

A Review of Research on User Information Behavior Transformation in Online Knowledge Payment Platforms

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Abstract

With the rapid development of the digital economy, online knowledge payment platforms, as an emerging means of knowledge dissemination and acquisition, have witnessed significant growth, with both user base and market size expanding continuously. This paper systematically reviews relevant literature from both domestic and international sources to deeply explore the transformation path of user information behavior on online knowledge payment platforms and its influencing factors. Existing research primarily focuses on payment behavior, usage behavior, and sharing behavior, employing theoretical frameworks such as Perceived Value Theory, Information Systems Theory, and Social Psychology Theory. The findings indicate that factors like perceived value (including content quality and service quality), system quality, information quality, social influence, and trust have a significant impact on users' willingness to pay and their continued usage behavior. In terms of the transformation path of user behavior, this paper proposes a four-stage model consisting of the cognitive stage, evaluation stage, action stage, and continuance stage, suggesting that satisfaction and perceived value are key drivers for users' continuous payment and usage. Despite some achievements in current research, there remain issues such as insufficient theoretical integration, a lack of qualitative research, and limited exploration of continuous behavior. Future research should focus on integrating multiple theoretical frameworks, expanding new perspectives such as the SOR Theory and MOA Theory, and enhancing cross-cultural comparative studies to gain a more comprehensive understanding and prediction of user behavior. The findings of this paper provide theoretical references and practical guidance for the optimization and development of online knowledge payment platforms.

1. Introduction

With the rapid development of the digital economy, online knowledge payment platforms have emerged as a new form of knowledge dissemination and acquisition, experiencing explosive growth. In recent years, with the widespread adoption of mobile internet and the increasing demand for knowledge consumption, various online knowledge payment platforms, such as Dedao, Zhihu Live, and Ximalaya FM, have rapidly risen. The types of knowledge products offered have expanded from traditional text content to diverse formats, including audio, video, and live broadcasts[1]. This phenomenon has not only transformed users' learning habits and knowledge acquisition methods but has also profoundly impacted traditional education and knowledge dissemination models[2]. Unlike traditional methods, online knowledge payment platforms emphasize fragmented, instant, and interactive learning experiences, allowing users to flexibly choose learning content and methods based on their own needs, thereby improving the efficiency and quality of knowledge acquisition[3,4].

As platforms develop, the complexity of user behavior continues to increase. Existing research mainly focuses on users' payment behavior, usage behavior, and sharing behavior, employing theoretical frameworks such as Perceived Value Theory (PVT), Information Systems Theory (IST), and Social Psychology Theory (SPT). Perceived Value Theory emphasizes the importance of users' perceived quality and perceived loss of knowledge products in payment decisions. Information Systems Theory, through the Technology Acceptance Model (TAM) and the Information Systems Success Model (D&M Model), explores the impact of platform functions and information quality on users' continued usage. Social Psychology Theory focuses more on the roles of social influence, subjective norms, and trust in user behavior. However, current research has limitations in theoretical integration, as a single theory struggles to comprehensively explain the complexity of user behavior[5]. Additionally, the transformation path of user information behavior and its influencing factors lack systematic exploration, particularly in the path from users' initial payment to continued usage and payment, leaving many unresolved issues.

To fill this research gap, this paper systematically reviews and summarizes relevant domestic and international literature to explore the transformation path of user information behavior on online knowledge payment platforms and its influencing factors. The aim is to clarify the current state of research, identify gaps, and propose future research directions. This study focuses on the following aspects: first, an analysis of factors influencing user behavior from different theoretical perspectives; second, the phased characteristics of user behavior transformation paths; and third, the limitations of existing research and future research directions. Through these discussions, this paper aims to provide theoretical support and practical references for the optimization and development of online knowledge payment platforms[6,7].

2. Current Research Status on User Behavior in Online Knowledge Payment Platforms

2.1 Research Themes and Types

Existing research primarily revolves around several types of user behaviors, covering the complete path from initial contact to continued usage and payment. Payment behavior is one of the core research areas, mainly based on the Perceived Value Theory (PVT). Researchers generally believe that users' perceived quality, perceived value, and social value of knowledge products are key factors influencing their willingness to pay[8]. Specifically, content quality (such as the professionalism and systematic nature of courses), service quality (such as customer service responsiveness and refund mechanisms), and social value (such as recognition from peers or social circles) significantly affect users' willingness to pay. For example, the recommendations and endorsements of Key Opinion Leaders (KOLs) greatly enhance users' trust in and purchasing decisions for knowledge products. Moreover, research also points out that price sensitivity and perceived risks (such as content not meeting expectations or difficulties in obtaining refunds) are also important factors affecting payment behavior[9,10].

