considering the harmonious development of information, information people, information environment, and information technology, can help improve the quality and efficiency of information services in online medical communities, promote smooth information flow, optimize the information adoption environment, enhance information technology, and guide and optimize users' information adoption behavior, enabling them to more efficiently pursue behavioral strategies that meet their health needs.

2.1 UTAUT Model

The UTAUT model (Unified Theory of Acceptance and Use of Technology) was proposed by foreign scholars Venkatesh et al. [?] when exploring the question of "factors influencing users' intention to use information technology." They argued that performance expectancy, effort expectancy, and social influence determine behavioral intention to adopt, while actual adoption behavior is primarily influenced by facilitating conditions. Additionally, four moderating variables—gender, age, experience, and voluntariness of use—are interfering factors.

With continuous research development, the UTAUT model has been increasingly applied to studies related to users' online technology adoption or acceptance behaviors. Foreign scholars Baptista et al. [?] combined the UTAUT model with Hofstede's cultural factors to construct a research model on factors influencing users' acceptance intention of mobile banking services in African countries. Alajmi et al. [?] combined the UTAUT model with the IS success model to construct a model of factors influencing users' intention to use digital library systems. Liu Wei [?] combined the UTAUT model with task-technology fit theory and added a trust perception variable to study factors influencing elderly users' continued use of social networking services. Zhu Duogang et al. [?] introduced perceived trust and self-efficacy into the UTAUT model to construct a public mobile government adoption model. Therefore, this paper selects the UTAUT model as the foundational framework for studying the influencing factors of users' information adoption behavior in online medical communities.

2.2.1 Influence of Information Dimension Factors on Users' Information Adoption Intention in Online Medical Communities

Online medical community platforms are filled with vast amounts of information, and how this information is accepted and adopted by users is related to the characteristics of the information itself. Users' perception of information usefulness is the fundamental prerequisite for information adoption. This paper categorizes information usefulness as an information dimension factor and further subdivides information dimension factors into information quality and information source credibility.

- (1) **Information Quality.** When users search for and browse relevant information in online medical communities or consult online based on their health needs, they pay greater attention to the information content itself. The higher the information quality, the greater the usefulness users perceive, and the higher their information adoption intention. Adjei et al. [?] subdivided information quality in online brand communities into relevance, frequency, timeliness, and duration of information, finding that the quality of information exchanged among customers was positively correlated with reduced information uncertainty, which in turn promoted customers' purchasing behavior. Xu Jiahui et al. [?] argued that higher information quality and stronger persuasiveness in shared service platforms enable consumers to develop positive cognitive responses to platform information content, thereby promoting information adoption.
- (2) **Information Source Credibility.** Information source credibility refers to the information receiver's perception of the trustworthiness of the information source, independent of the information itself. The higher the credibility of the information source, the higher the usefulness of the information. Qi Tuotuo et al. [?] divided information source credibility into the reputation, experience, and information completeness of knowledge producers, and found through studying users' knowledge payment behavior that higher credibility of knowledge producers more easily promotes users' knowledge payment behavior. Zha Xianjin et al. [?] demonstrated that users are more likely to have positive cognitive and emotional responses to academic information obtained from Weibo platforms with higher source credibility.

Based on the above research findings, the following hypotheses are proposed:

H1: Information quality positively influences users' information adoption intention in online medical communities.

H2: Information source credibility positively influences users' information adoption intention in online medical communities.

2.2.2 Influence of Information People Dimension Factors on Users' Information Adoption Intention in Online Medical Communities

“Performance expectancy” and “effort expectancy” in the UTAUT model refer to the degree to which users expect to achieve work performance and the effort they need to expend, reflecting users' subjective feelings. This paper categorizes performance expectancy and effort expectancy as information people dimension factors, while adding users' perceived risk factor.

