

Analysis of Pain Points and Innovative Breakthroughs in the Development of Knowledge Payment Industry in the Post-Epidemic Era

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Abstract

The knowledge payment industry began to spurt in 2016, and for a time, major knowledge payment platforms rose rapidly. However, after two years of rapid development of the knowledge payment industry, the growth rate of the industry began to decline continuously. 2020 saw the new crown pneumonia epidemic sweeping the country, thus ushering in another small climax for the knowledge payment industry. But will the market size of the knowledge payment industry continue to grow after the epidemic? Or will it grow briefly and then go downhill, as it did before? This is a question that every knowledge payment platform company needs to consider. Starting from such a question, this article tries to analyze the fundamental pain points in the development of online knowledge payment, and proposes a breakthrough path that combines the four modules of content, copyright, community and service, so as to show the direction for the sustainable development of the knowledge payment industry in the post-epidemic era.

Keywords

Knowledge Payment; COVID-19; Pain Point Analysis; Innovative Breakthroughs.

1. The Current State of Paid Knowledge Development

With the rapid development of new media and the Internet, knowledge payment emerged in China in 2016. According to the survey of Ai Media data, see Figure 1. The user scale of China's knowledge payment industry grew rapidly from 0.5 billion people in 2015 to 360 million people in 2019, and the market scale reached 27.8 billion yuan in 2019, and we can see from the figure that the growth rate of the knowledge payment market scale began to slow down after 2018. Like most fresh products, after the freshness has passed, stable paid users already have their own learning rhythm, and it is difficult to have a large amount of impulsive consumption. But during the 2020 COVID-19 outbreak, the knowledge payment industry ushered in a new small climax, with Ai Media data estimating that the market size could reach 39.2 billion yuan in 2020 and 67.5 billion yuan in 2021 [1].

As COVID-19 continues to spread around the world, it has had a profound and widespread impact on a wide range of industries. According to the International Monetary Fund (IMF), the epidemic has dealt a severe blow to the economies of various countries, even deeper than the Great Depression of the 1930s, with many developed and developing countries experiencing economic recession at the same time [2]. According to the data, the number of travelers in the transportation industry plummeted by nearly 40%, and this part of the loss amounted to 150 billion; the retail and catering industry lost at least 700-800 billion; the tourism golden week was blocked, and the loss could reach 500 billion; the delay in resuming work led to industrial losses of about 800 billion[3]; in the first quarter of 2020, the national cultural and related industry enterprises above the scale achieved a business income of 1,688.9 billion yuan, down

13.9% from the same period of the previous year[4]. Although the traditional business of various industries has been greatly impacted by the epidemic, the high degree of integration between traditional business and the Internet has given birth to new opportunities in the crisis with the rapid development of big data, artificial intelligence, 5G and other Internet technologies. According to the data, 63.1% of knowledge payment users had purchased knowledge payment products during the outbreak of the COVID-19 in China in 2020, and among these knowledge payment products, most of them were workplace skill-based knowledge products, and more than 90% of users considered their experience of purchasing knowledge payment products satisfactory [1].

It can be seen that the knowledge payment industry has experienced a rapid development phase and a significant decline in growth rate, and then a good development trend during the epidemic. Whether the market scale of the knowledge payment industry will continue to rise steadily in the future is a great concern for major knowledge payment platforms and investors.