In terms of usage behavior, the Technology Acceptance Model (TAM) and the Expectation Confirmation Theory (ECT) are the dominant theoretical frameworks. Studies have shown that perceived usefulness, perceived ease of use, and satisfaction are critical factors for users' continued use of knowledge payment platforms[11]. For example, the frequency of content updates, the completeness of the knowledge system, and personalized recommendation

functions all influence users' continued usage intentions[12]. Additionally, the Expectation Confirmation Theory emphasizes that users' perceptions of the platform's actual performance compared to their expectations significantly impact their renewal and payment behavior. Some studies have also explored factors such as flow experience and Task-Technology Fit (TTF) in usage behavior[13].

Regarding sharing and dissemination behavior, the Social Capital Theory and the Theory of Planned Behavior (TPB) are widely applied. Studies have found that users' sharing behavior is primarily driven by trust, social influence, and subjective norms. For instance, users are more likely to share high-quality content they recognize with their social circles to gain a sense of approval and social capital. Additionally, perceived interaction and social support are also crucial factors influencing users' sharing behavior, especially on social media platforms like WeChat and Weibo, where users with frequent interactions have a stronger willingness to share[14,15].

In terms of participation and interaction behavior, research mainly focuses on users' comments, likes, favorites, and Q&A activities. Subjective norms and perceived behavioral control are the core factors explaining users' interaction behavior. For example, comments under courses not only serve as feedback on content but also act as a form of social interaction, often influenced by social circles. Some studies have also pointed out that virtual rewards (such as points and badges) and psychological rewards (such as a sense of achievement and recognition) are essential in promoting users' participation and interaction. Research in this area helps understand users' activity levels and their contributions to the platform's ecosystem[16].

2.2 Data Collection Methods and Research Approaches

The existing literature primarily adopts the following data collection methods, reflecting different research methods and perspectives in academia on user behavior. Questionnaires are the most common quantitative research method, usually employing the Likert scale to collect data on user satisfaction, perceived value, continued usage intention, social influence, and other variables. The advantage of questionnaires lies in their large sample size and high degree of structure, which facilitates quantitative analysis and modeling. However, their limitation is the high subjectivity of respondents, making it difficult to ensure the authenticity and consistency of responses. Some studies use Structural Equation Modeling (SEM) and Partial Least Squares (PLS) methods to analyze data, aiming to validate the applicability and robustness of theoretical models[17].

Interviews are primarily used for exploratory research, particularly effective in understanding users' deep-seated needs, motivations, and behavioral transformation paths. Interview content usually covers users' payment experiences, usage habits, and psychological perceptions, with qualitative analysis conducted through Coding Analysis and Grounded Theory. Although interviews can deeply explore the reasons behind user behavior, they are limited by small sample sizes and time-consuming processes, making the generalizability of research results limited. Some studies adopt mixed methods by combining questionnaires and interviews to enhance the comprehensiveness of research and the credibility of conclusions[18,19].

Web scraping has become an essential means of collecting user behavior data, especially in large-scale data analysis and social media research. Python and other programming languages

can efficiently capture users' comments, likes, shares, and other behavioral data on platforms. Research based on Text Mining and Sentiment Analysis can identify users' emotional tendencies, satisfaction, and dissatisfaction points. For instance, through text analysis of comments on platforms like Zhihu and Ximalaya FM, researchers have found that the practicality and entertainment value of course content are the main reasons influencing users' positive reviews and renewals. In addition, Social Network Analysis (SNA) is used to study the relational structure and dissemination paths among users, revealing the role of social interaction in knowledge dissemination[20].

Moreover, in recent years, neuroscientific methods such as eye-tracking and Electroencephalogram (EEG) have started to be applied in user experience research, aiming to uncover the underlying cognitive processes when users browse and choose knowledge content. For example, eye-tracking technology can accurately record users' gaze points and dwell time on pages, thereby analyzing which content most attracts users' attention. EEG, on the other hand, measures brain activity to explore the emotional and rational components of users' payment decisions. The introduction of these cutting-edge methods provides new technical means and theoretical support for understanding user behavior[21].

