Research on Pathways for Cultivating Professional Talent in Publishing Knowledge Services in a Pluralistic Supply Pattern: Postprint

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Abstract

[Purpose/Significance] The formation of a pluralistic supply structure for knowledge services presents both opportunities and challenges for talent cultivation in publishing knowledge services. How to effectively absorb advanced practices from other emerging knowledge service entities while preserving, inheriting, and promoting the traditions and distinctive features of publishing knowledge services, and how to actively achieve mutual exchange, learning, and value co-creation with pluralistic entities, have become pressing issues that traditional knowledge service providers must address in the new environment. [Method/Process] Focusing on the current transformation of the publishing industry oriented toward knowledge services, this study proposes innovative directions for publishing talent cultivation models by analyzing the guiding role of changes in key industry elements, expansion of core functions, and reconstruction of operational models on talent cultivation. [Results/Conclusion] This paper proposes a multi-dimensional "point-line-surface-volume" talent cultivation pathway for publishing knowledge services, specifically: improving the professional curriculum system for publishing, promoting industry-academia collaboration and joint cultivation, using talent as a link for multi-level integration, and participating in open innovation among pluralistic entities.

Full Text

Preamble

Title: Research on Training Pathways for Publishing Knowledge Service Professionals in a Multi-Supply Landscape

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Abstract: [Purpose/Significance] The emergence of a diversified knowledge service supply landscape presents both opportunities and challenges for cultivating publishing knowledge service talent. Traditional knowledge service providers must address urgent questions: How can they preserve, inherit, and advance publishing knowledge service traditions and distinctive features while effectively absorbing best practices from emerging knowledge service entities? How can they actively engage in mutual learning and value co-creation with diverse stakeholders? [Method/Process] Focusing on the transformation of the publishing industry toward knowledge services, this study proposes innovative directions for talent cultivation by analyzing how reforms in publishing' s key elements, expansion of core functions, and reconstruction of operational models guide publishing talent development. [Results/Conclusion] The study proposes a multi-dimensional "point-line-plane-body" talent cultivation framework for publishing knowledge services: refining the publishing curriculum system, promoting industry-academia joint training, using talent to connect multi-level integration, and participating in open innovation among diverse entities.

Keywords: knowledge service; publishing; multi-supply; talent cultivation
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Background Analysis and Problem Statement

Formation and Challenges of the Diversified Knowledge Service Supply Landscape

In recent years, the accelerated integration of the knowledge economy and digital economy, coupled with the growing influence of emerging information technologies, has continuously transformed knowledge production and dissemination mechanisms, profoundly altering traditional knowledge service models and structures. A key manifestation of this trend is the gradual formation of a diversified knowledge service supply pattern addressing society-wide knowledge demands. This parallel development of diverse knowledge services for the entire society is illustrated in Figure 1 [Figure 1: see original paper]. For instance, in the internet knowledge service sector targeting upgraded knowledge consumption demands, 2016 was hailed as the inaugural year of "knowledge payment" on the internet—a trend that continued for many subsequent years. Numerous commercial platforms positioned themselves as "knowledge service providers" in their marketing, a surge of "knowledge service" content platforms and apps launched, and ordinary users of knowledge services increased dramatically. Similarly, in the think tank knowledge service sector addressing high-level decision-making

information needs, the 2015 *Opinions on Strengthening the Construction of New-Type Think Tanks with Chinese Characteristics* sparked a domestic think tank construction boom, as think tanks themselves are institutions that provide various "knowledge services" based on knowledge innovation outcomes [1].

The formation of this diversified knowledge service supply landscape has also been driven by demand-side pull from society at large. China' s rapid social development and transformation, projected onto the cultural dimension, is centrally manifested in the increasing stratification, complexity, and diversification of public knowledge and cultural needs [2]. Stimulated by this massive demand side, the knowledge service supply side has flourished. Existing research categorizes current social knowledge services by supply entity into authoritative, voluntary, and commercial supply models [3-4]. These different knowledge service supply entities complement, coordinate, and influence one another, collectively forming a well-structured, comprehensive pattern to meet society' s growing knowledge and cultural needs.

For knowledge demand entities, this situation helps guarantee and satisfy their needs at different levels, but it also imposes new requirements on all types of knowledge service supply entities. Particularly for traditional knowledge service providers (such as libraries, educational institutions, and publishing houses), urgent questions arise: How can they preserve, inherit, and advance their own knowledge service traditions and distinctive features while effectively absorbing advanced experiences from emerging knowledge service entities? How can they actively engage in mutual learning and value co-creation with diverse stakeholders? These are critical issues that traditional knowledge service providers must resolve in the new environment.

