

# Evolution and Dynamics of Online Paid Knowledge in China: A Comprehensive Review from 2016 Onwards

Liu Bin<sup>1</sup>, Megat Al Imran Yasin<sup>2</sup>, Saiful Nujaimi Abdul Rahman<sup>3</sup>

<sup>1</sup>Faculty of Modern Languages & Communication, Universiti Putra Malaysia, Serdang, 43400, Selangor, Malaysia, <sup>2</sup>Faculty of Modern Languages & Communication, Universiti Putra Malaysia, Serdang, 43400, Selangor, Malaysia, <sup>3</sup>Faculty of Modern Languages & Communication, Universiti Putra Malaysia, Serdang, 43400, Selangor, Malaysia.

Corresponding Author Email: megat@upm.edu.my

To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v13-i9/18636> DOI:10.6007/IJARBSS/v13-i9/18636

**Published Date:** 26 September 2023

## Abstract

Online Paid Knowledge, in which users pay for online access to information and services pertaining to knowledge, has become a prominent phenomenon in the digital age. This article provides an analysis of the scholarly literature on Online Paid Knowledge in China from 2016 forward. This study outlines four significant phases of Online Paid Knowledge research in China. It examines the conception and evolution of Online Paid Knowledge, as well as the economic models and legal mechanisms of the OPK platform and the factors that influence user payment behavior. The review aims to identify the phases, trends, and focal points of academic research in this field. It contributes to a greater comprehension of the evolution and dynamics of Online Paid Knowledge in China, revealing its influence on content companies and academic research.

**Keywords:** Online Paid Knowledge, Phase, Economic Model, Legal Mechanisms, User Behavior.

## Introduction

Online Paid Knowledge (OPK) refers to the phenomenon in which knowledge recipients pay for the content or services they use. Users can commercialise their cognitive surplus and directly purchase organized, high-quality knowledge using Online Paid Knowledge platforms (Zhang, 2018).

In 2012, China witnessed the launch of its first paid Q&A community, which used a "pay-to-connect" approach. Guokr developed a paid Q&A app named "ZaiHannng" in 2015, and the WeChat public account "Luoji Siwei" established a knowledge service called "Dedao." As a whole, 2016 was dubbed the "inaugural year of knowledge payment," with platforms such as Fenda, Qianliao, Himalayas FM, Zhihu Live, and Qingting FM launching OPK service projects

one after the other. Online Paid Knowledge's market share and user base in China grew as it gained popularity. Since 2016, the market has been witnessing tremendous expansion. According to the "2020 China Paid Knowledge Industry Operation and Development and User Behaviour Research and Analysis Report" published by the iiMedia Research, China's Online Paid Knowledge market size reached 112.65 billion yuan in 2022, and the market size is expected to reach 280.88 billion yuan in 2025. China's users of online paid knowledge are expected to exceed 640 million in 2025 (iiMedia Research, 2023)

With the internet flooding us with information and the need for high-quality knowledge rising, OPK has transformed the content sector. Therefore, OPK has been the subject of extensive theoretical and practical investigation. While Paid Knowledge is not new, the "Internet+" phenomenon has added additional dimensions to consider. In practise, researching user behaviour allows platforms to properly segment their audience and content providers to appropriately price their knowledge, promoting optimal growth of OPK. As a result, there has been a proliferation of studies across disciplines that are both theoretically rich and practically relevant.

This study provides a thorough analysis of significant Chinese papers between 2016 and the present using "Paid Knowledge" or "Online Paid Knowledge" as the keyword. This study aims to synthesise the academic trajectory, phase categorisation, and research goals in China's OPK sector and to define its conceptualisation, evolution, and driving forces. The study also examines business models, platform mechanisms, regulatory environment, and user payment behaviours to illuminate OPK in China's evolution, influencing variables, and future trends.

### **I. Academic Research Phases of China's Online Paid Knowledge**

The phenomenon of Online Paid Knowledge did not emerge abruptly in the mobile internet environment. In 2016, OPK platforms boosted academic research analyses. The evolution of this topic can be roughly categorised into the four phases listed below.

**Phase I (2016-2018):** "knowledge payment," "knowledge services," "digital publishing," and the "Internet era" were among the most prominent topics.

Huang (2016) asserted in 2016 that "the era of online paid knowledge has arrived." Initial macro-level research appeared concerning the definition of the concept of OPK Huang (2016); Long, 2017; Zhang, 2017), distinctions and clarifications related to the concept Zhang (2017), origins of OPK Yu (2017); Yu (2017); Hu (2017), reasons Chen (2017); Meng & Sun (2017); Zhang & Zhang (2017), advantages and opportunities (Wang, 2017), dilemmas and challenges (Fan, 2017; Li, 2017; Meng & Sun, 2017; Guo, 2017; Liu, 2018), and future developmental trends (Liu & Zhao, 2017). Ding et al (2018) defined OPK, examined its significance, and investigated its growing popularity. Based on this, they concentrated on the four biggest contemporary crises of OPK and their solutions. OPK platforms and products began to "stand out" online, with an increasing proliferation of paid content (Huang, 2016; Cui & Su, 2018). Liu and Wu (2018) discussed the historical backdrop and types of OPK, and existing issues, and subsequently proposed its future direction. A segment of scholars began to explore factors affecting the platforms Guo (2018); Peng (2018) and users Zhao & Yao (2017); Peng (2018) of OPK (Zhang et al., 2017). Investigating these aspects can assist understand user behaviour in OPK and provide insights and recommendations for platforms to attract users and optimise knowledge supply in the long run. Individual needs, individual cognition, information quality, subjective standards, conducive conditions, alternatives, and economic aspects were identified by Zhang (2017) through qualitative investigation. According to Zhou

and Tan (2017), social connection, shared vision, and trust all have a substantial impact on consumers' willingness to pay for online knowledge. Zhao and Yao (2017) empirically revealed that users' ongoing usage intentions of OPK apps are favourably influenced by expected confirmation, perceived usefulness, subjective norms, and satisfaction. According to Fan (2018), platform usability and user-friendliness have a major impact on user happiness, which in turn has an impact on the platform's reputation. Li et al (2018) summarised the user payment models of online paid Q&A platforms by comparing Zhihu and Weibo Q&A. Peng (2018) concentrated on the mechanics and user goals of OPK platforms. Furthermore, other academics tackled the subject from various angles, including "digital publishing" (Li, 2018) and "traditional publishing" (Sun, 2018).