- (1) **Performance Expectancy.** If users believe that using online medical communities can meet their health needs or help with their own health management, they are more willing to invest more time and energy in using online medical communities, which helps enhance their subsequent health information adoption. Hu Dehua et al. [?] considered performance expectancy mainly as the perception of usefulness, which positively influences college students' intention to use health-related apps. Su Tingting [?] constructed a model of factors influencing the behavioral intention of new-generation users of mobile short-video apps based on the UTAUT model, and found through empirical analysis that performance expectancy, perceived entertainment, and richness of information expression significantly and positively influence new-generation users' behavioral intention toward mobile short-video apps.
- (2) **Effort Expectancy.** Generally, the less effort and difficulty users perceive when using online medical communities to adopt and obtain information, the greater the influence on their information adoption behavioral intention, and the more likely they are to accept or develop intention for continued use of online medical communities. Zhang Jin [?] found in studying users' continued use intention of mobile payment that users' perceived effort expectancy positively influences their continued use intention. Wu Shijian et al. [?] considered effort expectancy mainly as users' perception of the ease of use of academic virtual community websites, which can improve the efficiency of knowledge exchange among users and enhance their willingness to share knowledge and continue using academic virtual community websites.
- (3) **Perceived Risk.** While obtaining health information through online medical communities demonstrates convenience, it also involves many potential risks, often related to time, finance, physical health, privacy, and psychology. The greater the perceived risk of information in online medical community platforms, the lower the perceived expectation, and uncertainty factors can turn users' information adoption behavior into a risk-taking activity. Deng et al. [?] pointed out that in social media websites, consumers' perceived health risk significantly negatively influences their behavioral intention to seek health information. Li et al. [?] noted in studying factors influencing individuals' adoption of medical wearable devices that if an individual's perceived benefits are higher than their

perceived privacy risks, they are more likely to adopt the device, and vice versa.

Based on the above research findings, the following hypotheses are proposed:

H3: Performance expectancy positively influences users' information adoption intention in online medical communities.

H4: Effort expectancy positively influences users' information adoption intention in online medical communities.

H5: Perceived risk negatively influences users' information adoption intention in online medical communities.

2.2.3 Influence of Information Environment Dimension Factors on Users' Information Adoption Intention in Online Medical Communities

"Social influence" in the UTAUT model refers to the degree to which an individual perceives that important others believe he or she should use the new system. This paper categorizes social influence as an information environment dimension factor. When users' family members or important people believe they should use online medical communities to understand, obtain, and adopt health information, or when surrounding hospitals and social media also promote online medical communities, making their use a new medical trend, users will develop strong intention to use and adopt. Liu Jinda et al. [?] proved that influenced by surrounding people and Internet trends, users are more willing to use online office apps to complete work compared to traditional office methods. Shi Tingting [?] proposed that social influence positively influences individuals' adoption intention of academic social website resources.

Based on the above research findings, the following hypothesis is proposed:

H6: Social influence positively influences users' information adoption intention in online medical communities.

2.2.4 Influence of Information Technology Dimension Factors on Users' Information Adoption Behavior in Online Medical Communities

"Facilitating conditions" in the UTAUT model refers to the degree to which users have the organizational resources and technical infrastructure to support system use. Venkatesh et al. [?] believed that facilitating conditions do not influence users' behavioral intention to use but rather affect users' actual usage behavior. This paper categorizes facilitating conditions as information technology dimension factors. Lallmahomed et al. [?] empirically found that facilitating conditions significantly and positively influence users' Facebook system usage behavior. Tang Zhiwei et al. [?] discovered that during the COVID-19 pandemic, the subjective and objective technical assistance conditions possessed by the public positively influenced their use of government short videos. Wang Jia [?] studied factors influencing junior high school students' online learning be-

havior in SPOC environments, with results showing that facilitating conditions positively influence junior high school students' online learning behavior and satisfaction.

Based on the above research findings, the following hypothesis is proposed:

H7: Facilitating conditions positively influence users' information adoption behavior in online medical communities.

