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How Blended Learning Reshapes the Value Chain of Knowledge Payment in China

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Abstract

Based on the value chain theory, this paper explores how the blended learning model reconstructs the value creation logic of China's knowledge payment industry. Through a multi-case study, this paper finds that blended learning, through the in-depth coupling of online and offline links, breaks the traditional linear value chain of knowledge payment centered on content delivery, and constructs a circular value network centered on learning outcomes and user relationships. This reshaping is reflected in three aspects: 1) the upgrading of value activities, extending from content production to learning path design, practical support and community operation; 2) the transformation of value capture mechanism, shifting from one-time content sales to outcome-based service subscriptions and ecological income; 3) the restructuring of value distribution, promoting the transformation of creators into "comprehensive learning service providers" and spawning new roles such as offline space operators and learning coaches. The research reveals the trend of "servitization" and "ecologization" of digital education, and provides a theoretical reference for the quality improvement, efficiency enhancement and sustainable development of China's knowledge payment industry.

Keywords: Blended Learning, Knowledge Payment, Value Chain Reshaping, Digital Education

1 Introduction

After experiencing initial explosive growth, China's knowledge payment industry is facing core bottlenecks: low user renewal rate, insufficient course completion rate, and difficulty in manifesting learning outcomes [1]. The traditional "light delivery" model centered on audio and video courses is increasingly unable to meet users' needs for in-depth learning and behavioral change due to the lack of interaction, feedback and practical links. Against this backdrop, the Blended Learning model, which integrates online flexibility and offline immersion, is moving from the edge to the center of the industry and has become a key strategy for leading platforms and creators to seek breakthroughs. Existing studies have mostly focused on the application of blended learning in educational institutions or the business models of knowledge payment, but few have explored how the integration of the two fundamentally changes the value creation logic of the knowledge payment industry [2,3]. Porter's Value Chain Theory provides us with an analytical framework: proposed by Michael E. Porter in 1985, this theory essentially/fundamentally decomposes the enterprise's value creation process into primary activities (linear chain activities directly involved in product production or service delivery, such as inbound logistics, operations, outbound logistics, marketing and sales, and service) and support activities (auxiliary activities that support the efficient operation of primary activities, such as firm infrastructure, human resource management, technology development, and procurement) [4].

Its essence is to realize the linear logic of "activity value superposition → overall value maximization → value capture" by optimizing the relevance and efficiency of various activities. The core reason for choosing this theory as the analytical framework is that the value creation of the knowledge payment industry is not a collection of isolated activities, but a series of interrelated activity chains around "the realization of user learning value", which is highly consistent with the core of Porter's theory. The knowledge payment industry is not a simple information transmission, but a series of interrelated activities to create user value. The rise of blended learning is essentially a structural reshaping of the

knowledge payment value chain. This paper aims to answer: How does the blended learning model deconstruct and restructure the value chain of knowledge payment in China? What are its specific reshaping mechanisms, commercial impacts and future trends? By answering these questions, this paper expects to provide a new theoretical perspective for understanding the evolution of the education service industry in the digital age.

2 Literature Review and Analytical Framework

2.1 Evolution and Dilemmas of China's Knowledge Payment Industry

China's knowledge payment originated around 2016 amid the "knowledge economy" upsurge, and its essence is that users pay for professional and systematic digital content and services. In this context, the knowledge payment value chain is defined as: in the knowledge payment industry, it is a systematic network composed of a series of interrelated and dynamically coordinated value activities such as "content production - product packaging - distribution and communication - learning delivery - value capture - user relationship maintenance". Its core is to realize the commercialization and servitization of knowledge through digital technology, ultimately create "perceivable learning outcomes" for users (such as skill improvement, cognitive upgrading, problem solving), and achieve the interest balance of all participants in the industry (creators, platforms, service providers, users) through a reasonable value distribution mechanism.