**Phase II (2019-2020):** The main topics encompass "Online Paid Knowledge," "Willingness to Pay," "Mobile Audio," and "Community Reading."

The key features and functions of OPK are still being studied. The desire for OPK is thought to be strongly related to "knowledge anxiety." On the one hand, as people's need for knowledge grows, the media and other accessible resources frequently fall short of meeting this demand. On the other hand, as the number of information producers grows, the volume of information grows, making it more difficult to distinguish between truth and fiction. As a result, there is a mismatch between information demand and availability, resulting to indiscriminate information seeking and aggravating knowledge anxiety. OPK helps to meet this information demand while also relieving anxiety (Kuang, 2019; Huang & Tang, 2019; Chang, 2020). According to Wen (2019), OPK represents a downward knowledge flow and intellectual openness. Yang (2019) identifies the basic logic of OPK as encouraging links between persons and knowledge, knowledge and platforms, and interpersonal relationships. Sun & Yan (2019) investigate the innovative characteristics of participatory online knowledge content generation and reassess the value of OPK content from several angles.

The focus on OPK offerings has been on community reading and mobile audio. Audio book services develop as a fresh information service paradigm when the traditional publishing model undergoes upheaval (Luo & Fang, 2019). Concurrently, online reading communities are expanding offline, resulting in an integrated online-offline community reading landscape. As a result, community reading has emerged as a popular OPK offering. For example, "Fan Deng Reading Club" has thrived due to its precise targeting of demographics eager for education. Their material, which is often anthropomorphic, helps to alleviate user anxiety (Wang, 2019). Furthermore, Xu & He (2019) investigated the payment models of five mobile reading apps. Zhang (2019) examines the burgeoning trend of study check-ins in social media circles and its reasons from both marketers' and audiences' perspectives, exploring the functionalities and models of study check-in apps, with the profit models of "smartphone terminals + educational apps" becoming increasingly dominant.

The examination of platforms and items associated to OPK has become more intense. The rapid rise of the OPK market, spearheaded mostly by platforms such as Himalayas FM, has revealed a slew of issues, including cost-benefit dynamics, knowledge supply and demand, and copyright protection. Approaching from a value chain viewpoint, Zuo & Qi (2019) and Yu & Song (2019) analysed user knowledge content needs and platform operational problems, further elaborating on projected development patterns in the OPK domain. (Xu, 2019; Chen, 2020; Du, 2020), and Zou & Zhang (2019), on the other hand, emphasised copyright infringements in the OPK market, proposing the construction of a "legal wall" to refining online transaction mechanisms, and improving intellectual property protection for OPK.

Wang (2019) reflected on the "knowledge cocoon" effect of OPK product users and operational challenges of these products, implying that the knowledge offered by OPK products is "generalised," with commercial and practical tendencies, and the core of product operation is not "knowledge-centric" but "product-centric."

The investigation of factors influencing the willingness and behaviour of OPK consumers continued. According to Lu et al. (2020), "in the presence of free information access channels, the willingness of users in paid Q&A communities to engage in OPK is the outcome of rational and prejudice-driven multi-factorial interplay, with perceived benefits being a pivotal factor for high willingness and personal free-use mindset serving as a significant influence for low willingness." Guo et al. (2020) investigated the intricate influence mechanisms of "Content," "Context," and "Consciousness" on user behaviour in OPK, with an emphasis on their individual and synergistic effects.

Scholars have also investigated from several perspectives, including user profiling Zhang et al (2019), platforms Chen (2019); Wang (2020), Paid Knowledge Tian (2020), paid news Qi & Han (2020), and short films (Ma, 2020).

**Phase III (2021-2022)** : focused on "Copyright," "Short Video," "Online Education," and "User Behaviour."

Copyright Issues in Paid Online Knowledge: On the one hand, multiple studies have delved into various product industries to consider and investigate copyright issues. These include copyright protection for paid short video-based information Li (2021), paid academic journal products Yao & Zhang (2021), and digital copyright protection in online education (Sun & Tan, 2021). Guo et al (2021) used grounded theory to identify influential elements for copyright protection on paid knowledge platforms from a user-centric perspective. Following that, they used an evolutionary game to examine the evolutionary process of copyright protective behaviours on audio-based paid knowledge platforms (Guo et al., 2022). Numerous scholars, on the other hand, have presented a variety of remedies. For example, Li et al (2021) created a risk assessment index system for copyright infringement of video-based paid knowledge material, offering a useful reference for quantitative copyright assessment and protection. Liu & Wei (2021) took a platform-centric strategy, arguing that an implied authorisation mechanism upon withdrawal facilitates collaboration among stakeholders while mitigating conflicts of interest. Liu et al (2022) used an evolutionary game model to conclude that OPK platforms should incentivise producers and consumers by distributing advantages more equitably. Xu & Wang (2021) conducted study on consumers' knowledge consumption choices and behaviours. Their studies revealed that a heightened awareness of copyright effects Internet knowledge consumption choices, favouring premium material. They contend that copyright consciousness results from the interaction of economic kinds and culture: the presence of a market economy gradually moulds copyright consciousness. Wang et al (2022) also presented a strategy for copyright protection in OPK situations using blockchain technology.

Furthermore, research has focused on the characteristics that influence users' propensity to make continual payments. While the OPK market has grown gradually, the number of users who pay for online knowledge on a regular basis has been declining, significantly limiting the development of OPK platforms. Thus, researching the characteristics that influence continuous online knowledge payment has major consequences for the survival of paid knowledge platforms (Jin et al., 2021; Yan et al., 2021; Xiang & Wang, 2021; Yu, 2021; Qi et al., 2022; Li & Shen, 2022). Some academics have developed prediction models based on user

attrition (Xing & Zhu, 2022), with the same goal of promoting the long-term viability of the OPK market.

**Phase IV (2023 to the Present)** : focused on "Business Model," "Scenario," and "Mobile Learning."

According to the latest research, the application possibilities for OPK are getting more diverse (Wang, 2023). Paid health information released on online medical platforms, such as "Dingxiang Doctor" and "Good Doctor Online," for example, serves as an important mechanism by which professionals exchange high-quality knowledge experiences and common users improve their health literacy. The investigation into how health knowledge goods impact user purchases continues unabated. Mobile learning (Wen, 2023) and online courses (Wu & Chu, 2023) are also important parts of the OPK industry, with research focusing on user behaviour and business structures. Furthermore, several researchers have investigated "Community Q&A" Xiao (2023), "Fan Economy" Tu (2023), and ChatGPT (Wang et al., 2023).