3. Factors Influencing the Transformation of User Information Behavior in Online Knowledge Payment Platforms

3.1 Perspective of Perceived Value Theory

The Perceived Value Theory (PVT) serves as the core theoretical framework for studying user payment behavior, emphasizing the trade-off between perceived gains and perceived losses when users make payment decisions for knowledge products. Perceived gains primarily include content quality, service quality, and social value. For instance, high-quality and systematic course content, well-defined knowledge structures, and practical knowledge products significantly enhance users' perceived value. In addition, service quality factors such as customer service responsiveness, course update frequency, and transparency of refund policies directly influence users' satisfaction and willingness to pay. Social value encompasses peer recognition and social influence, such as likes and positive feedback received after sharing knowledge, which can strengthen users' willingness to pay[22].

Perceived losses, on the other hand, involve price, perceived risk, and time cost. Price is a crucial factor affecting payment behavior, as users often make decisions based on the cost-performance ratio of the content. Studies have shown that when the pricing of knowledge products exceeds users' psychological expectations, their willingness to pay significantly decreases. Perceived risk pertains to concerns about content quality, authenticity of knowledge products, and refund policies. For example, users may worry that the purchased course content does not match the promotional description or that the learning outcomes are not evident[23]. Time cost refers to the time and effort users invest in learning knowledge products. High-complexity or lengthy courses might lead users to abandon payment. Therefore, reducing perceived losses through precise pricing, transparent refund policies, and lower learning thresholds can effectively increase users' willingness to pay.

Moreover, PVT emphasizes the balance between perceived gains and perceived losses. Only when the perceived gains significantly exceed the perceived losses will users exhibit a strong willingness to pay. Consequently, platforms should focus on optimizing content quality,

enhancing service levels, and fostering social interactions to boost users' perceived value, thereby promoting payment behavior.

3.2 Perspective of Information Systems Theory

Information Systems Theory (IST) mainly explores user behavior on knowledge payment platforms through the DeLone and McLean Information Systems Success Model (D&M Model) and the Technology Acceptance Model (TAM). The D&M Model emphasizes the impact of system quality, information quality, and service quality on user satisfaction and continued usage intention. System quality includes factors such as platform stability, page loading speed, and user interface friendliness. For example, slow page loading, frequent lagging, or cumbersome operations negatively affect user experience and satisfaction. Information quality focuses on the accuracy, timeliness, and practicality of knowledge content, such as whether the course content meets user needs and if knowledge points are updated promptly[24].

The Technology Acceptance Model (TAM) suggests that perceived usefulness and perceived ease of use are the core factors influencing users' acceptance and continued use of information systems. Perceived usefulness refers to the extent to which users believe that knowledge products can help them in their work or studies. For instance, professional skills courses that directly enhance job capabilities are more likely to drive users' willingness to pay. Perceived ease of use focuses on the convenience of operation and the ease of learning, such as the clarity of course catalogs, the convenience of search functions, and support for offline downloads. Studies have indicated that perceived usefulness not only directly affects users' usage behavior but also indirectly influences continued usage and payment behavior by increasing satisfaction[26].

Additionally, IST highlights the role of interactivity. The interactive features of online knowledge payment platforms—such as comment sections, Q&A communities, and live interactions—not only enhance users' sense of participation but also promote knowledge sharing and communication among users, thereby increasing their continued usage intention. Therefore, optimizing system quality and information quality, as well as enhancing platform interactivity and personalized recommendation features, are effective strategies for improving user experience and conversion rates.

3.3 Perspective of Social Psychology Theory

Social Psychology Theory (SPT) explains users' social interactions and payment behavior on knowledge payment platforms through multiple perspectives, including the Theory of Planned Behavior (TPB), Social Capital Theory, and Trust Theory. The Theory of Planned Behavior (TPB) posits that users' behavioral intentions are mainly influenced by attitude toward behavior, subjective norms, and perceived behavioral control. Attitude toward behavior includes users' perceived value and perceived risks of knowledge payment. When users believe that paid knowledge products can bring substantial benefits, their willingness to pay is stronger. Subjective norms refer to the influence of social circles, KOLs, and platform recommendations. For example, recommendations from friends, endorsements by KOLs, and positive reviews on social media significantly enhance users' willingness to pay. Perceived behavioral control involves the convenience of operation and payment processes, such as the diversity of payment methods and the simplicity of refund processes.