The initial value chain was highly simplified: Creator (Content) → Platform (Distribution) → User (Consumption). The core of value lies in the intellectual property rights of content and communication efficiency. However, with the explosion of supply and the maturity of user cognition, pure content delivery is facing value attenuation: content homogenization is serious, and users' willingness to pay has shifted from "acquiring knowledge" to "solving problems" and "achieving growth". This indicates that optimizing only the two basic activities of "content production" and "platform distribution" is no longer sufficient to sustain industrial growth.

2.2 Blended Learning: Definition and Core Elements

Blended learning is defined as "the combination of face-to-face teaching and computer-mediated teaching" [5]. In the context of commercial knowledge payment, its precise definition should be: a composite learning model that takes users' ability improvement and behavioral change as the core goals, systematically integrates two core components of "online asynchronous digital learning" and "offline/synchronous interactive practice", and constructs a complete learning path of "knowledge input - practical application - feedback optimization - ability sublimation" through the integrated design of "goal unification - division of labor coordination - data closed loop - feedback iteration". Its core elements include:

Online component: Provides scalable and standardized knowledge transmission (videos, audios, graphics and texts) and asynchronous exercises (assignments, tests, independent discussions), undertaking the functions of "basic cognitive construction" and "learning data collection".

Offline/synchronous component: Provides highly interactive and contextualized in-depth learning (workshops, case discussions, practical guidance, community co-creation), undertaking the functions of "difficulty breakthrough", "skill internalization", "emotional connection" and "practical transformation".

Integrated design: Online and offline are not simply superimposed, but carry out functional division of labor and logical linkage based on unified learning goals, and achieve precise matching through learning data (such as online assessment results, learning behavior trajectories) to form a closed-loop optimized learning ecosystem.

2.3 Analytical Framework: Extension Based on Porter's Value Chain

This paper draws on Porter's Value Chain Model to construct an analytical framework for the knowledge payment industry (Figure 1). The core contribution of the traditional Porter's value chain model is to reveal that "the relevance of value activities determines the overall value". Its dichotomy of dividing activities into primary activities (directly creating value) and support activities (assisting value creation) provides a systematic tool for deconstructing the logic of industrial value creation. The traditional model divides activities into primary activities (directly creating value) and support activities (assisting value creation). Combining the characteristics of digital products, this paper decomposes the primary activities of knowledge payment into: Content R&D → Product Packaging → Marketing and Customer Acquisition → Learning Delivery → User Relationship Maintenance. The reshaping of blended learning will focus on the "Learning Delivery" and the associated links before and after, and push it from a chain structure to a network structure.

2.4. Applicability of Porter's Value Chain Theory in the Knowledge Payment Industry.

As a digital service industry, the core applicability of Porter's Value Chain Theory in the knowledge payment industry is reflected in three aspects: First, the "activity relevance" of value creation. The activities such as content research and development, learning delivery and user maintenance in knowledge payment have a clear logical progressive relationship, which is consistent with the core assumption of the value chain that "links collaboratively create overall value". Second, the "efficiency orientation" of value capture. Whether it is traditional manufacturing or digital service industry, the core goal of value chain optimization is to improve the efficiency of value creation and user value perception, which is also true in the knowledge payment industry. Third, the "supporting role" of support activities. Support activities such as technology development and human re resource management are crucial to the large-scale operation of knowledge payment, which is highly consistent with the positioning of support activities in Porter's theory.

2.5. Uniqueness of Porter's Value Chain Theory in the Knowledge Payment Industry.

Compared with traditional manufacturing or physical service industry, the application of this theory in the knowledge payment industry has significant uniqueness:

Non-substantiality of value carrier: The core value carrier is digital content and services, without physical logistics links. Therefore, "product packaging" in primary activities is in digital form (such as course packages, learning toolkits), and "learning delivery" presents online and asynchronous characteristics, which requires breaking through the thinking limitation of "physical product circulation" in the traditional value chain,

Two-way nature of value creation: Users are no longer simply value consumers. Their learning participation, feedback, community interaction and even co-creation directly become an important part of value creation (for example, users enrich learning resources by sharing practical cases in the community), breaking the linear logic of "enterprises unilaterally creating value" in the traditional value chain.