## **II. Focal Points in Academic Research on China's Online Paid Knowledge**

In reviewing domestic achievements, three main directions emerge

First, there is an ontological investigation into the underlying notions of online paid knowledge, its growth, market ecology, and future tendencies. Second, supply-side research focused on OPK platforms and products, such as platforms' business models, and products like online courses, e-books, and audio-visual content. Third, demand-side research looks into users' payment habits and preferences.

### **1. The Evolution of Online Paid Knowledge**

#### **1.1 The Definition of Online Paid Knowledge**

The term "knowledge" in the context of online paid knowledge is more akin to a "knowledge product." It has a distinct character when compared to the standard sense of "knowledge." According to British historian Peter Burke, the distinction between information and knowledge is that "information" is elementary, concrete, and practical, whereas "knowledge" is considered, processed, or systematised. The majority of current OPK is based on human experiences and societal ideas, and it is distinguished by its high interdisciplinary nature, high value density, individualized qualities Yu (2017), and relative scarcity (Ding et al., 2018). Only awareness of scarcity can influence consumption behavior.

Traditionally, paid knowledge is defined as a transaction with the aim to acquire knowledge that is realized by monetary payment, such as purchasing books, paying tuition for education, or attending training courses. The digital age has provided customers with new pathways and kinds of knowledge access. Consumers can now obtain a wide range of information products and services through OPK platforms, rather than only buying physical books or attending offline training. The "knowledge" in OPK often manifests as knowledge products and services, incorporating knowledge producers' cognition, skills, creativity, and experiences, which are famous for their high precision and professionalism. According to Yu Guoming, the value of paid knowledge is manifested in its scarcity, with specialized knowledge in niche areas of the existing knowledge system, interdisciplinary knowledge, methodological knowledge, knowledge services that lower acquisition costs and improve understanding, and personalized tailor-made knowledge services (Yu, 2018). Users' individualized needs are met via online paid knowledge services that are characterized by mobility, convenience, and fragmentation. OPK

is an economic activity in which value is exchanged through monetary exchange between suppliers and demanders, with interactions between producers, platforms, and users (Fang & Guo Tao, 2021). OPK functions as a sharing model, combining society's distributed surplus information, intellectual resources, and the like and disseminating it to the general public or targeted audiences via paid or free channels, resulting in reciprocal benefits (Wang, 2019). OPK creates a direct economic exchange relationship between artists and users, in which users choose and pay fees based on their needs to access producers' knowledge and services (Tan, 2021).

Finally, researchers from both the academic and industrial sectors have provided different opinions on the notion of OPK. Definitions may differ due to varied emphasis. Furthermore, because OPK is a new domain, its concept and boundaries are still expanding and developing.

### **The stages of the Online Paid Knowledge**

#### **Emergence Period – Prior to 2013**

A few online communities began to experiment with payment models. At first, the website "Douding" provided a premium feature for papers in 2011. Secondly, in the educational and consulting sectors, paid knowledge dissemination began through platforms like QQ Groups, which now serve as an early prototype for paid communities. In 2012, Luo Zhenyu created a knowledge-based chat show named "Luoji Siwei" on WeChat, capturing audience's attention with free and professional content. By August of the following year, "Luoji Siwei" had implemented tiered memberships, generating 1.6 million yuan in membership fees. Following that, during its second membership drive, the platform amassed an astounding 8 million yuan in a single day, a record in the domain of knowledge-based independent media. The success of "Luoji Siwei" drew industry specialists' curiosity, with its brand positioning, business strategy, and revenue model becoming the focus of many studies (Yu, 2017; Li, 2021).

#### **Initiation Period – 2014-2015**

The OPK market was in a growth phase between 2014 and 2015. To attract readers, a rising number of independent media firms began offering premium content, shifting away from ad-based business models. Douban launched the "Douban Column," operating its paid reading function, while Sina Weibo and WeChat introduced "appreciation" capabilities. Various platforms dedicated to OPK began to emerge at the same time. Guokr, for example, launched a knowledge and skill exchange website called "ZaiHang" in March 2015 (Li, 2021). Users could ask experts from other disciplines to deliver solutions on "ZaiHang" and also receive one-on-one knowledge counseling services. As the environment changed, knowledge-centric media outlets such as "Luoji Siwei" launched the "Dedao" app, which hosted a plethora of knowledge moguls selling premium courses. Luo Zhenyu's victory prompted a surge of media people to enter the OPK arena, resulting in a significant boom in business by 2016 (Yi, 2021; Li, 2021; Zhao, 2022). In summary, consumers began to show a developing awareness of OPK during this time period, though it remained a small-scale, spontaneous activity.

#### **Rapid Growth Period - 2016 to the Present**

The OPK business entered a period of fast expansion in 2016. Himalaya FM planned its entry into the paid knowledge category by introducing a varied range of paid audio products. Zhihu has created a live interactive Q&A feature named "Zhihu Live." Guokr launched its paid voice Q&A platform "Fenda" in May 2016, and it quickly surpassed 10 million registered users in just 42 days. Following suit, Jingdong created a paid Q&A feature called "Jingda," and the 36

Kr media business published a paid column called "Kai Kr." Douban also released "Douban Time." With their broad-spectrum knowledge content and dedicated knowledge sections, platforms such as "Douyin," "Kuaishou," and "Bilibili" began the era of OPK 2.0. By the end of 2019, Bilibili, for example, had made a determined push toward knowledge content by developing a top-tier "Knowledge" category to stimulate user viewing and content submissions, supplemented by offering paid courses. Furthermore, industry titans and opinion leaders, such as Gao Xiaosong and Mimeng, have entered this arena. They capitalized on offering courses, hosting lectures, and organizing offline meetups, moving away from traditional media's typical ad-revenue-focused strategy, implying a seamless merging of information (Wu, 2021).

## **2. Research on Online Knowledge Payment from the Perspective of Platforms**

Research on online payment for knowledge (OPK) from the perspective of platforms and their products mainly focuses on the following directions: firstly, exploring the business model of OPK; secondly, constructing the pricing model of OPK; thirdly, regulating the legal mechanism of OPK.