2.2.5 Influence of Information Adoption Intention on Users' Information Adoption Behavior in Online Medical Communities

Behavioral intention is the subjective intention demonstrated by users to use a certain system or technology, and users' usage behavioral intention has a significant positive impact on their actual usage behavior. Information adoption intention is an important antecedent affecting users' actual adoption behavior, and users' actual adoption behavior probability can be predicted and judged through adoption intention. Kim et al. [?] found that IT users' usage attitude and behavioral intention positively influence their actual usage behavior, emphasizing the importance of the influence of users' behavioral intention on actual behavior. Turan [?] considered consumers' personal behavioral intention as the main determining factor of their actual online shopping behavior. Peng Zhen et al. [?] constructed a model of factors influencing WeChat official account information adoption behavior based on the ELM model and UTAUT model, and empirically demonstrated that users' adoption willingness significantly and positively influences their actual adoption behavior.

Based on the above research findings, the following hypothesis is proposed:

H8: Information adoption intention positively influences users' information adoption behavior in online medical communities.

2.3 Model Construction

Based on the above research, this paper constructs a model of influencing factors for users' information adoption behavior in online medical communities from four dimensions—information, information people, information environment, and information technology—by integrating information ecology theory with the UTAUT model, as shown in Figure 1 [Figure 1: see original paper].

3.1 Questionnaire Design

This study employs empirical research methods to investigate users' information adoption behavior in online medical communities. The measurement scales for each variable in the theoretical model primarily reference mature scales from foreign research and are modified according to the characteristics and actual conditions of online medical communities to form the measurement scales for this paper. The questionnaire consists of two parts: the first part covers respondents' basic personal information, and the second part investigates the influencing factors of users' information adoption behavior in online medical

communities. A 5-point Likert scale is used for measurement, involving 9 variables and 37 measurement items. Each item comprises a set of statements, where 1 represents “strongly disagree,” 2 represents “disagree,” 3 represents “neutral,” 4 represents “agree,” and 5 represents “strongly agree.” To ensure the rationality of the questionnaire and the readability of the measurement questions, a small-scale pre-survey was conducted to delete and modify unclear expressions, incomplete measurement questions, and ambiguous items, resulting in the formal questionnaire, which was distributed on a large scale in October 2022.

3.2 Sample Selection and Rationale

This study focuses on users’ information adoption behavior in online medical communities, requiring that survey respondents must be people who have used online medical communities. During the survey process, the first question asked, “Have you ever used an online medical community (not limited to a specific community, any one is acceptable)?” If respondents selected “No,” the questionnaire would be completed immediately and they could not proceed to subsequent questions, thereby ensuring that all surveyed subjects had experience using online medical communities and guaranteeing the validity and reliability of the collected questionnaire data. The formal questionnaire was primarily distributed online through various channels, including the Haodf.com discussion forum on Baidu Tieba, health forum discussion boards, Q&A sections in Ping An Health Community, health-related WeChat/QQ groups, and comment sections of community WeChat official accounts such as DXY.cn and Chunyu Doctor. Friends in health exchange groups were also invited to forward the questionnaire to obtain sufficient sample size through snowball sampling. A total of 658 questionnaires were collected in the formal survey, and 71 invalid questionnaires were eliminated, including those with “No” selected for the first question and those with completion times less than 100 seconds, resulting in 587 valid questionnaires. The descriptive statistical results of the sample are shown in Table 1.

3.4 Reliability and Validity Analysis

Based on the collected questionnaire data, the KMO value for the online medical community users’ information adoption behavior influencing factors questionnaire was found to be 0.949, which is greater than 0.9, and the Bartlett’s test significance P-value was 0.000, indicating that the original variables are suitable for factor analysis. The Cronbach’s alpha coefficient for the online medical community users’ information adoption behavior influencing factors scale was 0.914, and the Cronbach’s alpha coefficients for most variables were above 0.8, indicating that the scale has good internal consistency.