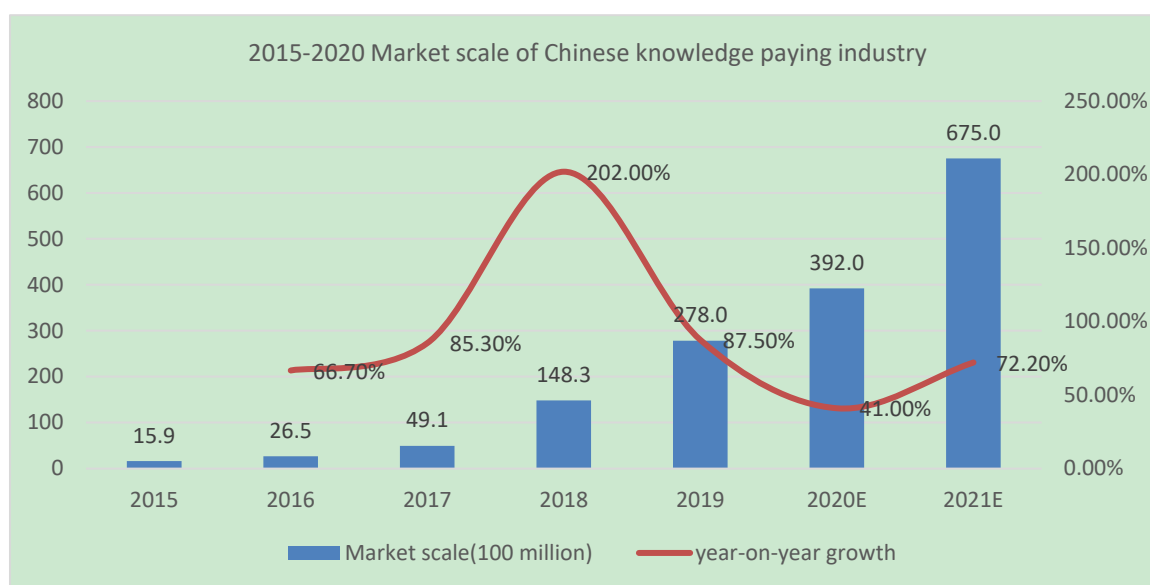


Figure 1. 2015-2020 Market scale of Chinese knowledge paying industry

2. The Reasons for the Development of Knowledge Payment

In the era of sharing economy, the simple and fast sharing method accurately meets people's needs. With the characteristics of fast sharing, streamlined and concentrated, knowledge payment has gained a lot of consumers' enthusiastic attempts since its launch. From the data above, the market size of knowledge payment is growing, and although the growth rate has started to slow down in recent years, there is no doubt about its upward trend in the future. The rise of knowledge payment is no coincidence, and it is closely related to the changes in Chinese society nowadays, in addition to the strong support of technology in the era of sharing economy. Next, we will analyze four reasons for the development of knowledge payment in detail.

2.1. Technical Support

At the technical level, the development of the Internet and new media technologies has reduced the cost of information dissemination, allowing people to easily access a large amount of information in a short period of time, and the expansion of the functions of mobile Internet and mobile fast payment methods have provided a way to realize the popularity of knowledge payment. The core of Industry 4.0 is interconnection, i. e. the intelligent production of "Internet + manufacturing", which gives rise to a consumer-driven business model. In the field of

knowledge payment, the intelligent development of the Internet has also prompted the production and dissemination of knowledge products in a way that is more relevant to consumers' needs. At the same time, the development of mobile payment in China has been very fast in recent years, and the convenient and fast transaction methods have turned users' needs into reality, which has greatly contributed to the rapid development of the knowledge payment industry. With the popularity of mobile Internet and mobile payment, education can appear not only in classrooms, but also in high-speed trains, cafes, subways and other occasions. If you can learn the expertise you want to learn in unlimited time and space, then paying for it is an option that most users will not refuse.

2.2. Social Pressure

In an increasingly competitive society, almost everyone faces pressure from all sides every day, especially young people working in big cities, where they must deal with various things such as workplace, family and interpersonal relationships in a limited time. At the same time, there are more and more highly educated people, and the number of new college graduates in China is close to 9 million every year, so the competition pressure in the market is very large, and the desire for knowledge updating is certain. Therefore, time becomes more and more precious to each young individual, and how to use time to improve oneself becomes more and more important. At this time, it is not limited by time and space, and the easy and convenient way to obtain knowledge undoubtedly caters to the knowledge needs of contemporary youth. This mode of obtaining the knowledge you want and allowing knowledge producers to gain certain benefits can be said to have reached the equilibrium of "social optimum". In the data mentioned above, during the outbreak of the novel coronavirus pneumonia in 2020, 63.1% of knowledge payment users in China purchased knowledge payment products, and among these knowledge payment products, workplace skills content accounted for the majority. This indicates that most of the contemporary knowledge payment users choose knowledge payment products to improve their workplace skills ability to better survive in the competitive society.