The Diversified Supply Landscape Catalyzing Publishing Knowledge Service Talent Development

As a crucial component of the knowledge production and dissemination system, the publishing industry has gradually made publishing knowledge services an emerging field, accompanied by continuous accumulation of knowledge resources and the maturation of internet knowledge payment models. Since the National Press and Publication Administration launched the "Professional Digital Content Resource Knowledge Service Model" pilot program in 2015, publishing institutions have achieved remarkable results in professional domain knowledge system construction, knowledge service standard formulation, knowledge processing, knowledge production tool development, knowledge service platform construction, and knowledge service models, all under policy guidance. Seven knowledge service series national standards—such as the *Press and Publication Knowledge Service: Guidelines for Knowledge Resource Construction and Service*, *Press and Publication Knowledge Service: Basic Terminology for Knowledge Resource Construction and Service*, and *Press and Publication Knowledge Service: General Types of Knowledge Resources*—were successively released, providing technical foundations and standard guarantees for innovative develop-

ment of knowledge services in the publishing industry.

However, as Li Yixin, Deputy Director of the National Press and Publication Administration, emphasized in his speech at the 3rd China Publishing Industry Knowledge Service Conference in 2021, while publishing industry knowledge service products are becoming increasingly rich, platforms more sophisticated, and service models more mature, problems persist: inadequate satisfaction of personalized user needs, insufficient specialized talent, difficulties in technology implementation, and serious copyright infringement. Among these, the cultivation of specialized talent for publishing knowledge services is a fundamental issue, because talent are the adopters and appliers of new technologies and the bearers of new concepts. Compared with explicit resource and technology gaps, the cognition and skills internalized in specialized talent represent deeper factors influencing the development of knowledge service institutions.

Publishing Industry Transformation in the New Knowledge Service Environment

To effectively analyze the transformation trends of the publishing industry in the new knowledge service environment, this study adopts a systems theory perspective, viewing the entire society' s diversified knowledge service supply landscape as a macro-level system, with publishing knowledge services as a subsystem within it. The larger and smaller systems interact and influence each other. According to fractal theory, subsystems to some extent embody characteristics of the overall system. Systems can be understood through structure, function, behavior, and dynamics. Therefore, the following analysis proceeds from three aspects: structure, function, and operation of publishing knowledge services.

Structural Element Transformation for Knowledge Service-Oriented Publishing

System elements constitute the basic components or units of a system. The system dominates and governs its elements, while changes in elements affect the system. If we view publishing as a system, analyzing it from a scenario perspective reveals clear differences between traditional publishing and new knowledge service-oriented publishing in their constituent elements, primarily in environmental elements, service object elements, and resource elements.

Traditional publishing' s key elements are fixed reading environments, readers, and copyright. Specifically, traditional publishing systems operate based on general reading and learning scenarios, rely heavily on copyright resources, and provide standardized print or digital publishing products to readers. Knowledge service-oriented publishing systems, while retaining and fully utilizing these supporting elements, incorporate new key elements on the basis of reconstructed business models, upgrading core capabilities and effectively integrating into the new market environment. Specifically, the key elements of knowledge service-

oriented publishing mainly include ubiquitous service scenarios, vertical niche users, and diverse data.

First, scenario-based services represent the inevitable future trend of knowledge services. Digital-driven environments create rich consumption spaces for users, making knowledge acquisition no longer confined to traditional reading spaces and concentrated time periods. Knowledge services have become portable and mobile. Increasingly, publishing institutions are oriented toward ubiquitous service scenarios, transforming from reading services to scenario-based services. For example, in 2020, the "Longyuan Digital Culture City" project led by Longyuan Journal Network, as a digital city integrated media project, was selected as one of the "Top Ten Recommended Cases of China's Smart Cities 2020."This project, with cultural services, knowledge services, and life services as its core content and blockchain-based rights confirmation, traceability, incentive mechanisms, and models as the foundation of its open platform, connects party-government, social, and public needs to achieve the goal of "letting the mainstream return to the mainstream and letting reading connect everything in the city," exploring a knowledge service model based on ubiquitous scenarios.