Social Capital Theory emphasizes the impact of users' social relationships and interactions on payment behavior on knowledge payment platforms. It analyzes this impact from three dimensions: cognitive capital, structural capital, and relational capital. Cognitive capital focuses on knowledge sharing and information symmetry among users. For example, within the same learning community, users tend to purchase similar types of knowledge products. Structural capital focuses on users' positions and influence within social networks. For instance, users with high activity levels and large numbers of followers typically possess greater social influence and can promote other users' payment behavior through recommendations and sharing. Relational capital emphasizes the role of trust and emotional bonds. Users are generally more willing to purchase courses recommended by trusted KOLs or sellers with positive reviews.

Trust Theory asserts that users' trust in the platform and content creators is a critical factor influencing their payment behavior, especially in situations of information asymmetry. Platform reputation, user reviews, and customer service quality are all factors that affect users' trust. For instance, users are more inclined to purchase knowledge products on platforms with real-name authentication and stringent review mechanisms. Additionally, perceived privacy is also a significant factor affecting users' trust. When users are satisfied with the platform's privacy protection mechanisms, their willingness to pay is stronger.

4. Analysis of User Behavior Transformation Paths

Users on online knowledge payment platforms typically go through a transformation path consisting of four stages: the cognitive stage, the evaluation stage, the behavioral stage, and the continuation stage. This process reflects a gradual transition from potential users to loyal users.

4.1 Cognitive Stage

The cognitive stage is the initial phase where users come into contact with knowledge products, usually through content recommendations by the platform, endorsements by Key Opinion Leaders (KOLs), and word-of-mouth on social media. During this stage, platforms rely on algorithmic recommendations, SEO optimization, and social advertisements to enhance content exposure and click-through rates. Users' first impressions and points of interest significantly depend on factors such as the attractiveness of course titles, cover design, introduction content, and the experience of free trials. Studies have shown that visual design, information completeness, and the authority of recommenders can effectively enhance users' cognitive interest and subsequent behavioral intentions[27].

4.2 Evaluation Stage

The evaluation stage involves users' comprehensive assessment of knowledge products based on their needs and perceived value. Users typically focus on the depth and breadth of course content, the professional qualifications of instructors, user reviews, and course pricing. At the same time, they balance perceived gains (Perceived Gain) and perceived losses (Perceived Loss). For example, users might refer to course reviews, feedback from study groups, and refund policies to mitigate perceived risks. Studies have indicated that the main obstacles at this stage include excessively high prices, discrepancies between course content and promotional descriptions, and complicated refund processes. These factors significantly reduce users' willingness to pay. Therefore, platforms should enhance users' trust and sense of security

by implementing tiered pricing, offering trial courses, and establishing user review mechanisms, thereby promoting payment decisions[28].

4.3 Behavioral Stage

The behavioral stage is a critical phase where users actually purchase, use, and share knowledge products. In addition to direct payment behavior, users also express their approval and satisfaction with courses through comments, likes, and shares. Studies have shown that the quality of user experience at the behavioral stage directly influences their intention to continue using the platform. For instance, a smooth payment experience, convenient progress management, and effective interaction with instructors are essential factors. Platforms use community-based features such as point incentives, knowledge planets, and study check-ins to encourage users to actively participate in content sharing and interaction, forming a positive cycle of “use-feedback-share.” Additionally, reward mechanisms on knowledge payment platforms—such as learning points and cashback coupons—play a crucial role at this stage[29]. They not only enhance users' sense of participation and achievement but also effectively increase repurchase rates.

4.4 Continuation Stage

The continuation stage is a core indicator of user loyalty and platform stickiness, mainly influenced by satisfaction, continuance intention, and brand loyalty. Satisfaction originates not only from the professionalism and practicality of course content but also from service quality, community atmosphere, and overall user experience on the platform. For example, continuous course updates, well-structured learning paths, and timely responses from dedicated customer service can significantly boost users' satisfaction and loyalty. Continuance intention reflects users' recognition of the long-term value of the platform, usually driven by perceived usefulness (Perceived Usefulness) and affective commitment (Affective Commitment). Studies have shown that users' continued payment behavior on knowledge payment platforms is often the result of a combination of multiple factors, including satisfaction, habitual usage, and social identification[30,31].