### **Economic Models of Online Paid Knowledge**

On the one hand, some research focuses on the typologies and growth of economic models inside online paid knowledge platforms. Yan (2019) conducted case studies on platforms such as "Dedao" and "Zhihu," demonstrating that the subscription-based OPK enterprises' economic model consists of five elements: internal and external resources, value propositions, value networks, marketing methods, and profit mechanisms. The trustworthiness of the company's knowledge, consumers' online learning habits, and the product itself are all essential success factors for these models. Conversely, Ma (2018) categorized online paid knowledge economic models into three types: platform-based knowledge aggregation subscription, vertical specialized knowledge subscription, and instant live knowledge Q&A, arguing that the integration of specialized content and producers branching out to establish personal brands will dominate future trends.

On the other hand, certain researches delve into specific platforms through individual case studies. Different OPK platforms build distinct operation methods around their paid content, resulting in distinct product outputs and operational chains (Yang, 2020). For example, "Fenda," a speech platform based on the shared economy concept, bills itself as a light knowledge-sharing service. Through its core features of "asking questions" and "eavesdropping," it offers solutions to users' personalized inquiries in an online audio format (Bao, 2017). Furthermore, Himalaya FM has a three-pronged business development strategy: the content strategy aims to improve program quality through rigorous content auditing mechanisms and provides diverse audio content to meet a variety of user demands; the dissemination strategy, backed by big data, recommends personalized content to increase user stickiness and loyalty; and the profit model provides advertisers with precise target audiences for ad placement. Ge (2020) investigated Himalaya FM's change from accumulating "traffic" to focusing content "value," evaluating its content-centric operational strategy. Guo (2020) also examined the "Dedao" APP's community marketing techniques from three perspectives: content, scenarios, and user connections.

**Pricing Models of Online Paid Knowledge**

Some research places a premium on pricing models and their measurement. The pricing model of OPK is frequently used in literature to determine the price process for knowledge items. Gong (2022), for example, suggested a three-party dynamic game theory and mathematical modeling methods-based OPK product release-based pricing model and introduced a negotiation-based pricing strategy. Jiang (2021) created an OPK product value evaluation model for the "Dedao" platform by evaluating various phases of product creation processes and content analyses to better grasp the value formation mechanism of OPK goods. Bao (2017) described the distinctive "eavesdropping" model inherent in Q&A platforms. Yu & Song (2018) introduced episodic pricing in knowledge payment, which allows users to select payment choices for episodically created content. Essentially, these researchers investigate the significance and variety of pricing schemes. While Liu et al. (2020) incorporated the level of customization of knowledge products and consumers' perceived value, establishing a knowledge product pricing model and analyzing the influencing factors and applicable conditions for both release-based and negotiation-based pricing models, mainstream pricing literature still focuses on the game between the two trading parties, rarely incorporating factors influencing both parties' behavior into the pricing model.

**Legal Mechanisms of Online Paid Knowledge**

Many studies have examined copyright issues, legal formalization, and intellectual property rights protection in OPK platforms in recent years as legal mechanisms have been refined. Guo (2021); Sun et al (2019), for example, discovered that the perception of personal knowledge ownership encourages the motivation to share tacit knowledge, and that self-efficacy fully mediates the influence of perceived knowledge ownership on the intention to share tacit knowledge. Through case studies, Zhang (2019) examined relevant regulations of OPK and classified them into three domains: "exclusive content licensing," "relinquishing copyright ownership," and "supplementary copyright law." Xi (2019) suggested improving platform legal oversight, online transaction mechanisms, intellectual property rights protection for paid knowledge, and platform rule-of-law. Ding (2019) recommended legal strategies for online video payment difficulties, such as improving service quality, stressing copyright protection, and raising public understanding of legal obligations. According to Fan (2017), "legislation on paid knowledge should properly handle relationships between parties in terms of service contracts, consumer law relations, copyrights, and privacy protection, implying that legislation at this stage is premature." These studies have laid the groundwork for future research into legal difficulties in online paid knowledge.

**Factors Influencing Online Paid Knowledge Users Behavior**

The extensive research on online paid knowledge platforms underscores the significance of user behavior, particularly concerning their willingness to pay. Pertinent to platform attributes, studies indicate that elements like content quality, platform usability, utility, responsiveness, and word-of-mouth recommendations play a crucial role in influencing users' payment decisions (Fan, 2020; Liu & Zhang, 2020; Yang, 2020). Additionally, aspects such as content pricing, product content quality, and pricing fairness have been deemed essential (Wei & Xie, 2020; Chen, 2019). Beyond platform-specific factors, a plethora of theoretical perspectives provides insights into the determinants of online paid knowledge behavior.

**Investigations into platform factors**

Numerous studies on online paid knowledge have centered on how platforms can maintain user loyalty. Fan (2020) examined review data from the "Dedao" APP in app stores to examine user behavior on OPK platforms. According to the data, content quality and functionality are the most important factors influencing user selections, followed by platform usability and user-friendliness. Furthermore, users largely accept the platform's content pricing. Liu & Zhang (2020) investigated how platform interaction affects users' willingness to pay for online information. They found that platform usability, utility, responsiveness, reciprocity, word-of-mouth recommendations, and emotional value all significantly positively influence users' intentions to pay for online knowledge. Wei & Xie (2020) discovered, comparable to content quality, that the quality of product content has a considerable favorable effect on meeting the demands of paying users. Yang (2020) discovered that paid mobile audio price, duration, and presentation format are inversely proportional to payment behavior, whereas trial listening, presenter profile length, volume of work, fan count, and verification information length are directly proportional to online paid behavior. Guo (2020), discovered that in a paid scenario, content quality, utility, and legitimacy are necessary requirements for addressing user needs, however, group norms within a paid setting are adequate for knowledge diffusion. Furthermore, Chen (2019), and colleagues discovered that utilitarian and hedonic values have a substantial influence on customer satisfaction with knowledge service trials and that pricing fairness is an important component in consumers' willingness to pay for online knowledge. In all, numerous other studies have also analyzed the impact of platform incentive mechanisms on user behavior.