3.5 Confirmatory Factor and Model Testing

This study uses AMOS 26.0 to validate the constructed theoretical conceptual model and calculates path estimates through SPSS and AMOS, as shown in Figure 3 [Figure 3: see original paper]. According to the data analysis results (as shown in Table 2), all model fit index statistical values meet the fitting standards, indicating that the conceptual model of this study fits well with the survey data, and the conceptual model setting is reasonable.

3.6 Parameter Estimation and Hypothesis Testing

Maximum likelihood estimation was used to conduct path analysis on the theoretical research model, with data analysis results shown in Table 3. As shown in Table 3, the absolute values of C.R. for all research hypotheses are higher than 1.96, and except for hypothesis H2 with a P-value of 0.002, the P-values for the remaining seven research hypotheses are all less than 0.001, indicating that all research hypotheses in this paper have passed the hypothesis tests.

4 Discussion and Analysis

The above data analysis results indicate that the theoretical model constructed in this study has a reasonable structure, and all eight research hypotheses have been validated. The key factors influencing users' information adoption behavior in online medical communities, ranked by degree of influence from largest to smallest, are: information adoption intention, facilitating conditions, performance expectancy, effort expectancy, information quality, social influence, perceived risk, and information source credibility. Except for facilitating conditions, the remaining six influencing factors indirectly affect actual adoption behavior through the mediating role of users' information adoption intention. The specific discussion and analysis of influencing factors are as follows.

4.1 Influence of Information Dimension Factors on Users' Information Adoption Intention in Online Medical Communities

The influence coefficient of information quality on users' information adoption intention in online medical communities is 0.195, with the P-value reaching the 0.001 significance level, indicating that information quality positively influences users' information adoption intention. Meanwhile, comparative analysis of user comment data from different online medical communities during the same period shows that information timeliness and relevance have the greatest impact on users' information adoption intention. Additionally, this study uses SPSS 26.0 for difference analysis and finds significant differences in information quality cognition among users of different ages, education levels, and occupations, with female users generally scoring higher than male users. Different types of users in online medical communities have certain differences in obtaining and adopting health information, and users' subjective feelings about information quality affect whether they adopt it. High-quality information can not only meet users'

health needs and provide relevant health guidance but also enrich users' cognitive structures and satisfy their emotional needs. Therefore, consistently providing high-quality information services is key to the sustainable development of online medical communities, and timely updating and pushing information that users are interested in while continuously enhancing information usefulness are also necessary choices for online medical communities to continuously expand their user base and achieve quality development.

The influence coefficient of information source credibility on users' information adoption intention in online medical communities is 0.131, with the P-value reaching the 0.01 significance level, indicating that information source credibility positively influences users' information adoption intention. Meanwhile, comparative analysis of user comment data from different online medical communities during the same period shows that users' information adoption intention is mainly influenced by the trustworthiness, authenticity, professionalism, and reliability of information sources. This research conclusion aligns with Hovland's research on attitude persuasion, which suggests that information acceptance (persuasion) depends on information source credibility, which in turn is constrained by the reliability and professionalism of the information source. Generally, users' perception of information reliability comes not only from their perception of information content accuracy, comprehensiveness, relevance, and timeliness but also from their perception of the professionalism and reliability of the information source. Kim et al. [?] believe that people often rely on certain social cues when judging information source credibility, such as making selection judgments based on information that reflects group opinions, like certain information comments or ratings. The higher the information source credibility, the more inclined users are to adopt the information.

4.2 Influence of Information People Dimension Factors on Users' Information Adoption Intention in Online Medical Communities

The influence coefficient of performance expectancy on users' information adoption intention in online medical communities is 0.235, with the P-value reaching the 0.001 significance level, indicating that performance expectancy positively influences users' information adoption intention. In this study, users' performance expectancy in adopting information is mainly manifested in expectations that online medical communities can help them obtain health information or services, improve health information acquisition efficiency, meet their health needs, and assist in their health management decision-making. Therefore, performance expectancy is mainly users' own cognition of the "usefulness" of online medical communities and the information within them, which is not entirely equivalent to the actual content quality and practical use value of the information. Thus, how to improve users' cognitive level, judgment ability, and sensitivity to health information through various channels is an important aspect of promoting the efficiency of users' information adoption behavior.

