Factors Influencing Users' Continuance Intention towards Public Library Health Information Service Platforms

Shuqi Li

Business College, Southwest University, Chongqing, 402460, China

Abstract: *With the deepening implementation of the Healthy China strategy and the continuous growth of public demand for health information, public libraries, as vital social knowledge service institutions, have identified the development and promotion of health information service platforms as a key initiative to enhance their service effectiveness. Adopting a user-centric perspective, this study investigates the factors influencing users' continuance intention towards these platforms. The findings indicate that information quality significantly and positively influences perceived usefulness; service quality significantly and positively influences user satisfaction; system quality significantly and positively influences continuance intention; perceived usefulness significantly and positively influences continuance intention; and user satisfaction significantly and positively influences continuance intention. This research provides a practical basis for public libraries to optimize health information services and enhance user retention, offering valuable insights for promoting service innovation in public libraries and the dissemination of health information.*

Keywords: *Public Libraries; Health Information Service Platform; Continuance Intention; Influencing Factors; ECM-ISC Model*

1. Introduction

According to the 49th Statistical Report on Internet Development in China[1], the online health user base in China demonstrated significant growth by the end of 2021, reaching a total scale of 298 million users—accounting for nearly 29% (28.9%) of the total internet user population. Further surveys indicate that a substantial 78.5% of the public express willingness to utilize public libraries for accessing health knowledge and professional information. In response to this trend, public libraries have progressively integrated health information services into their routine service systems, positioning such services as one of their core functions.

A major impetus behind this development stems from the macro-level guidance of the "Healthy China 2030" Plan Outline (issued in 2016 by the Central Committee of the Communist Party of China and the State Council), which identifies "co-construction and shared benefits, and health for all" as its core strategic goal. As pivotal hubs of societal information resources, public libraries have undergone significant role transformation accordingly. Particularly in the health information domain, given the public's rising demand for authoritative and high-quality health content, the health information service platforms established by public libraries have become crucial bridges connecting the public with scientifically sound health knowledge. However, despite the increasing number of such platforms in practice, attracting users and sustaining their long-term engagement remains a considerable challenge.

This study aims to conduct an in-depth investigation into the key factors influencing users' continuance intention toward public library health information service platforms. In light of the current literature's limited exploration of the mechanisms underlying continuance intention in the context of health information platforms, this research takes users of public library health information service platforms as the study population. Grounded in the Expectation-Confirmation Model of IS Continuance (ECM-ISC), a model of users' continuance intention is constructed. Through empirical analysis, the study seeks to propose targeted strategies for enhancing the capabilities of library health information service platforms, with the objective of providing theoretical reference and practical guidance for library administrators to optimize service design and improve user satisfaction and loyalty.

2. Theoretical Foundation and Model Construction

2.1 Theoretical Basis

Oliver (1989) proposed the Expectation-Confirmation Theory (ECT), which explores the relationship between an individual's expectations regarding a product or service and their subsequent perceptions of its performance. However, Bhattacherjee identified limitations in ECT. Consequently, Bhattacherjee integrated and adapted ECT using the Technology Acceptance Model (TAM), proposing the Expectation-Confirmation Model of IS Continuance (ECM-ISC)[2]. This model posits that confirmation positively influences perceived usefulness, satisfaction is influenced by both perceived usefulness and confirmation, and both satisfaction and perceived usefulness positively affect continuance intention. Since its introduction, the ECM-ISC model has been extensively empirically validated. For instance, Liang Shijin and Liang Changyi et al. applied the ECM-ISC model to study users' continuance intention regarding fragmented reading on social media and university students' continuance intention towards job-hunting apps, respectively; their results supported all hypothesized variable relationships.

Both the ECM-ISC model and the aforementioned studies align with the present research. Firstly, the ECM-isc ISC model emphasizes users' post-adoption intentions and behaviors rather than focusing solely on initial use or behavioral intention, which is consistent with the focus of this study. Secondly, regarding the research topic, this study shares similarities with the cited works, as all investigate the continuance intention of users on online platforms. Therefore, this study contends that the ECM-ISC model is also suitable for investigating public continuance intention regarding "internet + government service" platforms.

The technology acceptance model (TAM), introduced by American scholar Davis in 1989, identifies users' internal perceptions as key factors influencing their intention to use an information system and establishes relationships between these variables[3]. Derived from the Theory of Reasoned Action, TAM is a foundational model for studying user adoption of information technology or systems. Its two most important constructs are Perceived Usefulness (the degree to which a user believes that using a specific system would enhance their job performance or effectiveness) and Perceived Ease of Use (the degree to which a user believes that using a particular system would be free from effort). As a classic model for studying user intention regarding information systems and new technologies, TAM helps identify shortcomings and areas for improvement in information systems or new technologies from the user's perspective.