**Investigation into user factors**

The burgeoning user base underscores the potential market for OPK, and meeting users' needs, enhancing their continued willingness to pay has become a focal point. The existing literature has identified numerous factors influencing OPK behavior, drawing on various theoretical perspectives such as Social Capital Theory, Theory of Planned Behavior, Technology Acceptance Model, Expectation Confirmation Theory, Perceived Value Theory, Qualitative Analysis, and Text Analysis. Scholars have delved deeply into the causes of knowledge payment from several theoretical perspectives, highlighting the explanatory and predictive potential of these theories on consumers' willingness to pay.

Social Capital Theory presents a theoretical framework for studying the influencing aspects of OPK behavior. In Zhou's (2017) study, he developed a theoretical model based on the Social Capital Theory, which revealed that trust was the most important factor in willingness to pay. Zhao (2018) proposed that respondents' trust played a moderating function between perceived value and willingness to pay by combining Social Exchange Theory and Social Capital Theory. Zhao (2018), a knowledge provider, stressed the considerable importance of cognitive, relational, and structural social capital on payment behavior.

Scholars have thoroughly examined the characteristics and mechanics of online paid knowledge using the Theory of Planned Behavior. Li (2018) constructed a model including factors such as perceived quality, trust, experience, money, and time resources, confirming the important impacts of perceived quality, trust, and resources on OPK. Huang (2017) discovered that self-efficacy, subjective norms, and behavioral attitudes all had a substantial influence on the desire to purchase knowledge services. Tian (2018) emphasized the effects of perceived value dimensions, subjective norms, and trust on users' payment intentions, beginning with virtual community characteristics. Individual requirements, cognition,

information quality, subjective norms, convenience, alternatives, and economic variables were identified as seven key determinants of OPK behavior by (Zhang et al., 2019).

Merging the Theory of Planned Behavior with the Technology Acceptance Model has also enriched perspectives in researching OPK determinants. Zhang's (2018) model took various elements into account, validating the impacts of self-efficacy, payment habits, and relative benefits on payment behavior. Du (2018) stressed the significant importance of experience on payment behavior based on personal experience and demands. According to Zhao et al (2021), social influence, task pressure, knowledge-seeking interest, perceived enjoyment, and convenience of use are all potential factors influencing consumers' willingness to pay for Q&A. Perceived Value Theory has provided a solid foundation for study into the elements driving online paid knowledge. Zhang (2017) investigated the impact of perceived value and trust on sustained participation willingness. From the standpoint of perceived value, Li (2018) validated the association between knowledge product quality and user pleasure. Chen et al (2019) discovered that utility and hedonic values had a substantial influence on consumers' trial satisfaction with knowledge services, but trial prices had no effect. Price fairness was an important factor in consumers' willingness to pay. Lin et al. (2020) discovered that perceived utility, expectation confirmation, trust level, fair price, and knowledge providers' expertise increased paid user happiness positively. Shi & Wang (2022) developed a structural equation model of user continued behavior using perceived value as the independent variable and habit as a moderator between satisfaction and continuous behavior. Their research found that perceived levels of emotional worth, social value, and functional value increase perceived value, influencing pleasure. The influence of satisfaction on continuous behavior might be positively moderated by habit.

Furthermore, the Use & Gratification Theory Li (2018), Social Interaction Theory Zhou (2019), Expectation Confirmation Theory Chen (2019), Innovation Diffusion Theory Yao (2021), Trust Theory Su (2019), Social Identification Theory Su (2019), and Ritual Theory Yun (2020) have all provided different perspectives on users' behavior to pay for online knowledge.

In summary, various theoretical perspectives offer multi-faceted explanations for research on online paid knowledge determinants. These studies not only add to our understanding of user payment decisions, but they also provide important references for future strategic planning and promotional measures. It should be noted, however, that different research methodologies and samples may yield different outcomes. Hence, when synthesizing these research findings, it's essential to consider various contexts and backgrounds.

## **Conclusion**

This review delineates the trajectory of scholarly literature and research foci concerning online paid knowledge in China. Since 2016, China has seen a fast increase in the size and user base of online paid knowledge. It has received a lot of attention as a key component in the evolution of the content sector in the digital era. From an academic perspective, the idea and advent of OPK sparked substantial debate during its "inaugural year." The findings suggest that factors including knowledge anxiety, information overload, and cognitive surplus fueled the emergence of OPK. With market maturation, the business models of online paid knowledge platforms and determinants of user payment behaviors increasingly became research hotspots. Various theoretical approaches were used to investigate the effects of social capital, planned behavior, technological adoption, and perceived value on user payment habits. Concurrently, scholarly attention has been drawn to the legal processes and user expectations for OPK platforms. In summation, research on online paid knowledge in

China has evolved into a comprehensive academic schema, encompassing concepts, market evolution, business models, and user behaviors. Future research can look into long-term development strategies for OPK, user-perceived value, and interactivity between platforms and users, providing substantial theoretical underpinnings as well as practical guidance for the sector.

The literature review enriches the theoretical landscape by comprehensively detailing the evolution and dynamics of Online Paid Knowledge in the Chinese digital context, identifying phases of development and examining critical aspects such as economic models and user payment behaviors. This contributes significantly to academic understanding and provides insights for businesses and policymakers navigating the OPK domain. The study's practical contribution is to provide insights into the driving forces behind OPK's growth, theoretical approaches to user behavior, and legal processes, all of which provide valuable guidance for strategic decision-making, improving user experiences, and shaping product offerings in the evolving digital ecosystem. This study serves as a foundational resource, encouraging a detailed understanding of China's OPK location and supporting theoretical advances as well as practical applications in online knowledge economy.

### **Authors' Biography**

Liu Bin is a PhD candidate at the Faculty of Modern Languages and Communication, University Putra Malaysia. She is also a senior lecturer at the Faculty of Literature and Journalism, QingDao University. Her main research interests are mass communication, journalism, and new media studies.

Email: liubin1008@126.com

Megat Al Imran Yasin (Ph. D) is a senior lecturer at the Faculty of Modern Languages and Communication, University Putra Malaysia. His main research interests are broadcasting, documentary production, media studies, media studies and communication.

Email: megat@upm.edu.my

Saiful Nujaimi Abdul Rahman is a senior lecturer at the Faculty of Modern Languages and Communication, University Putra Malaysia. His main research interests is Journalism.