The influence coefficient of effort expectancy on users' information adoption in-

tention in online medical communities is 0.218, with the P-value reaching the 0.001 significance level, indicating that effort expectancy positively influences users' information adoption intention. In this study, users' effort expectancy is mainly manifested in the convenience of using online medical communities and obtaining information, the smoothness of information acquisition, and the degree of operational interactivity. If users perceive high efficiency and convenience when obtaining and utilizing information in online medical communities, they will have positive cognitive reactions that promote their further actual information adoption behavior; conversely, they will have negative cognitive reactions and unconsciously develop resistance during the health information acquisition and adoption process. Therefore, how to improve users' experience and ease-of-use cognition is particularly important in today's user-centered information dissemination era, and how to improve the ease of use of online medical communities and demonstrate their convenient advantages can be regarded as the current optimization direction for online medical communities.

The influence coefficient of perceived risk on users' information adoption intention in online medical communities is -0.182, with the P-value reaching the 0.001 significance level, indicating that perceived risk negatively influences users' information adoption intention. In this study, the risks of users' information adoption in online medical communities mainly include time risk, privacy risk, physical risk, financial risk, and psychological risk. Comparative analysis of user comment data from different online medical communities during the same period shows that financial risk, personal privacy risk, and users' own psychological anxiety have relatively critical impacts on users' information adoption intention. Regarding time risk, users worry about wasting time in the process of browsing, evaluating, and judging information; regarding financial risk, users worry about encountering arbitrary charges when obtaining certain health management services, causing financial losses; regarding privacy risk, users worry about the leakage of their personal information and health factors and thus refuse to use and adopt; regarding psychological risk, users worry about developing psychological anxiety after browsing numerous health information items; regarding physical risk, it refers to the harm to physical health caused by users adopting incorrect information. During the information adoption process, users' perception and assessment of risks greatly influence their adoption intention and actual information adoption behavior. Therefore, reducing users' risk perception and improving their information adoption intention are the main tasks of online medical communities.

4.3 Influence of Information Environment Dimension Factors on Users' Information Adoption Intention in Online Medical Communities

The influence coefficient of social influence on users' information adoption intention in online medical communities is 0.191, with the P-value reaching the 0.001 significance level, indicating that social influence positively influences users' infor-

mation adoption intention. Meanwhile, there are significant differences in social influence cognition among users of different age groups. Online medical community users are all individuals in certain social groups, and the influence of the surrounding social environment and groups will have a certain impact on their information adoption in online medical communities. During the information adoption process, due to herd mentality, users will follow the steps of surrounding family members or friends to choose to adopt health information. Whether the influence of surrounding interpersonal relationships, work and study atmosphere, and social living environment is conducive to stimulating users' positive attitudes toward adopting online medical community information and motivating users' information adoption behavior will become one of the bases for users' information adoption decision-making. Therefore, creating a good community communication environment, expanding the scope of health information dissemination, and establishing a good reputation are current efforts needed by online medical communities.

4.4 Influence of Information Technology Dimension Factors on Users' Information Adoption Behavior in Online Medical Communities

The influence coefficient of facilitating conditions on users' information adoption behavior in online medical communities is 0.356, with the P-value reaching the 0.001 significance level, indicating that facilitating conditions positively influence users' information adoption behavior. In this study, facilitating conditions refer to the degree of existing technical resource conditions and equipment support for users to achieve information adoption, as well as the degree of technical condition support of online medical communities. Comparative analysis of user comment data from different online medical communities during the same period shows that community functional disorders, page layout, and service efficiency have relatively critical impacts on users' information adoption behavior. Generally, users use online medical communities and adopt information through clients such as mobile phones, tablets, or computers, and the smoothness and stability of users' existing technical support conditions will have a certain impact on their information adoption. Additionally, users' subjective feelings about various functional services, health function modules, manual services, and applied technologies in online medical communities when adopting information will also affect their information adoption. Therefore, smooth and stable user technical support equipment and good technical experience of online medical communities are more conducive to users' health information searching, selection, evaluation, adoption, and utilization.