2.3. Knowledge Anxiety

On the one hand, the development of technology has made it easy for people to access all kinds of information. On the other hand, people have become confused in front of the huge amount of information, thus the term "knowledge anxiety disorder" has emerged. Knowledge anxiety, also known as information anxiety, refers to people's sense of crisis and anxiety in the face of the vast amount of information on the Internet. People in the Internet era are anxious because they are exposed to too much and too complicated information, and they do not have the ability to screen and process this information. Lu Chuntian (2020) et al. pointed out through interviews with research subjects from different occupations that people in modern society have various different degrees of anxiety, and the youth group is obviously more so, and almost everyone shows that they are worried about "not being able to keep up with others" and "not having enough knowledge" and so on[5]. On the one hand, young people in contemporary society are anxious that their knowledge is not enough, and their anxiety is increasing day by day in the rapidly updated information; on the other hand, the concept of "lifelong learning" is becoming more and more popular, and people feel anxious because they do not know how to choose in front of the huge amount of information brought by the Internet. In order to alleviate these two types of anxiety and gain a sense of stability about the future world, effective knowledge support and fast and accurate knowledge screening are indispensable, and knowledge payment platforms provide this opportunity. By purchasing knowledge products from knowledge service providers such as experts and scholars they trust, users can reduce the time cost of screening information and obtain targeted knowledge, thus alleviating people's "knowledge anxiety".

2.4. Self-improvement

According to Maslow's Hierarchy of Needs, people have five types of needs, from low to high, namely physiological needs, safety needs, social needs, esteem needs, and self-actualization needs, and only after the lower-level needs are satisfied will they pursue higher-level needs. Applying Maslow's Hierarchy of Needs theory to the paid industry (see figure 2), only when consumers' entertainment needs are basically satisfied will they move up to the higher level of knowledge consumption or self-actualization and self-growth needs, so payment as a way to realize cash is first realized in the entertainment field, and then extended upward to the knowledge consumption field. The economic development has led to the rising income level of contemporary residents, and this development has driven people to upgrade their consumption, so more and more people are pursuing higher-level needs - the need for self-fulfillment. These people who want to satisfy their self-fulfillment needs have higher requirements for knowledge content quality, and paid knowledge products are more reliable for them, so they become the main group of consumers of paid knowledge products.