Email: saifulrahman72@hotmail.com

### **Acknowledgement**

#### **Data availability statement**

If you need to obtain relevant data in the article, please contact the corresponding author by Email: liubin1008@126.com

### **References**

- Ahmad, F., & Karim, M. (2019). Impacts of knowledge sharing: a review and directions for future research. *Journal of workplace learning*, 31(3), 207-230.
- Al-Saedi, K., Al-Emran, M., Ramayah, T., & Abusham, E. (2020). Developing a general extended UTAUT model for M-payment adoption. *Technology in society*, 62, 101293.
- Al-Sharafi, M. A., Al-Qaysi, N., Iahad, N. A., & Al-Emran, M. (2022). Evaluating the sustainable use of mobile payment contactless technologies within and beyond the COVID-19 pandemic using a hybrid SEM-ANN approach. *International Journal of Bank Marketing*, 40(5), 1071-1095.

- Bao L. W. (2017). Research on Internet knowledge payment model based on sharing economy - take "answer" as an example. *Media*, (11), 62-64.
- Cham, T. H., Cheah, J. H., Cheng, B. L., & Lim, X. J. (2022). I Am too old for this! Barriers contributing to the non-adoption of mobile payment. *International Journal of Bank Marketing*, 40(5), 1017-1050.
- Dai, C. (2020). Community knowledge payment use, satisfaction and loyalty: user experience value model construction. *Modern Communication*, (12), 152-157.
- Dhanesh, G. S., & Duthler, G. (2019). Relationship management through social media influencers: Effects of followers' awareness of paid endorsement. *Public relations review*, 45(3), 101765.
- Dong, K. D. (2020). The influence mechanism of the image of the respondent in the knowledge Q&A community on the user's willingness to pay - take Weibo Q&A as an example. *Modern Communication*, (05), 144-148.
- Du, F. W. (2020). Infringement problems and countermeasures in the knowledge payment market. *Young reporter*, (15), 94-95. doi:10.15997/j.cnki.qnjz.2020.15.046.
- Du, J. F. (2017). The illusion of paying for knowledge. *News and Writing*, (11), 77-78.
- Du, Z. T., & Xu, J. H. (2018). From demand to experience: the influencing factors of users' online knowledge payment behavior. *Journalism and Communication Research*, (10), 18-39.
- Fan, J. J. (2018). Review analysis of mobile knowledge payment platform - Take the "get" App as an example. *Library Science Research*, (05), 67-70+82. doi:10.15941/j.cnki.issn1001-0424.2018.05.012.
- Fang, A. H., Lu, Y. M., & Liu, K. F. (2018). Empirical research on the willingness of virtual community users to pay for knowledge. *Library Information Work*, (06), 105-115. doi:10.13266/j.issn.0252-3116.2018.06.013.
- Guo, X. C., & Niu, P. Q. (2018). New solution of knowledge payment: knowledge acquisition informatization. *Young reporter*, (36), 79-80. doi:10.15997/j.cnki.qnjz.2018.36.038.
- Guo, Y., Liu, W. Q., Sun, Z. X., & Yu, W. Q. (2021). Analysis of the influencing factors of copyright protection of knowledge payment platform from the user's perspective. *Intelligence Science*, (10), 18-24. doi:10.13833/j.issn.1007-7634.2021.10.003.
- Guo, Y., Liu, W. Q., Zhang, C. Y., & Yu, W. Q. (2022). Evolution game analysis of copyright protection of audio knowledge paid products. *Modern Intelligence*, (04), 134-142.
- Harper, F. M., Raban, D., Rafaeli, S., & Konstan, J. A. (2008). Predictors of answer quality in online Q&A sites. In *Proceedings of the SIGCHI Conference on human factors in computing systems*, 865-874.
- Huang, B., & Tang, W. H. (2019). On the rise and significance of the knowledge payment model. *Published wide angle*, (01), 29-32. doi:10.16491/j.cnki.cn45-1216/g2.2019.01.007.
- Huang, L., Pei, X. N., & Zhu, Y. X. (2020). A new exploration of the online course content quality evaluation index system - based on the perspective of learner experience and knowledge payment. *Journal of Distance Education*, (01), 104-112. doi:10.15881/j.cnki.cn33-1304/g4.2020.01.011.
- Huang, S. (2016). The era of knowledge payment has arrived. *Young reporter*, (24), 5. doi:10.15997/j.cnki.qnjz.2016.24.005.
- Huo, F. L. (2018). Cold thinking about the production of paid content for knowledge. *Young reporter*, (21), 28-29. doi:10.15997/j.cnki.qnjz.2018.21.011.
- AiMedia | 2022-2023 China Knowledge Payment Industry Research and Consumer Behaviour

- Analysis Report*. Sina.com. (2023, March 5).  
[https://k.sina.cn/article\\_1850460740\\_6e4bca440190105bf.html?from=tech](https://k.sina.cn/article_1850460740_6e4bca440190105bf.html?from=tech)
- Jeon, G. Y., Kim, Y. M., & Chen, Y. (2010). Re-examining price as a predictor of answer quality in an online Q&A site. In *Proceedings of the SIGCHI conference on human factors in computing systems* (pp. 325-328).
- Jeon, G. Y., Kim, Y. M., & Chen, Y. (2010). Re-examining price as a predictor of answer quality in an online Q&A site. In *Proceedings of the SIGCHI conference on human factors in computing systems*, 325-328.
- Jin, X. (2020). Empirical analysis of the factors affecting the willingness of users of knowledge payment platform. *China Publishing*, (20), 50-54.
- Li, C., Tao, L., & Zhang, W. D. (2021). Construction of video knowledge paid content copyright infringement risk evaluation index system. *Intelligence theory and practice*, (03), 84-90+108. doi:10.16353/j.cnki.1000-7490.2021.03.012.
- Li, G., Lu, Y. Q., & Teng, S. Y. (2018). Research on user online knowledge payment behavior - based on planned behavior theory. *Library Science Research*, (10), 49-60. doi:10.15941/j.cnki.issn1001-0424.2018.10.006.
- Li, W., Ai, P., & Huang, Y. K. (2019). Perceptual trust in source characteristics, social clues and knowledge payment. *Modern Publishing*, (05), 46-52.
- Li, W. (2023). On the social psychology paradigm of publishing research: "why" and "what". *Editorial Journal*, (02), 32-38.
- Lim, S. H., Kim, D. J., Hur, Y., & Park, K. (2019). An empirical study of the impacts of perceived security and knowledge on continuous intention to use mobile fintech payment services. *International Journal of Human-Computer Interaction*, 35(10), 886-898.
- Liang, R., & Xia, Y. Q. (2023). Research on the influencing factors of knowledge payment purchase behavior from the perspective of mobile learning - take "Zhihu" as an example. *Library Magazine*, (04), 97-111. doi:10.13663/j.cnki.lj.2023.04.011.
- Liu, D. W., Min, L. Y., & Gao, W. H. (2022). Research on the incentive mechanism of knowledge payment platform from the perspective of evolutionary game. *Modern Management Science*, (03), 66-74.
- Liu, L., & Chen, C. (2020). Empirical Research on Paid Behavior of Digital Reading for College Students. *Library Theory and Practice*, (05), 110-114. doi:10.14064/j.cnki.issn1005-8214.2020.05.022.
- Liu, Z. C., Huang, Y. W., & Ma, T. (2021). Unauthorized sharing, pricing differences and knowledge payment platform operation strategy. *China Management Science*, (03), 168-175. doi:10.16381/j.cnki.issn1003-207x.2018.0950.
- Liu, Z. C., Ma, T., & Ye, Y. Y. (2022). Hidden value, community learning and knowledge payment dynamic pricing. *China Management Science* (06), 244-253. doi:10.16381/j.cnki.issn1003-207x.2019.1447.
- Lu, H., Zhang, X. X., Zhang, L. M., & Guo, S. L. (2020). Research on the influence factors of online Q&A community users' willingness to pay for knowledge from the perspective of rationality and deviation. *Library Information Work*, (19), 89-98. doi:10.13266/j.issn.0252-3116.2020.19.010.
- Lu, Y. Q. (2022). Research progress and prospect of user behavior of online knowledge payment platform. *Price theory and practice*, (06), 59-62. doi:10.19851/j.cnki.cn11-1010/f.2022.06.301.