Centralization of support activities: Technology development (such as Learning Management System, LMS) and human resource management (such as learning coach teams) are no longer simple auxiliary activities, but core links that directly determine the quality of learning delivery and the efficiency of value creation. This is different from the value chain structure centered on "operations" in traditional manufacturing.

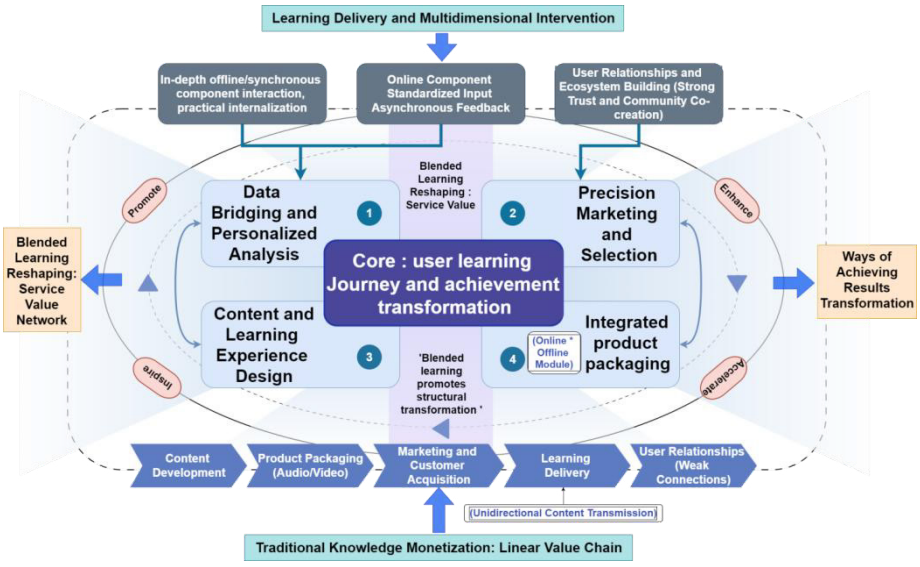

Figure 1. Analytical Framework Diagram of Knowledge Payment.

3 Research Methodology

This study adopts a multi-case exploratory research method, aiming to reveal the complex mechanisms of emerging phenomena through in-depth description of typical cases [6]. Following the principle of theoretical sampling, three representative Chinese knowledge payment entities with rich public information in blended learning practice are selected:

Case A (Dedao Advanced Research Institute): Derived from the leading audio knowledge platform "Dedao", it is a representative of business model transformation focusing on online core courses + offline urban alumni associations and practical projects.

Case B (HUNDUN ACADEMY Entrepreneurship and Business School): Focusing on innovative business theories, it adopts an in-depth blended model combining online recorded courses + offline "Thinking Model Training Camps" and cross-city lectures.

Case C (sanjieke Enterprise Service Business): Focusing on digital professional capabilities, it provides a B2B model combining online courses + offline/live practical workshops + project guidance.

Data sources include: 1) Official company materials, public speeches by founders and financial reports, 2) Third-party industry reports and authoritative media coverage, 3) Content analysis of public user reviews and case studies. Triangulation is used to ensure data reliability.

4 Reshaping Mechanism of Blended Learning on the Knowledge Payment Value Chain

4.1 Deepening and Extension of Primary Activities

Blended learning fundamentally deepens and extends the primary activities in the value chain, especially the "Learning Delivery" link.

- **Content R&D: From "Knowledge Organization" to "Learning Experience Design"**

Content R&D in the traditional model focuses on the authority of knowledge points and the interest of presentation. Blended

learning requires R&D to consider the division of labor and linkage between online and offline in advance. For example, Case B places core theoretical concepts online, while complex case analysis and practical deduction that require intensive discussion, debate and application are placed offline. The R&D output is not only content, but also a set of learning scripts including activity processes, interaction rules and feedback mechanisms.