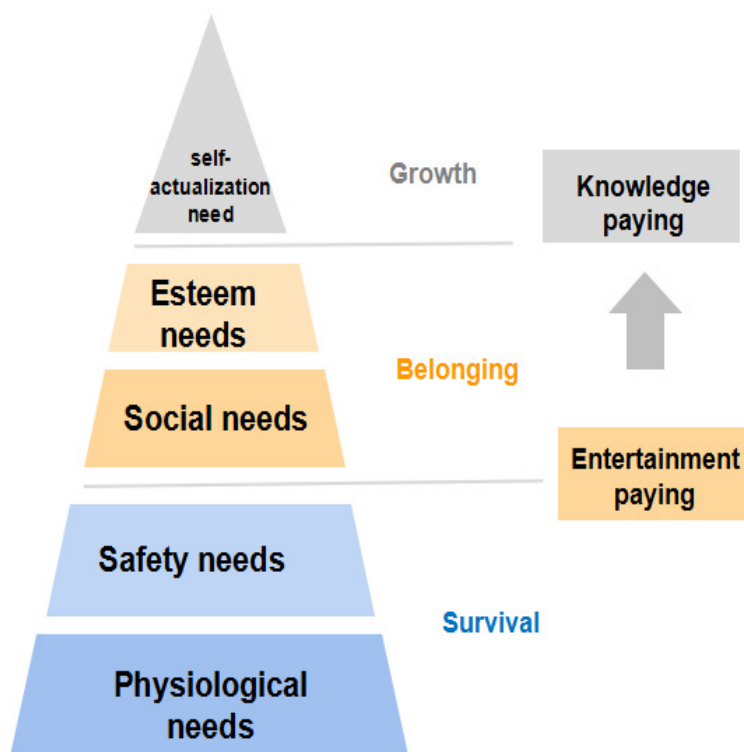


Figure 2. Maslow's hierarchy of needs

3. The Pain Points of Knowledge Payment Development

Knowledge payment emerged in 2016, and the growth rate declined after 2018, indicating that the industry has encountered an industry bottleneck. The epidemic made the knowledge payment industry usher in a small climax, but whether the scale of the knowledge payment industry can continue to rise steadily after the epidemic depends on whether knowledge payment platforms can effectively solve the pain points of the knowledge payment industry. This article summarizes the three major pain points of the development of the knowledge payment industry by combining the production, dissemination and internalization process of knowledge products.

3.1. Copyright Protection Pain Points

The Internet is the technical support for the rapid development of the knowledge payment industry, but on the other hand, the Internet has also brought about the low cost of replicating knowledge payment products and the convenience of dissemination methods, so knowledge payment products are very prone to encounter copyright problems. Although the knowledge payment industry has experienced a period of rapid development, the free business model on the Internet has existed for more than twenty years, and most users are accustomed to accepting free knowledge products. For the same paid knowledge products, if a channel offers a lower price, consumers will be more likely to choose that channel. As a result, piracy and infringement are common in the knowledge payment industry. For example, on Taobao, Zhihu Live courses worth 19.8 yuan are sold for 5 yuan or less, and the monthly sales volume of many pirated products can even reach more than 100 times. According to data, paid reading losses due to piracy on mobile reached 5.02 billion yuan in 2016 alone. The Zhihu platform, for example, has joined Taobao and Idlefish to investigate and deal with more than 200 knowledge infringement acts in 2016[6]. The phenomenon of knowledge product piracy greatly hinders the advancement of the knowledge payment industry because the rampant infringement will make original content owners lose the incentive to create, thus leading to the lack of the knowledge supply side, and when users cannot purchase High-quality knowledge content after paying, they will give up their repurchase of knowledge payment products. Therefore, in order to stimulate the enthusiasm of original content providers and maintain their creative motivation, knowledge payment platforms must pay attention to issues such as piracy and illegal use, inject new ideas into the old order, build boundary barriers, and promote the benign development of the industry.

3.2. Content Homogenization Pain Points

Knowledge payment has not been developed for a long time and lacks effective regulation. At the same time, the threshold of the knowledge payment industry is not high, resulting in a large number of knowledge providers flocking to the industry, while the content produced varies from good to bad, and the quality of the final course is difficult to guarantee, and the phenomenon of similarity is common. With the development of society and economy, consumers' consumption concept tends to be rational, and they will have an objective judgment on the quality of courses. Once they find that the learning experience brought by the purchased knowledge products is not consistent with the expected learning experience, it is difficult for them to purchase paid knowledge products again. Therefore, the existence of low-quality paid products is very detrimental to the benign development of the knowledge payment market. At the same time, after several years of development, the popular fields of knowledge payment are fixed on investment and finance, time management, emotional identity, etc. Major platforms have entered these fields without forming distinctive segments, which has led to serious homogenization in the knowledge payment industry. In the era of "content is king", only quality content with unique features can improve user stickiness and form the core competitiveness of the platform, and there is still a lot of room for improvement in the expansion of content categories in major knowledge payment platforms.

3.3. Pain Points of Continuous Supply of High-quality Content

According to the results of the Strawberry Pie data survey (see figure 3), the number one factor that Chinese users consider when purchasing knowledge payment products in 2020 is the professionalism of content producers, which shows that for users of knowledge payment products, what they value most is the quality of paid content. Zhang Yi, CEO and chief analyst of Ai Media Consulting, said in an interview with Technology Daily that "the platform itself is not a high threshold, and you can always get users if you are willing to spend money, but in the end, you have to strengthen the quality of the product, and content is the king." so, for the knowledge

payment industry, the focus is on knowledge rather than payment, and only good content deep plowing can meet the ultimate needs of users.