- Luo, M., & Tu, K. (2018). Analysis of the business model of the knowledge sharing platform. *Management modernization*, (06), 111-113. doi:10.19634/j.cnki.11-1403/c.2018.06.027.
- Ma, C. B. (2020). Short video knowledge payment: industry logic, content creation and future exploration. *Journalism and Writing*, (09), 96-99.
- Ma, J. Z. (2018). Analysis of the market situation and business model of the knowledge payment industry. *Young reporter*, (25), 58-59. doi:10.15997/j.cnki.qnjz.2018.25.023.
- Ma, L., Ding F., & Li, J. (2023). The development trajectory of user payment behavior in the online knowledge community: a study based on the potential category growth model. *Management comments*, (03), 136-147. doi:10.14120/j.cnki.cn11-5057/f.2023.03.010.
- Miao, H., Zhao, B. J., Wang, N. X., & Ge, S. L. (2021). The impact of online social capital on the participation behavior of knowledge-paying users - an adjustable intermediary model. *Journal of Jiangsu University of Science and Technology*, (02), 75-83.
- Patil, P., Tamilmani, K., Rana, N. P., & Raghavan, V. (2020). Understanding consumer adoption of mobile payment in India: Extending Meta-UTAUT model with personal innovativeness, anxiety, trust, and grievance redressal. *International Journal of Information Management*, 54, 102144.
- Peng, L. (2018). Platform mechanism and user wishes: analysis of the two major elements of knowledge payment. *Chinese editor*, (11), 11-17.
- Purohit, S., Arora, R., & Paul, J. (2022). The bright side of online consumer behavior: Continuance intention for mobile payments. *Journal of Consumer Behaviour*, 21(3), 523-542.
- Qi, A. J., & Han, D. X. (2020). Analysis of the development path of paid news products. *News and Communication Review*, (03), 57-66. doi:10.14086/j.cnki.xwycbpl.2020.03.006.
- Roy, P. K., Saumya, S., Singh, J. P., Banerjee, S., & Gutub, A. (2023). Analysis of community question-answering issues via machine learning and deep learning: State-of-the-art review. *CAAI Transactions on Intelligence Technology*, 8(1), 95-117.
- Shi, S. L., & Wang, J. H. (2022). The continuous behavior upgrade path of mobile reading users under the background of knowledge payment. *China Publishing*, (02), 55-61.
- Shirky, C. (2012). *Cognitive surplus: Creativity and generosity in a connected age*. Penguin Press.
- Sun J. H., He, M., & Hu, J. (2021). The impact of knowledge anxiety on the willingness of platform users to pay for knowledge from the perspective of perceived value. *Modern Intelligence*, (06), 129-138.
- Tian, Z. L., & Fan, Q. (2021). Prudential supervision of knowledge sharing in the context of media integration - take online education and knowledge payment as an example. *Young reporter*, (18), 88-90. doi:10.15997/j.cnki.qnjz.2021.18.044.
- Tu, L. B., & Wang, Z. W. (2020). Spatial isolation and knowledge flow: a study on online knowledge dissemination during the COVID-19 epidemic. *Modern Publishing*, (03), 26-33.
- Upadhyay, N., Upadhyay, S., Abed, S. S., & Dwivedi, Y. K. (2022). Consumer adoption of mobile payment services during COVID-19: Extending meta-UTAUT with perceived severity and self-efficacy. *International Journal of Bank Marketing*, 40(5), 960-991.
- Wang, C., & Liu, Z. Y. (2021). Analysis of the innovative path of knowledge short videos in the 5G era - Take the TikTok short video platform as an example. *Published wide angle*, (01), 68-70. doi:10.16491/j.cnki.cn45-1216/g2.2021.019.