• Learning Delivery: From "Unidirectional Transmission" to "Multidimensional Intervention"

This is the core of reshaping. Delivery activities are decomposed and enhanced:

Online Delivery: Undertakes the functions of "standardized knowledge input" and "basic cognitive assessment".

Offline Delivery: Undertakes high-value functions such as "difficulty deepening", "skill internalization", "emotional connection" and "practical transformation". The offline alumni association of Case A solves the problem of lack of contextual application in online learning through "knowledge problem co-creation" in cross-industry offline groups.

Data Bridging: Online learning data (such as assessment results, stay points) is used for personalized preparation of offline guidance, forming a data closed loop and improving the accuracy of intervention [7].

• User Relationship Maintenance: From "Traffic Operation" to "Community Ecosystem Construction".

In this community ecosystem, user participation behaviors—including "online listening," a form of implicit participation—themselves become integral to value co-creation, fundamentally altering the logic of one-way value delivery [8]. One-time purchase is transformed into long-term service, and user relationships become a source of continuous value. The strong trust and sense of belonging established through offline meetings greatly enhance user stickiness. The student communities of Cases A and B have spontaneously derived behaviors such as cooperation and entrepreneurship, transforming the platform from a "content provider" to an operator of a learning-oriented social ecosystem, and users themselves have become part of value creation [9].

4.2 Strengthening and Transformation of Support Activities

• Technical Infrastructure: From "Player" to "Learning Management System (LMS)".

Platform technology is no longer just a content distribution channel, but needs to support complex functions such as assignment submission, group management, learning data analysis, and online-offline appointment linkage The technical system has become the central nervous system for the large-scale operation of blended learning.

• Human Resource Management: Spawning New Professional Roles.

New positions such as "Learning Coaches", "Offline Workshop Facilitators" and "Community Operation Officers" have emerged. Their understanding of educational psychology, facilitation technology and group dynamics is equally important as the subject knowledge of keynote teachers. This breaks the "creator-centered" human resource structure in the early stage of knowledge payment.

4.3 Fundamental Shift in Value Creation Logic: From "Product Value Chain" to "Service Value Network"

Comprehensive of the above changes, blended learning has promoted a fundamental shift in the logic of value creation (Table 1).

Comparison Dimensions	Traditional Knowledge Payment Model	Blended Learning Model
Content R&D Core	The authority and interesting presentation of knowledge points (focusing only on "knowledge organization")	Online-offline division of labor and linkage, outputting "learning scripts" (including processes, interaction rules, and feedback mechanisms)
Learning Delivery Method	Unidirectional transmission (audio/video/graphics, no interaction or feedback)	Multidimensional intervention: online "standardized input + basic assessment" + offline "difficulty deepening + skill internalization" + data-bridged personalized tutoring
Content R&D Core	Single digital content (course videos/audios)	Online content (videos/tests) + offline scenarios (workshops/training camps) + Learning Management System (LMS)
User Relationship Maintenance	Traffic operation (one-time purchase, weak connection)	Community ecosystem construction (long-term service, strong trust + user co-creation of value)
Value Creation Logic	Linear value chain (content → distribution → consumption, with the endpoint being "content delivery")	Circular value network (learning → practice → feedback → sublimation, with the endpoint being "ability improvement and behavioral change")

Table 1: Analytical Framework Diagram of Knowledge Payment.

Traditional Logic (Product Value Chain): Value is accumulated along a linear chain, with the end point being "delivery of content products". The core of profit lies in the sales difference and traffic monetization of content products.

New Logic (Service Value Network): Value is generated in a circular network centered on the user's learning journey. Nodes such as online, offline, community and data mutually enhance each other, jointly acting on the ultimate value of "user's ability improvement and behavioral change". The core of profit shifts to paying for this continuous process and service results, such as higher-priced training camp courses, annual membership subscriptions, and customized enterprise solutions.