According to a report by Ai Media Consulting, in the early stage of the development of the knowledge payment industry, some Internet celebrity content creators attracted fans to read or watch by virtue of their own fan effect, but the content they created was mostly shallow and did not form a professional and in-depth content system. In 2017, "Li Xiang Business Insider" of "Dedao" platform returned to free from paid, and Luo Yonghao and papi sauce closed their paid columns one after another[7]. The main reason for this is that it is difficult for the platform to ensure the continuous supply of quality content. On the one hand, some of the great knowledge producers encounter the difficulty of continuous production of quality content; the great knowledge producers have a large number of fans, and the greater the fan effect, the greater the demand, and relying only on individual great knowledge producers to produce quality knowledge will bring them excessive creative pressure; on the other hand, many professionals with knowledge cognitive surpluses mostly lack the content creation and teaching experience for online knowledge users, indicating that even if they invest a lot of time and energy, they may not necessarily receive good market effects. It can be seen It is difficult for the knowledge payment platform to ensure the continuous production of professional and High-quality knowledge only by relying on a few big-name knowledge producers, while the knowledge produced by a large number of web celebrity knowledge producers cannot meet the deep learning needs of users. Therefore, the continuous supply of High-quality content is one of the pain points to be solved by all knowledge payment platforms.

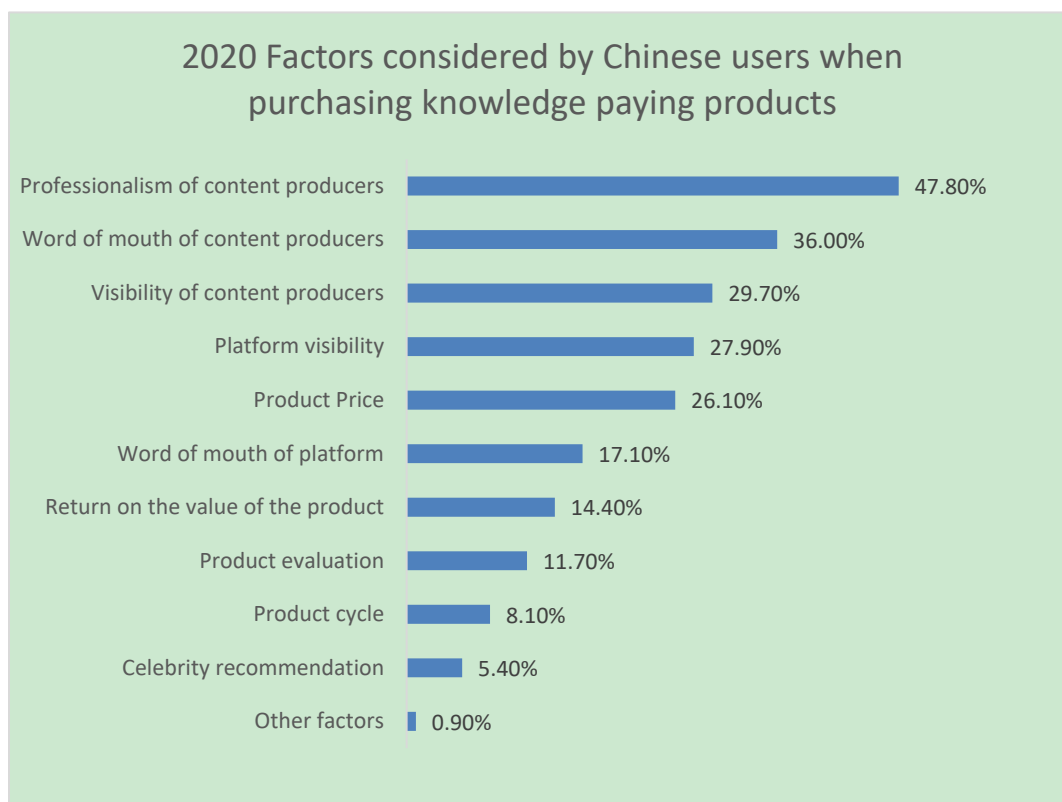


Figure 3. Sample source: Strawberry Pie Data Investigation and Calculation System Sample size: N=1750; Survey time: February 2020

4. The Innovative Breakthroughs of Knowledge Payment Platform

To truly learn through knowledge payment, we must return to the essence of education and truly design courses and products from the needs of learners. Knowledge payment platform

should not only consider the scarcity and value of knowledge, but also design the course content and learning process in line with users' learning rules, so that knowledge can break through the superficial level of communication and be internalized into individual experience and thought, and strengthen the emotional connection between users and the platform, continuously improve the service level of the platform, and optimize users' learning experience. Only through careful design of curriculum can knowledge payment reach people's hearts and minds and make them really gain something.