- Wang, F. (2022). How does the scene empower short video business model value creation? - Double case study of Kuaishou and TikTok. *Journal of Xi'an Jiaotong University*, (06), 170-182. doi:10.15896/j.xjtuskxb.202206018.
- Wang, H., & Zhang, R. J. (2018). Innovation and persistence in the transformation and upgrading of the publishing industry in the wave of knowledge payment. *Publication and Distribution Research*, (07), 34-38+11. doi:10.19393/j.cnki.cn11-1537/g2.2018.07.008.
- Wang, R., Zhou, T. T., & Gao, H. Y. (2023). Media ecology under the influence of ChatGPT: opportunities, challenges and coping strategies. *Young reporter*, (11), 53-56. doi:10.15997/j.cnki.qnjz.2023.11.012.
- Wang, X. L., Gao, K., & Li, Y. (2021). Customer experience value research of online knowledge paid programs - discovery and analysis of "Himalayan" platform data based on content analysis methods. *Price Theory and Practice*, (06), 141-144. doi:10.19851/j.cnki.cn11-1010/f.2021.06.119.
- Wang, Z., & Liu, Y. Z. (2018). Exploration of the market mechanism of online knowledge payment platform - and discussion on the response and intervention of the market mechanism of the knowledge platform. *Library Information Knowledge*, (04), 24-31. doi:10.13366/j.dik.2018.04.024.
- Wu, R. H. (2023). Mining Research on the Demand Characteristics and Negative Effects of Transfer Behavior of Knowledge-paying Online Course Probaters - Take "Bilibili Classroom" as an example. *Information Science*, (04), 17-25. doi:10.13833/j.issn.1007-7634.2023.04.003.
- Xiao, Y. F. (2022). Analysis of infringement in the knowledge payment industry from the perspective of copyright. *Friends of Editors*, (05), 77-82. doi:10.13786/j.cnki.cn14-1066/g2.2022.5.012.
- Xiao, Y. F. (2023). Knowledge payment industry: a service economy based on knowledge dissemination and sharing. *Friends of the Editor*, (01), 88-92+109. doi:10.13786/j.cnki.cn14-1066/g2.2023.1.012.
- Xing, X. Q., & Zhou, P. L. (2019). Research on the business model of Internet knowledge payment. *Management comments*, (07), 75-85. doi:10.14120/j.cnki.cn11-5057/f.2019.07.013.
- Xu, J. H., Cheng, X. M., & Hu, S. M. (2018). The development status, problems and trends of knowledge payment. *Friends of the Editor*, (05), 13-16. doi:10.13786/j.cnki.cn14-1066/g2.2018.5.002.
- Xu, T. (2021). Behavioral Research of Internet Audio Knowledge Paying Users - Take Himalayas as an example. *Media*, (15), 71-73.
- Xu, Y. Y. (2018). Problems and countermeasures of "get" knowledge payment platform. *Young reporter*, (30), 81-82. doi:10.15997/j.cnki.qnjz.2018.30.046.
- Xu, Y. Y., & Wang, R. Q. (2021). From piracy to payment: the "ethical path" formed by the copyright consciousness of contemporary Chinese intellectual youth. *Chinese Youth Research*, (04), 106-112. doi:10.19633/j.cnki.11-2579/d.2021.0060.
- Yan, W. W., Chen, R. Y., & Zhang, M. (2021). Research on the influencing factors of online knowledge willingness to pay based on meta-analysis. *Journal of Information Science*, (02), 204-212.
- Yang, D. H., He, H. M., & Xu, C. (2020). Research on the payment behavior of user knowledge of mobile audio audio reading platform. *Information Science*, (07), 105-111+172. doi:10.13833/j.issn.1007-7634.2020.07.015.

- Yang, J. H. (2018). Analysis of the transformation path of knowledge services in traditional publishing enterprises. *Science and Technology and Publishing*, (05), 140-144. doi:10.16510/j.cnki.kjybc.20180525.004.
- Yao, Q. (2021). Analysis of the socialization and dilemma of reading in the era of artificial intelligence. *Technology and Publishing*, (01), 156-160. doi:10.16510/j.cnki.kjybc.20210115.018.
- Yin, J. J. (2019). The development bottleneck and marketing strategy of paid audio platform. *Young reporter*, (33), 77-78. doi:10.15997/j.cnki.qnjz.2019.33.036.
- Yu, G. M., & Guo, C. K. (2017). Online knowledge payment: main types, morphological structure and development models. *Editorial Journal*, (05), 6-11.
- Yu, G. M. (2017). How does knowledge payment become a trend? *News reporter*, (07), 61-63. doi:10.16057/j.cnki.31-1171/g2.2017.07.010.
- Yu, W. W., & Song, P. Y. (2019). Research on the value chain system of online knowledge payment platform. *Media*, (07), 91-93.
- Zhang, L. Y. (2020). Opportunities and strategies for publishing houses to enter the knowledge payment market - based on the perspective of integrated publishing. *Published wide angle*, (24), 34-36. doi:10.16491/j.cnki.cn45-1216/g2.2020.24.008.
- Zhang, L. M., Zhang, X. X., Lu, H., & Zhang, L. (2019). Research on the group portrait of paid users of the knowledge live broadcast platform. *Library Information Work*, (05), 84-91. doi:10.13266/j.issn.0252-3116.2019.05.010.
- Zhang, M., & Zhu, H. J. (2021). Preference, utility and self-custodianship: a study on the motivation of knowledge payment from the perspective of RCT. *China Publishing*, (20), 3-8.
- Zhang, Q. L. (2018). The construction of a benign copyright ecology in the knowledge payment industry. *Technology and Publishing*, (06), 27-31. doi:10.16510/j.cnki.kjybc.20180528.007.
- Zhang, Q. L. (2019). The enlightenment of the private rules of copyright of the knowledge payment platform on the library. *Library construction*, (03), 40-45. doi:10.19764/j.cnki.tsgjs.20182414.
- Zhang, W. W., & Zhu, L. (2023). The impact of the text characteristics of the health knowledge paid product description on the purchase volume. *Library Forum*, (03), 129-140.
- Zhao, Y., Yuan, X. N., Li, L. Q., & Zhao, Y. (2018). Research on the influencing factors of user knowledge payment behavior of Q&A platform based on social capital theory. *Library and Information Knowledge*, (04), 15-23. doi:10.13366/j.dik.2018.04.015.
- Zhao, Y. J. (2017). Explore the new trend of "knowledge payment" from the perspective of communication. *Young reporter*, (30), 39-40. doi:10.15997/j.cnki.qnjz.2017.30.016.
- Zhou, M., & Yan, J. Q. (2017). The mode and content thinking of the transformation of knowledge services in academic journals. *Technology and Publishing*, (08), 97-102. doi:10.16510/j.cnki.kjybc.2017.08.024.
- Zhu, Z. P., & Zhang, L. P. (2020). Research on the willingness of users of online knowledge payment products to continue to pay in the context of community services. *Southeast Academic*, (05), 158-166. doi:10.13658/j.cnki.sar.2020.05.017.
- Zou, Y. T., & Zhang, Z. A. (2020). The dilemma and countermeasures of we-media copyright protection in the context of knowledge payment. *China Publishing*, (04), 58-62.