Second, regarding users, they are the core of publishing knowledge services. Compared with the relatively vague reader groups in traditional publishing environments, knowledge service-oriented publishing emphasizes vertical and precise user services. This is based on three considerations: (1) due to the expansion of publishing knowledge service scope, traditional books, newspapers, and periodicals can no longer cover its business range, which increasingly integrates into new digital business forms, giving users stronger extensibility than traditional readers; (2) due to changes in publishing knowledge service business models, service objects are not necessarily consumers of products and services but more often users, making "user" more aligned with actual service objects; and (3) in an increasingly competitive market environment, based on resource constraints and optimization principles, publishing knowledge services will develop toward vertical niche areas and continuously improve precise service capabilities. These factors make vertical niche users a core element of publishing knowledge services.

Third, regarding data resources, data is the foundation of publishing knowledge services. Whether based on knowledge mining and services in professional fields or personalized knowledge recommendation services for users, all rely on data support. Specifically, data elements in publishing knowledge services are mainly manifested as content data, user data, and interaction data. Content data is the foundation and prerequisite of publishing knowledge services. In professional and scientific publishing fields, most publishing institutions have rich data resources and continuously expand their data collection scope. For example, publishing institutions like Nature Publishing Group have formulated scientific data sharing policies, requiring authors to upload corresponding scientific data when submitting manuscripts. Mining and reusing massive scientific data can provide resource guarantees for publishing knowledge services. Compared with content data, publishing knowledge services have stronger needs for

user data and interaction data. Using service platforms, publishing institutions can accumulate user lifecycle behavior data, improve knowledge recommendation effectiveness, optimize service forms, and simultaneously provide necessary support for topic development and strategic decision-making.

Core Function Expansion for Knowledge Service-Oriented Publishing

Function refers to the characteristics, capabilities, or essential attributes exhibited by a practice or system when interacting with its surroundings. Regarding publishing functions, Professor Fang Qing noted that publishing functions are the inherent utility and value of publishing acting on readers or society—both the inherent efficacy of publishing itself and its external effects or impacts. Publishing functions are determined by its essential attributes, reflecting the knowledge production capability centered on regulated replication [10]. In fact, due to differences in social environments across eras, publishing functions often present different expressions. In existing systematic research on publishing functions, we can see "three-function theory" [11], "four-function theory" [12], and "ten-function theory" [13].

According to relevant scholars, publishing' s core functions are based on its embedding in knowledge production models of different eras. From the early 19th century to the late 20th century, human knowledge production evolved from "Mode 1" to "Mode 3," with publishing functions continuously changing during this evolution [10]. Under "Mode 1" of knowledge production, which is interest-led and discipline-based, traditional publishing activities primarily aimed to promote the socialization of original knowledge. Under "Mode 2," which addresses real-world social problems, publishing functions manifested as personalized regulated replication, real-time interactive production, and platform-based distribution feedback, though users' roles remained limited.

Under current "Mode 3," based on a multi-level, multi-form, multi-node, multi-actor, and multi-lateral interactive knowledge innovation system, "the public"has been incorporated as a subject of knowledge production, forming a quadruple helix dynamic mechanism of "university—enterprise—government—public." Publishing knowledge production and knowledge services have formed a production-service community, emphasizing the integration of both incremental and stock resources, incorporating user-generated content into knowledge production, and expanding core functions oriented toward user services while retaining original publishing functions. Even in professional publishing fields with high knowledge thresholds, the open science wave has driven broader social actors to participate, promoting open publishing models based on scientific crowdsourcing and crowdfunding [14]. This knowledge production dynamic mechanism also aligns with the characteristics of the diversified knowledge service supply pattern proposed in this study, forming an upstream-downstream relationship from "diversified knowledge production" to "diversified knowledge services."

Operational Model Reconstruction for Knowledge Service-Oriented Publishing

A model refers to thinking patterns or manifestations that repeatedly emerge following certain rules or laws, representing basic solutions to frequently occurring problems in specific environments. Table 1 compares and summarizes changes in key process nodes between knowledge service-oriented publishing models and traditional publishing models. For a long time, traditional publishing developed a relatively mature operational model due to its stable external environment. Specifically, the traditional publishing industry operational model centered on editing, reproduction, and distribution, with content products reaching readers through chain-like stages of topic planning, manuscript review and proofreading, printing and binding, and distribution sales, featuring long intermediate cycles. Although the introduction of digital printing, online marketing, and other technologies significantly improved publishing process efficiency, obvious mismatches between supply and demand persisted, with low user interaction and single feedback channels, making it difficult to effectively obtain user demand feedback.

Knowledge service-centered publishing activities require full-process coverage of planning, production, dissemination, marketing, promotion, and feedback. On the basis of achieving publishing' s goal of socializing personal knowledge, it explores a content production service model for precise knowledge supply. Knowledge services are user-oriented, providing content support according to users' personalized needs. With the expansion of technology application scenarios and network popularization, the dominant position of printing processes has been compressed, and knowledge content no longer necessarily relies on integration in physical books. Multi-modal dissemination better suits mobile scenario usage habits, meeting diverse users' knowledge and capability enhancement needs.