2.2 AISAS Model

The AISAS model is a research method for quantitatively analyzing user consumption behavior within the context of the network economy, developed by the Japanese company Dentsu Inc. in 2005. It is an enhanced version of the AIDMA model (Attention, Interest, Desire, Memory, Action) proposed by American advertising scholar Lewis, offering a more accurate depiction of the processes by which online consumers acquire, process, and share information. The AISAS model comprises two types of independent variables, two types of dependent variables, and one type of control variable. The independent variables are "Attention (subjective cognition)" and "Interest (psychological preference)." These variables not only vividly reveal user consumption expectations, purchase motivations, and participation intentions but also objectively reflect users' deeper consumption value perceptions. The dependent variables are "Search (active inquiry)" and "Action (decision-making behavior)." These variables result from the combined effect of "subjective cognition" and "psychological preference," systematically explaining the internal mechanisms of user consumption decisions. The control variable is "Share (experience sharing)," which exerts a positive moderating effect on the relationship between the independent and dependent variables[4].

2.3 Construction of the Influencing Factors Model for User Continuance Intention

Using TAM and the AISAS model as the research framework, this study introduces "Subjective Cognition," "Psychological Preference," "Experience Sharing," "Perceived Ease of Use," and "Perceived Usefulness" as independent variables, and "Usage Intention" and "User Behavior" as dependent variables[5]. It constructs a model of the factors influencing user intention to use library health information service platforms. This aims to investigate the factors influencing public library health information service platform users' continuance intention within the context of the Healthy China development strategy.

3. Research Hypotheses

3.1 Subjective Cognition

In research on users' subjective cognition of information technology, M. Brucks categorized it into subjective knowledge and objective knowledge. Subjective knowledge refers to users' confidence in their understanding of a specific information technology, while objective knowledge denotes their actual knowledge reserve. Existing studies indicate that users' confidence in their own knowledge positively influences their behavioral intentions. Within the context of this study, subjective cognition refers to users' self-perceived understanding of the library's health information service platform. This cognition, based on users' subjective awareness, can influence their behavioral intentions and, consequently, their usage behaviors. Based on this, the following hypotheses are proposed:

H1: Subjective cognition has a positive impact on perceived usefulness.

H2: Subjective cognition has a positive impact on perceived ease of use.

3.2 Psychological Preference

As a deep-seated psychological trait, user psychological preference significantly guides individuals' choices in health information acquisition paths. In this study, psychological preference specifically refers to users' inclination, influenced by factors such as personal interests, habits, and professional background, towards selecting particular types of health information resources or preferring specific modes of information reception. Particularly in the digital information era, users increasingly favor convenient information access methods and actively participate in library digital health service projects that align closely with their preferences. Based on this analysis, the following hypotheses are proposed:

H3: Psychological preference has a positive impact on perceived usefulness.

H4: Psychological preference has a positive impact on perceived ease of use.

3.3 Experience Sharing

Experience sharing can be viewed as a form of social influence, where individual behaviors and attitudes tend to align with the prevailing norms within a social group due to perceived social pressure. In this study's context, experience sharing refers to the phenomenon where some users, after using the library's health information services, express their satisfaction—via face-to-face communication or social media posts—regarding services such as basic collection searches, book reservations, reference inquiries, and activity bookings provided by public libraries. They share these usage experiences with potential users who have not yet used the platform, thereby providing decision-making references. Based on this, the following hypotheses are proposed:

H5: Experience sharing among users has a positive impact on perceived usefulness.

H6: Experience sharing among users has a positive impact on perceived ease of use.

3.4 Perceived Ease of Use

Perceived ease of use is a determinant factor in TAM, reflecting the degree to which a user believes that using a particular technology or system would be free of effort. The easier a technology or system is to understand and operate, the more likely users are to adopt it. For public library health information service platforms, lower operational complexity leads to higher user efficiency and increased willingness to use the service. Based on this, the following hypotheses are proposed:

H7: Perceived ease of use has a positive impact on perceived usefulness.

H8: Perceived ease of use has a positive impact on usage intention.

3.5 Perceived Usefulness

Perceived usefulness is another decisive factor in TAM, reflecting the degree to which a user believes that using a particular technology or system will enhance their performance or outcomes. In the context of this study and the information society, if users perceive that the health information service platform can expand their health knowledge, efficiently provide rich health information, and stimulate their

continuous learning and exploration of health knowledge, their perception of the platform's usefulness will be stronger, thereby increasing their intention to use it. Based on this, the following hypothesis is proposed:

H9: Perceived usefulness has a positive impact on usage intention.