5 Commercial Impacts and Industrial Pattern Evolution

5.1 Value Capture: Upgrade of Pricing Power and Profit Model

The outcome-based service logic has enabled knowledge payment to break away from the constraint of pricing solely by "content duration". The unit price of blended courses can be 5-10 times or even higher than that of pure online courses, and users have a stronger willingness to pay because they are purchasing predictable outcomes (such as a demonstrable project, a certified skill, or a high-quality network). The success of subscription models hinges on constructing a progressive hierarchy of user experience value, where sustained service delivers incremental satisfaction that maintains payment willingness over time [10]. The profit model has deepened from "one-time sales" to "subscription system" and "service fee system", resulting in more sustainable and stable income.

5.2 Competitive Foundation: From "Content Advantage" to "Comprehensive Service Capability"

Competitive barriers are no longer just celebrity endorsements and high-quality content. Systematic offline operation capabilities, community activity maintenance capabilities, and data-based measurement capabilities of learning outcomes constitute more complex and imitable new barriers. This promotes the concentration of resources to the head, driving the market from "barbaric growth" to "intensive cultivation".

5.3 Industrial Division of Labor: Decomposition of the Value Chain and Influx of New Collaborators

The high complexity of blended learning makes it difficult for a single institution to be proficient in all links. Professional division of labor has emerged: independent offline space service providers, professional training facilitator teams, learning management system SaaS suppliers, etc., have flocked in, forming a more segmented knowledge payment service ecosystem.

6 Discussion: Challenges and Future Outlook

6.1 Main Challenges

Contradiction between Scale and Personalization: Offline links cannot be expanded infinitely like online content, so balancing service depth and user scale is a core operational challenge.

Difficulties in Quality Control and Standardization: Offline experience is highly dependent on individual coaches and on-the-spot performance, leading to fluctuations in service quality. Establishing a replicable standard system is the key.

Sharp Increase in Cost Structure: Offline venues, manpower, etc., lead to a significant increase in operating costs, putting higher requirements on institutions' cash flow management and financial health.

6.2 Theoretical Contributions and Future Outlook

This study applies the value chain theory to the emerging digital knowledge service industry, revealing the dialectical development path of returning to physical interaction and in-depth services on the basis of digitalization. This transformation aligns with the broader trend of utilizing information technology to reform educational paradigms, as seen in vocational education and other sectors **[Error! Reference source not found.].** The process of reshaping the value chain by blended learning is essentially the difficult but inevitable return of the knowledge payment industry from the attribute of "media industry" to that of "education service industry".

In the future, with the development of artificial intelligence and extended reality (XR) technologies, the form of blended learning will further evolve. "Intelligent teaching assistants" may take on part of personalized guidance, and XR technology can create a more inclusive immersive simulated practice environment. However, the unique emotional support, complex feedback and creativity stimulation of human interaction will still be the irreplaceable highlight links in the blended learning value network. The sustainable development of China's knowledge payment industry will ultimately depend on its ability to take technology as wings and the essence of education as the anchor to build a value creation system truly centered on learners' growth.

7 Conclusions

This paper systematically discusses the reshaping of China's knowledge payment value chain by blended learning. The research finds that this reshaping is not simply adding offline links, but thoroughly changing the composition, connection mode and profit source of value activities through the integrated redesign of online and offline. It promotes the industry to shift from selling discrete knowledge products to providing integrated learning services that integrate "knowledge transmission, skill practice, community companionship and achievement verification". This transformation marks that China's knowledge payment industry is moving towards maturity, and its competitive focus has shifted from traffic competition and content creation to being responsible for the effect of the entire user learning process. For practitioners, it is necessary to re-evaluate the construction of their core capabilities, for researchers, this practice emerging in China provides an insightful case for global digital education innovation and the application of value chain theory in the service field. Future research can further quantitatively analyze the specific impact of blended learning on

user learning outcomes and retention rates, and in-depth explore the value distribution and game relationship among different stakeholders (such as creators, platforms, and offline partners).

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