Taking the knowledge service product "Zhongdu" under *Sanlian Life Weekly* as an example, this product transformed traditional publishing industry operational models. Targeting the "middle reading" state between mobile fragmented "fast reading" and traditional book/magazine "slow reading," it deeply integrated content internetization with internet-based content production, actively constructed all-media dissemination channels, enhanced relationships with users through efficient multi-source information dissemination and precise matching, and simultaneously introduced initiatives like "Come Create at Zhongdu" and popular circles like "Zhongdu Reading Club" to optimize community interaction and sharing experiences.

Knowledge Service Reshaping and Publishing Talent Capabilities

In the aforementioned transformation trends of the publishing industry, emerging information technologies have changed the original knowledge ecology, breaking the publishing market' s inherent forms and significantly altering publishing

content production, publication presentation, and reader behavior, with knowledge demands showing precise and personalized trends [10]. Multi-media, interactive, and community-based knowledge service forms have been widely adopted, requiring future publishing talent to possess stronger service consciousness, keen user insight, and adaptability to software and hardware technologies, necessitating comprehensive upgrades to publishing talent cultivation.

Technology Adoption and Product Transformation Capabilities

In the digital and intelligent environment of publishing knowledge services, profound changes have occurred in topic planning, content product development, distribution channels, and user services, posing new requirements for publishing talent' s technological capabilities. In knowledge content production, introducing intelligent technology has become a major trend. McGraw-Hill' s adaptive learning platform ALEKS, combining the knowledge space concept with artificial intelligence, provides users with knowledge resource matching and personalized teaching services based on knowledge states. In this context, knowledge service-oriented publishing talent needs to, on the basis of fully understanding technical principles, combine actual needs in different publishing fields to explore opportunities and challenges of technology-empowered publishing.

In user experience and service segments, with the widespread application of 5G-based virtual reality and augmented reality technologies, knowledge services with direct user participation have become possible. By mobilizing multi-sensory systems, immersive and scenario-based reading experiences can be created. In 2021, the renowned travel magazine *National Geographic* launched interactive content *National Geographic Explore VR*, using Peru' s Machu Picchu ruins and Antarctic exploration as primary scenarios to create immersive exploration experiences for users through VR technology. In the attention economy era, besides users actively seeking knowledge, new technological means are more often needed to create audio-visual content products that better match user interest points, thereby attracting sustained usage. Publishing talent must therefore keep pace with user experience and service trends, actively exploring and attempting to introduce advanced technologies from other fields into future knowledge service scenarios.

Resource Integration and Scenario Design Capabilities

Knowledge services are user-oriented, transforming from content supply to providing knowledge services. Audio-visual effects, delivery methods, interactive participation, marketing methods, and advertising placement all affect user experience. Knowledge services have moved beyond simple knowledge aggregation, and in practice, the provision methods can be varied and combined according to different information carriers to explore service methods that align with user scenarios and habits. Using big data collection and semantic analysis technologies can help publishing knowledge services better understand user needs and behaviors, such as tracking user browsing and search behaviors, gaining insights into

user habits and psychological preferences, and forming three-dimensional user portraits covering gender, occupation, age, education level, geographic distribution, preferences, consumption habits, and content preferences. This provides important reference value for knowledge service platform design, push mechanisms, content production, and marketing promotion. The introduction of technological elements like big data requires publishing talent' s skills to extend from the literature level to the data level—not merely staying at text content editing and planning capabilities, but being able to analyze and integrate user characteristics and behaviors presented through data, accurately analyze users' deep-level needs, and extract implementable knowledge service solutions.

User Linkage and Collaborative Work Capabilities

Traditional publishing possesses experienced teams for topic selection, editing, and distribution, but has limited capacity for timely excavation of users' deep-level needs and development of personalized application scenarios. As digitalization deepens across the industry, users are accustomed to seeking problem solutions through online searches, with cyberspace providing massive free information resources and abundant content choices. Pure content information can no longer meet diverse, scenario-based, and convenient needs. Personalized, data-driven, and collaborative production methods have given rise to more flexible publishing processes. Traditional publishing primarily follows product-dominant logic, whereas knowledge services follow service-dominant logic, exploring how to provide systematic, packaged knowledge services or solutions that attract users to participate in value co-creation, with value realized through actual user usage [17].