3.6 Continuance Intention

Substantial research in the library and information science field confirms that users' continuance intention or satisfaction with specific library services and functions significantly influences their continuance usage behavior. For example, Fan Xiaochun, based on information ecology factor theory, confirmed that user attitude positively affects mobile library users' behavioral intention. Ji Zhongyang et al. demonstrated that users' intention to use smart libraries positively affects their usage behavior. Wang duo et al. Confirmed that user satisfaction with VR library services positively influences continuance usage behavior. Based on this, the following hypothesis is proposed:

H10: continuance intention has a positive impact on user behavior.

4. Research Conclusions

4.1 Subjective Cognition, Psychological Preference, and Experience Sharing Positively Influence Perceived Usefulness

Subjective cognition, psychological preference, and experience sharing significantly influence users' internal perceptions. Among these three variables, subjective cognition has the most substantial impact on perceived usefulness ($\beta = 0.243$). This indicates that users' utilization of public library health information platform services is driven not only by confidence in their own knowledge reserves and value perceptions but also by personal habits, professional needs, and experiences shared by other users. Therefore, when developing health information platform services, public libraries should deeply explore user needs, emphasize brand value promotion and user education, and establish open, scientific platforms for sharing user experiences[6].

4.2 Subjective Cognition, Psychological Preference, and Experience Sharing Positively Influence Perceived Ease of Use

Psychological preference exerts the strongest influence on perceived ease of use ($\beta = 0.368$), indicating that users select appropriate methods based on their psychological inclinations, usage habits, and professional requirements. Public libraries should accurately identify user needs within their health information service platforms and provide timely, personalized services that align with these needs, facilitating easy access to knowledge and information. Simultaneously, users' subjective cognition—comprising their understanding of the platform, proficiency in its use, and evaluations of its ease of use shared by other users—also affects their perception of ease of use. Consequently, public libraries should enhance their capacity for customized and personalized services, develop simple and user-friendly service platforms, and strengthen users' perception of the platform's ease of use and their willingness to share experiences.

4.3 Perceived Ease of Use Positively Influences Perceived Usefulness

When the operation of an information system or retrieval tool is overly time-consuming or complex, users tend to reduce their frequency of use, and vice versa. Thus, public libraries should improve the functionality of their health information service platforms to fully meet user needs, simplify the operational interface for easy navigation, and thereby enhance users' perception of the platform's usefulness and increase their usage frequency.

4.4 Perceived Usefulness and Perceived Ease of Use Positively Influence Usage Intention

Within the TAM framework, both perceived usefulness and perceived ease of use are determinant factors influencing continuance intention. When users perceive the public library health information service platform as easy to adopt and use, their confidence in continued usage increases, thereby strengthening their intention to use the service. Perceived usefulness is reflected in the efficiency and

accuracy with which users obtain desired books, knowledge, and information; the stronger the perceived usefulness, the more likely users are to continue using the platform.

4.5 Usage Intention Positively Influences User Behavior

Continuance intention manifests as users' willingness to consistently use library health information services to access information, accept service content, and increasingly rely on such content. User behavior is reflected in actions such as sharing usage experiences, increasing service usage frequency, and extending duration of use during subsequent interactions with the platform. Therefore, public libraries should proactively enhance users' perceived ease of use and perceived usefulness in their health information services, build functional, user-friendly, and comprehensive service platforms, strengthen usage intention, deliver positive user experiences, and thereby encourage favorable evaluations of the service while increasing usage frequency and duration.

5. Recommendations for Enhancing Public Library Health Information Service Platforms

Ensuring the authority and timeliness of information on public library health information service platforms is crucial for building user trust and enhancing usage intention. This necessitates collaboration with national health institutions, medical libraries, and research organizations to introduce and regularly update rigorously vetted health education resources. When users access accurate, up-to-date health information, their trust in the platform increases, boosting their willingness to consistently use the service[7].

Given the diverse user base of public libraries, optimizing the platform's user experience and interface design—making it easy to use with clear navigation—is essential for attracting users across different age groups and backgrounds. Design principles should incorporate accessibility to ensure all user groups can utilize the platform effortlessly. A simple, efficient interface and smooth operational flow can significantly improve user satisfaction and increase the likelihood of repeat visits[8].

Establishing online health communication communities provides users with a space to share personal experiences and learn from others, while also helping public libraries build an active user base[9]. By organizing online lectures, workshops, and expert Q&A sessions, public libraries can foster user interaction and invite professional participation to elevate the community's expertise. Cultivating this sense of community helps foster long-term user loyalty.

As highly credible institutions, public libraries should emphasize transparency and feedback mechanisms within their health information platforms. Disclosing information review standards, showcasing partner qualifications, and implementing user feedback systems that allow evaluations and suggestions on content and service quality are vital measures for building user trust. Regularly optimizing services based on user feedback demonstrates the library's commitment to user input; this two-way communication mechanism can effectively enhance users' continuance intention.

Acknowledgements

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