Throughout the entire behavior transformation path, the Perceived Value Theory (PVT), the DeLone and McLean Information Systems Success Model (D&M Model), and the Social Psychology Theory (SPT) provide different explanatory frameworks. For instance, PVT emphasizes the trade-off between gains and losses, IST highlights the roles of system quality and information quality, while SPT focuses on the impact of trust and social influence. Therefore, when designing user conversion strategies, platforms should emphasize integrating various theoretical perspectives. This can be achieved by optimizing content, pricing strategies, social interactions, and user experience across multiple dimensions, aiming to build a comprehensive user behavior transformation path. This approach is expected to achieve higher user conversion rates and sustained payment rates[32].

Future research should further explore the interaction mechanisms between different stages of the transformation path, especially on how precision marketing and personalized recommendations can enhance users' lifetime value.

5. Research Gaps and Future Directions

5.1 Research Gaps

Existing research on user behavior on online knowledge payment platforms has certain limitations, primarily reflected in three aspects: insufficient theoretical integration, a lack of qualitative research, and a limited depth of continuous behavior studies.

5.1.1 Theoretical Integration Deficiency

One significant gap in current research is the lack of theoretical integration. Most studies typically adopt a single perspective, such as the Perceived Value Theory (PVT), Information Systems Theory (IST), or Social Psychology Theory (SPT), to analyze user behavior, lacking an organic integration of these theoretical frameworks. A single theory often struggles to fully explain the complexity and diversity of user behavior. For example, relying solely on PVT might not adequately interpret users' social interaction and sharing behavior, while IST alone may fall short in analyzing users' payment intentions. Future research should attempt to integrate multiple perspectives, including PVT, the DeLone and McLean Information Systems Success Model (D&M Model), the Technology Acceptance Model (TAM), and SPT, to construct a multi-layered, multidimensional theoretical framework that more comprehensively explains user motivation and decision-making processes.

5.1.2 Lack of Qualitative Research

The absence of qualitative research is another limitation, hindering the understanding of the deeper motivations and psychological mechanisms behind user behavior. The majority of current literature relies on quantitative methods such as surveys, which, despite their ability to collect large-scale sample data and verify hypotheses through methods like Structural Equation Modeling (SEM), often fail to provide insights into the intrinsic logic of user behavior. For instance, emotional experiences, social motivations, and potential psychological barriers are challenging to capture through standardized questionnaires. Additionally, quantitative research may be limited by sample representativeness and questionnaire design, leading to certain biases. In contrast, qualitative methods such as interviews, focus groups, and content analysis can deeply explore users' genuine feelings and decision-making processes. For example, in-depth interviews with frequent-paying users could offer a better understanding of their psychological motivations for continuous payment and habitual behavior. Future research should thus emphasize the application of qualitative methods or explore mixed methods that combine quantitative and qualitative approaches to enhance the scientific validity and explanatory power of research findings.

5.1.3 Insufficient Research on Continuous Behavior

Another challenge is the lack of research on continuous behavior. Most studies focus on users' initial payment behavior, while less attention is paid to the paths of continued use and continued payment. For instance, the relationship between users' satisfaction, experience, and repurchase behavior after the initial payment has not been thoroughly explored. The connection between continuous use of the same course and re-payment following updates or iterations is also under-researched. In fact, studying continuous behavior not only helps in understanding the formation mechanisms of user loyalty but also provides theoretical support for platforms to develop long-term retention strategies and precision marketing. Future research should strengthen the differential study of continued use and continued payment, particularly focusing on satisfaction, habitual use, brand loyalty, and Customer Lifetime Value (CLV) to reveal the critical factors and mechanisms influencing continuous behavior.

5.2 Future Research Directions

To address the current research gaps, future research can expand in three main areas: introducing new theoretical perspectives, conducting cross-cultural studies, and applying innovative technical methods.

5.2.1 Introducing New Theoretical Perspectives

Expanding research depth through new theoretical perspectives is a promising approach. For instance, the Stimulus-Organism-Response (SOR) Model can help explain how external stimuli (e.g., course recommendations, KOL evaluations) influence users' final behavior decisions through internal psychological responses (e.g., perceived value, emotional experience). The Motivation-Opportunity-Ability (MOA) Model can analyze the roles of knowledge acquisition motivation, external opportunities such as time and funds, and information processing capability in payment behavior. For example, highly educated, high-income users typically possess stronger information processing and payment capabilities, leading to a higher acceptance of premium knowledge payment products. Additionally, Social Exchange Theory (SET) and Habit Theory can further complement and enhance the explanatory framework of user behavior.