4.1. Build a Copyright Protection Barrier

First, digital copyright protection technology needs to be strengthened. At present, copyright awareness in the knowledge payment industry is relatively weak, and only individual platforms have started to take some copyright protection measures. For example, ZhihuLive cooperates with platforms such as Taobao, Idlefish, and various online disks to establish green complaint channels, and through algorithmic screening of infringing content, pirated content can be taken down within 24 hours at the earliest. At the same time, ZhihuLive also cooperates with the China Copyright Protection Center, and the voice, text, and images shared by content producers form a complete data work that enters the DCI digital copyright registration system and receives a certificate of work registration issued by the state [8]. At the present time of rapid development of the Internet, major knowledge payment platforms should further strengthen digital copyright technology and jointly shape a benign knowledge payment market.

The second is to improve the difficulty of replicating knowledge payment products and services. Internet observer and knowledge expert Fang Jun said in an interview with Science and Technology Daily that: providers and platforms of paid knowledge products, in addition to conventional intellectual property protection, must make efforts to find another way to think about how to make their products less vulnerable to piracy. In fact, knowledge services are less likely to be pirated than paid knowledge products, and the authenticity that content producers give to users is less likely to be pirated than the content itself. Products have many characteristics, such as reliability, scarcity, personalization, and interpretation, which are often more impressive than the characteristic of "free". Moreover, these characteristics are generated by the platform or provider in the process of delivering the product to users, and it is not easy to be pirated. Therefore, in the process of providing knowledge, knowledge payment platforms should attach great importance to the user's experience and focus on giving users different service feelings, to truly impress customers.

The last thing is to cultivate users' awareness of copyright protection. Knowledge payment platforms can define clear intellectual property protection obligations in the payment contracts and establish corresponding copyright incentive mechanisms, such as credit coupons for knowledge payment products for reporting infringements. The platform is committed to creating an atmosphere of respecting knowledge copyright and raising users' awareness of copyright protection, which is conducive to building a solid barrier of copyright protection.

4.2. Strengthen Deep Cultivation of Content

In the long run, knowledge payment users have a higher willingness to pay for High-quality and utilitarian content. To form core advantages and barriers to competition, the knowledge payment industry must attach great importance to the value of knowledge content itself and achieve a comprehensive upgrade of content quality.

On the one hand, the content is extended to various segments. The current era is developing rapidly, and users of fresh products are no longer bound to the young group. It has been proved that the knowledge payment industry has started to sink to the third and fourth tier cities as well as the youth and elderly groups. These users prefer the practical content of life, and they will become the potential value customers of paid knowledge products. Therefore, the design

of paid knowledge products should take into account the knowledge needs of these groups, and use the head products in niche areas to drive the consumption of consumer groups in third and fourth-tier cities as well as teenagers and senior citizens.

On the other hand, the content is more focused on scarcity. Attention scarcity has created a booming knowledge payment market, and those most popular knowledge payment products must also be knowledge that reflects scarcity. Paid knowledge has long been criticized by some as a useless product that only increases the knowledge anxiety of today's generation. This statement is a bit radical, but it shows that the current knowledge payment market is indeed filled with a large amount of homogeneous and superficial knowledge. There is a huge amount of knowledge on the Internet, but not all of it can be used to form knowledge-paying products. What users spend money to buy is not the knowledge itself, but the scarcity and irreplaceability attached to the knowledge.