4.5 Influence of Information Adoption Intention on Users' Information Adoption Behavior in Online Medical Communities

The influence coefficient of information adoption intention on users' information adoption behavior in online medical communities is 0.524, with the P-value reaching the 0.001 significance level, indicating that users' information adoption

intention in online medical communities positively influences their information adoption behavior and has the highest influence on actual adoption behavior. Meanwhile, comparative difference analysis finds significant differences in information adoption intention cognition among users of different genders and ages. Users' behavioral intention affects their actual behavior of adopting and utilizing health information. In the process of users' information adoption behavior, their behavioral intention and actual behavior are not completely separate, and users' actual adoption behavior can be measured and predicted through their behavioral intention. In this study, information adoption intention plays a good mediating role, with information quality, information source credibility, performance expectancy, effort expectancy, perceived risk, and social influence all affecting adoption behavior through adoption intention. This conclusion is consistent with the UTAUT model's conclusion that behavioral intention has a direct impact on actual behavior. The stronger users' intention to adopt health information in online medical communities, the higher the likelihood of actual information adoption behavior.

4.6 Optimization Strategies for Online Medical Community Information Services

Through relevant literature review and empirical research analysis, this study has explored the factors influencing users' information adoption behavior in online medical communities and obtained some enlightening research conclusions. Based on the discussion and analysis of the research results, this study proposes corresponding optimization strategies from the perspectives of individual online medical community users, relevant government departments, and online medical community platforms. First, for individual users of online medical communities, they should continuously strengthen their health literacy, develop good information self-discipline behaviors, and emphasize information practice exercises to improve their information selection and judgment abilities and sensitivity to health information. For government health departments, they should strengthen supervision of Internet healthcare to create a good social public opinion atmosphere. For online medical community platforms, they should be user-centered, focus on user demand orientation, meet users' diverse expectations, and simultaneously emphasize protecting users' privacy and security to reduce users' risk perception. In terms of technical performance, they should regularly optimize the interface function design of community platforms and improve service efficiency levels. In terms of information resource construction, they should continue to improve and optimize community information content, enhance information resource quality and information source quality, and improve overall medical service capabilities.

5 Research Conclusions

This paper focuses on introducing information ecology theory into the study of information adoption behavior in online medical communities, dividing the

influencing factors of users' information adoption behavior in online medical communities into information people dimension, information dimension, information environment dimension, and information technology dimension. It also combines the UTAUT model to construct a model of influencing factors for users' information adoption behavior in online medical communities, which not only provides a new research perspective for information adoption behavior in online medical communities but also enriches the theoretical research system of information adoption behavior in online medical communities. The practical value of this paper lies in using questionnaire surveys and structural equation modeling to validate the constructed conceptual model. Data analysis results show that information quality, information source credibility, performance expectancy, effort expectancy, and social influence all have positive effects on users' information adoption intention in online medical communities; perceived risk has a negative effect on information adoption intention; facilitating conditions and information adoption intention directly and positively influence users' actual information adoption behavior in online medical communities; users' information adoption intention is the primary factor influencing their actual information adoption behavior; and information quality, information source credibility, performance expectancy, effort expectancy, perceived risk, and social influence can all affect information adoption behavior through information adoption intention, which plays a good mediating role.

This study also has certain limitations. The theoretical research model only selected variables considered important for analysis, and future research could consider adding research variables such as perceived cost, perceived trust, and community atmosphere for investigation. Additionally, the survey population in this study was mainly young people, with uneven distribution across other age groups. However, as the influence of online medical communities continues to expand, different age groups are paying increasing attention to online healthcare. Future research could expand the survey scope when time and resources are sufficient, and conduct studies on information adoption behavior of different user groups to provide more targeted and humanized suggestions for optimizing information services in online medical communities.