5.2.2 Cross-Cultural Research

Cross-cultural research is an important future direction. While most studies focus on Chinese users, there is a lack of in-depth analysis of international users' knowledge payment behaviors and cultural differences. Cultural backgrounds influence not only payment intentions and usage habits but also preferences for payment methods, content acceptance, and social interaction habits. For example, Western users may place greater emphasis on the practicality of content and independent learning experiences, while Chinese users might be more influenced by social circles and KOL recommendations. Comparative studies between Chinese and international contexts could better reveal the roles of cultural values, collectivism, and individualism in knowledge payment behaviors, providing theoretical support for global operational strategies.

5.2.3 Innovative Application of Technical Methods

The innovative application of technical methods should also be a focus of future research. With the advancement of big data and artificial intelligence (AI) technologies, analyzing user behavior through data mining and machine learning has become increasingly feasible. For example, natural language processing (NLP) techniques can analyze user comments to identify satisfaction and emotional tendencies, predicting payment behavior. Recommendation systems and user profiling technologies can accurately push personalized courses and content based on users' interests and historical behaviors, improving conversion rates. Furthermore, emerging methods such as eye-tracking and electroencephalogram (EEG) technologies from neuroscience are being applied to study users' underlying cognitive processes when browsing, evaluating, and purchasing knowledge products. Eye-tracking can determine which page elements capture the most attention, while EEG can explore the balance between emotional and rational components in payment decision-making.

6. Conclusion

Research on user behavior in online knowledge payment platforms has made significant progress, primarily focusing on payment behavior, usage behavior, and sharing behavior. Existing studies, utilizing various theoretical frameworks such as the Perceived Value Theory

(PVT), Information Systems Theory (IST), and Social Psychology Theory (SPT), have identified key factors influencing users' payment intentions, continued usage intentions, and sharing behavior. For instance, factors like perceived quality, content value, system quality, and social influence have been proven to be critical variables affecting users' decision-making processes. Additionally, the behavior transformation paths of users—including the cognitive stage, evaluation stage, behavior stage, and continuous stage—provide essential theoretical support for understanding Customer Lifetime Value (CLV). However, significant gaps remain in theoretical integration, qualitative research, and the study of continuous behavior, particularly in terms of integrating multiple theoretical frameworks and exploring the path mechanisms underlying users' continuous payment behavior.

Future research should emphasize theoretical integration by combining the Perceived Value Theory, Technology Acceptance Model (TAM), Social Capital Theory (SCT), and Social Exchange Theory (SET) to construct a more comprehensive theoretical framework. This approach would provide a deeper explanation of the complexity and diversity of user behavior. In addition, diversification of data collection methods should be a focal point of research. Compared to traditional survey methods, mixed methods that combine quantitative and qualitative approaches based on big data and Artificial Intelligence (AI) can more effectively capture users' behavioral trajectories and decision-making preferences. For example, techniques such as text mining and sentiment analysis can delve into users' emotional tendencies and satisfaction in their reviews, helping to identify potential user needs and behavior patterns.

Particularly, studies focusing on the transformation paths of continuous payment and continuous usage behaviors can assist platforms in optimizing user experiences and enhancing payment conversion rates. Research on continuous payment behavior should not only examine users' satisfaction and perceived value of course content but also consider factors such as brand loyalty, community atmosphere, and platform service quality. For example, by introducing the Expectation Confirmation Theory (ECT) and the Continuous Usage Model (CSM), it is possible to thoroughly analyze the relationships between users' post-purchase satisfaction, habitual usage, and repurchase behavior. Furthermore, research on continuous usage behavior can explore key factors influencing user retention from perspectives such as perceived usefulness, affective commitment, and interactive experience.

Moreover, future research should pay greater attention to the combination of cross-cultural studies and personalized recommendation systems. On one hand, comparative studies on user behavior across different cultural backgrounds can reveal the influence of cultural values, collectivism, and individualism on knowledge payment behaviors. On the other hand, personalized recommendation systems and precision marketing strategies can enhance payment conversion rates and user loyalty. For instance, machine learning-based recommendation algorithms can accurately push personalized courses and content by analyzing users' interests and historical behaviors, thereby increasing users' sense of identity and payment willingness.

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