4.3. Development of Community Economy

According to Lu Yaoxuan (2020), in knowledge communities, the paid products include not only knowledge itself, but also community relationships and community identity that can be capitalized [9]. In a specific knowledge segment, users can easily establish emotional connections among themselves and form knowledge communities around opinion leaders. In the community, not only the interaction between products and users is formed, but also the close connection between users and users, i.e., social-like relationship. According to Casas, the emotional embeddedness of communities positively affects consumers' willingness to pay [10]. Therefore, the development of community economy is conducive to establishing users' emotional ties to knowledge payment platforms, thus increasing users' loyalty to knowledge payment products.

4.4. Knowledge Service Transformation

The trend is to shift from knowledge payment to knowledge service. With the introduction of service innovation theory, not only the knowledge payment industry, but also all industries are now paying great attention to the importance of service. Nowadays, companies do not only use the number of daily active users, monthly active users and registered users as the only indicators to measure their products, but also the service capability and service quality will become the real barriers. At present, most knowledge payment platforms are unable to meet users' learning experience needs, and the platforms only complete the links of selecting topics, packaging and starting classes, regardless of users' subsequent experience and service needs, which is very unfavorable to the knowledge payment industry. Because knowledge products are different from other products, they are not immediately effective after purchase. In this process, there are various factors that affect users' learning effect, such as users' own learning self-efficacy, the platform's regular monitoring mechanism, timely Q&A mechanism, and follow-up practice testing mechanism, etc. However, many platforms do not really meet users' needs in terms of follow-up services. For knowledge payment platforms, if they want to maximize the learning effect of users, they must do the best in the back-end service chain such as knowledge service, dissemination and repurchase, and promote the development of knowledge service in the direction of deepening and refinement.

The deepening of services is manifested in the fact that major knowledge payment platforms should gradually form a deep structure of "course content service + online training camp + community service" to truly enable users to learn by optimizing the learning process, learning atmosphere and learning evaluation. The refinement of knowledge services is manifested in the emergence of more differentiated services in various segments. For example, "Note Man", a new business cognitive note sharing platform, will provide users with new business lecture and course note sharing and resource matching services. With the transformation of knowledge

services to deepen and refine, online knowledge payment will gain stable and sustainable development.

5. Summary

Knowledge payment is on the rise, which not only shows the contemporary people's concern and respect for the value of knowledge, but also reflects the inherent rules and requirements of knowledge production and dissemination in the era of knowledge economy, and reflects that with the support of new Internet technologies, people's learning methods are undergoing fundamental changes: education and learning are becoming ubiquitous and readily available. However, the development of knowledge payment still has a long way to go. Through the above analysis of the pain points of knowledge payment, this paper summarizes three major pain points of knowledge payment: copyright protection needs to be improved, the homogenization of content is serious, and the content is not professional enough. The essence of knowledge payment is education, which requires us not only to focus on its economic and communication attributes, but also to return to its educational essence, pay attention to the deepest needs of users, and follow the law of education centered on learning and the goal of comprehensive development of individuals.

The COVID-19 in 2020 has led to a new small peak in the knowledge payment industry, but whether this peak can continue after the epidemic depends on whether the major knowledge payment platforms can effectively address the pain points in the development of the knowledge payment industry. According to Yi Zhang, chief analyst of Ai Media Consulting, the booming market of the knowledge payment industry in the next few years is worth affirming because the demand for knowledge is not an impulsive demand, and knowledge payment products focus on reflecting people's deep demand for such products in contemporary society, which will not change because of the epidemic [11]. Although the demand for knowledge will always exist, the supply of knowledge, knowledge protection, and knowledge services are also essential elements for the stable development of the knowledge payment industry. Based on this, this paper proposes four major solutions to the pain points of the knowledge payment industry: building barriers to copyright protection, strengthening deep cultivation of content, developing community economy, and transforming knowledge services. With the rapid development of knowledge payment, practitioners and managers need to seriously consider how knowledge products can occupy absolute advantages, reflect their own characteristics and achieve continuous innovation. Focusing on deep cultivation of content, integrating content and social resources, strengthening copyright management and protection, promoting the deep integration of technology and community, accelerating the transformation of knowledge services, and enhancing the emotional integration and value recognition between users and the platform, so as to develop a sustainable deep knowledge consumption and experience model, will bring broader development space and market opportunities to the knowledge payment industry.

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