References

- [1] China Internet Network Information Center. The 51st Statistical Report on China's Internet Development [R/OL]. (2023-03-02) [2023-07-22]. <https://www.cnnic.cn/n4/2023/0303/c88-10757.html>.
- [2] Peng Y, Yin P, Deng Z, et al. Patient-physician interaction and trust in online health community: The role of perceived usefulness of health information and services [J]. *International Journal of Environmental Research and Public Health*, 2020, 17(1): 139.
- [3] Alasmari A, Zhou L. How multimorbid health information consumers interact in an online community Q&A platform [J]. *International Journal of Medical Informatics*, 2019, 131: 103958.
- [4] Lu Xinyi. Research on the Impact of Patient Information Behavior in Online Medical Communities on Patient Compliance [D]. Beijing: Beijing Jiaotong

University, 2021.

- [5] Lu Quan, Li Yishi, Chen Jing, et al. Research on Influencing Factors of Patient Doctor Selection Behavior in Online Medical Communities [J]. Library and Information Service, 2019, 63(8): 87-95.
- [6] Liu Rui, Yu Jiaqi. Research on Influencing Factors of Doctors' Knowledge Contribution Behavior in Online Medical Communities—Based on SEM and fsQCA Methods [J]. Information Science, 2022, 40(3): 45-54, 62.
- [7] Eysenbach G, Powell J, Englesakis M, et al. Health related virtual communities and electronic support groups: systematic review of the effects of online peer to peer interactions [J]. British Medical Journal, 2004, 328(7449): 1166.
- [8] Demiris G. The diffusion of virtual communities in health care: Concepts and challenges [J]. Patient Education & Counseling, 2006, 62(2): 178-188.
- [9] Wu Jiang, Zhou Lusha. Cross-regional Flow of Medical Information Resources: Research on the Role of Online Medical Communities in Optimizing Medical Resource Allocation [J]. Journal of Information Resources Management, 2017, 7(4): 58-65, 85.
- [10] Li Yingying. Research on Influencing Factors of Doctor Service Prices in Online Medical Communities [D]. Harbin: Harbin Institute of Technology, 2016.
- [11] Capurro R. Towards an information ecology [C]// Wormell I. Information quality: definitions and dimensions. London: Taylor Graham, 1990: 122-139.
- [12] Venkatesh V, Morris M G, Davis G B, et al. User acceptance of information technology: Toward a unified view [J]. MIS Quarterly, 2003, 27(3): 425-478.
- [13] Baptista G, Oliveira T. Understanding mobile banking: The unified theory of acceptance and use of technology combined with cultural moderators [J]. Computers in Human Behavior, 2015, 50: 418-430.
- [14] Alajmi M A, Alotaibi J H. Reconceptualization of system use in the context of the digital library: What are the roles of UTAUT and IS success models? [J]. Journal of Electronic Resources Librarianship, 2020, 32(3): 151-181.
- [15] Liu Wei. Research on Elderly Users' Social Networking Service Adoption Behavior Based on Extended TTF and UTAUT Models [J]. Soft Science, 2015, 29(3): 120-124.
- [16] Zhu Duogang, Guo Junhua. Mobile Government Adoption Model and Empirical Analysis Based on UTAUT Model [J]. Information Science, 2016, 34(9): 138-143.
- [17] Adjei M T, Noble S M, Noble C H. The influence of C2C communications in online brand communities on customer purchase behavior [J]. Journal of the Academy of Marketing Science, 2010, 38(5): 634-653.
- [18] Xu Jiahui, Li Quanxi, Zhang Jian. Analysis of the Impact of Shared Service Platform Information Quality on Consumer Information Adoption Behavior and Research on Improvement Strategies [J]. Information Science, 2019, 37(5): 148-154.
- [19] Qi Tuotuo, Bai Ruyu, Wang Tianmei. Research on Knowledge Payment Behavior Based on Information Adoption Model—The Moderating Effect of Product Type [J]. Data Analysis and Knowledge Discovery, 2021, 5(12): 60-73.
- [20] Zha Xianjin, Zhang Jinchao, Yan Yalan. Research on Influencing Factors

- of Users' Academic Information Seeking Behavior in Weibo Environment—Dual-path Perspective of Information Quality and Source Credibility [J]. *Journal of Library Science in China*, 2015, 41(3): 71-86.
- [21] Hu Dehua, Zhang Yanfei. Research on Influencing Factors of College Students' Health App Usage Based on UTAUT Model [J]. *Library*, 2019(3): 65-71.
- [22] Su Tingting. Research on Influencing Factors of New-generation Users' Behavioral Intention Toward Mobile Short-video Apps [D]. Guangzhou: Jinan University, 2018.
- [23] Zhang Jin. Empirical Research on Influencing Factors of Users' Continued Use Intention of Mobile Payment Based on UTAUT Model [D]. Dalian: Dongbei University of Finance and Economics, 2016.
- [24] Wu Shijian, Liu Guoxin, Quan Ying. Research on Knowledge Sharing Behavior in Academic Virtual Communities Based on UTAUT Model—The Moderating Role of Perceived Knowledge Advantage [J]. *Modern Information*, 2019, 39(6): 48-58.
- [25] Deng Z H, Liu S. Understanding consumer health information-seeking behavior from the perspective of the risk perception attitude framework and social support in mobile social media websites [J]. *International Journal of Medical Informatics*, 2017, 105: 98-109.
- [26] Li H, Wu J, Gao Y W, et al. Examining individuals' adoption of healthcare wearable devices: An empirical study from privacy calculus perspective [J]. *International Journal of Medical Informatics*, 2016, 88: 8-17.
- [27] Liu Jinda, Li Quanxi, Wang Jun. Research on Influencing Factors of Users' Usage Behavior of Online Office Apps Based on UTAUT Model [J]. *Information Science*, 2020, 38(9): 49-55, 68.
- [28] Shi Tingting. Research on Users' Adoption Behavior of Academic Social Websites Based on UTAUT Model [J]. *New Century Library*, 2019(12): 46-52.
- [29] Lallmahomed M, Rahim N A, Ibrahim R, et al. Predicting different conceptualizations of system use: Acceptance in hedonic volitional context (Facebook) [J]. *Computers in Human Behavior*, 2013, 29(6): 2776-2787.
- [30] Tang Zhiwei, Zhao Di, Luo Yiha. Empirical Research on Public Use of Government Short Videos in Public Crisis Events—Based on COVID-19 Pandemic [J]. *E-Government*, 2020(8): 2-14.
- [31] Wang Jia. Research on Influencing Factors of Junior High School Students' Online Learning Behavior in SPOC Environment [D]. Kaifeng: Henan University, 2019.
- [32] Kim Y J, Chun J U, Song J. Investigating the role of attitude in technology acceptance from an attitude strength perspective [J]. *International Journal of Information Management*, 2009, 29(1): 67-77.
- [33] Turan A H. Internet shopping behavior of turkish customers: Comparison of two competing models [J]. *Journal of Theoretical and Applied Electronic Commerce Research*, 2012, 7(1): 77-93.
- [34] Peng Zhen, Duan Zhengliang, He Xiaorong, et al. Influencing Factors of Users' Information Adoption Behavior in Tourism WeChat Official Accounts—An Integrated Analysis Based on ELM and UTAUT [J]. *Journal of Fujian*

Agriculture and Forestry University (Philosophy and Social Sciences Edition), 2019, 22(4): 99-106.

[35] Kim S, Oh S. Users' relevance criteria for evaluating answers in a social Q&A site [J]. Journal of the American Society for Information Science and Technology, 2009, 60(4): 716-727.

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