Future user participation in value creation will become a new source of competitive advantage for publishing service providers [18]. Publishing enterprises should not focus solely on information and knowledge supply but should delve into users' real contexts, paying attention to whether users achieve effective knowledge absorption and the resulting cognitive and behavioral changes [6]. This requires publishing talent to establish more direct and in-depth links with users, deeply understand personalized needs and usage contexts of service usage, and achieve work collaboration and value co-creation with users. Using professional knowledge, technology, and user insights, they must provide efficient and precise knowledge services. Especially in a diversified knowledge service supply landscape, different service methods lead to different user experiences and acceptance levels. Services provided through physical publications require users to establish usage connections in physical spaces with low portability, whereas networked knowledge services provide service resources through online platforms, meeting fragmented needs while requiring users to possess certain information tool operation capabilities to adjust and select service content according to personalized needs.

Recommendations for Multi-Dimensional Talent Training Pathways in Publishing Knowledge Services

The aforementioned new capabilities pose challenges to traditional publishing talent cultivation models. Traditional publishing, with paper-based physical products as carriers and limited application scenarios, adopted talent cultivation models based on traditional book, newspaper, and periodical editing, proofreading, printing, and distribution processes, focusing on publishing industry knowledge and skills with obvious linear structural characteristics. Publishing knowledge services, however, break out of single publishing scenarios to face multi-terminal, mobile ubiquitous service scenarios, presenting a compound capability cultivation model centered on knowledge production and dissemination. Table 2 compares the characteristics of publishing talent cultivation across different periods.

Table 2. Comparison of Publishing Talent Cultivation Characteristics Across Different Periods

Aspect	Traditional Publishing-Oriented	Publishing Knowledge Service-Oriented
Core Logic	Print book commodity-centered	User-centered
Application Scenario	Limited reading scenarios, paper carriers	Multi-modal, multi-terminal, mobile ubiquitous scenarios
Talent Type	Industry-specific	Compound application-oriented

To effectively adapt to publishing talent cultivation needs in the new knowledge service environment, this study, on one hand, builds upon the historical accumulation and traditions of the publishing industry and publishing discipline, and on the other hand, focuses on the current diversified knowledge service supply landscape to conceive a multi-dimensional "point-line-plane-body" talent training pathway.

4.1 Consolidating the Foundation: Refining the Publishing Curriculum System

How to address the impact of the knowledge economy and emerging information technologies is a common challenge facing traditional entities in the social knowledge production and dissemination system. Especially amid waves of disruptive innovation, publishing as a traditional craft, profession, industry, and enterprise must consider how to continue its traditions and genes in new environments, fulfill its mission in the social division of labor, and avoid transformation risks. As scholars Wang Yong'an et al. pointed out, guiding publishing knowledge services

with concepts that neglect the soul of publishing knowledge production undoubtedly dilutes and even sacrifices publishing' s essential function of transmitting knowledge to the world and making it public [10]. Publishing knowledge service talent cultivation should not come at the cost of abandoning publishing' s essential functional goals but should expand its service consciousness and capabilities while maintaining its core objectives.

In this understanding, particular attention must be paid to the "starting point" of talent cultivation—the curriculum system of publishing programs in higher education—which shapes future publishing practitioners' basic values, sense of mission, and professional dedication. With the iteration of modern information technology, the display space and forms of knowledge content have become richer, and knowledge service presentation methods will become more diverse [19]. Future knowledge publishing talent must not only master solid professional knowledge and skills in their discipline but also possess broad knowledge scope and deep accumulation, being able to comprehensively apply knowledge from computer science, foreign languages, economics, management, writing, and other fields to solve practical problems. Therefore, curriculum construction for publishing-related majors in universities should, on the basis of existing systems, deeply embed core knowledge service modules such as knowledge planning, knowledge product design, knowledge marketing, and knowledge operations to expand the application scope of publishing talent. Subsequently, corresponding capability dimensions should be abstracted, such as massive data information mining capability, knowledge content creation and selection capability, digital technology application and transformation capability, and knowledge service operation and dissemination capability, with corresponding courses addressing these capability dimensions.

4.2 Connecting the Training Chain: Promoting Industry-Academia Joint Training

In the rapidly developing knowledge service environment, the publishing curriculum framework built on editing, printing, and distribution can no longer fully meet industry needs for knowledge service-oriented publishing. A more open and mutually 牵引的格局 (mutually 牵引的格局 should be "mutually reinforcing pattern" or "mutually supportive pattern") needs to form between publishing practice and publishing education. Publishing practice institutions possess powerful platform resources and need to attract specialized high-level talent to build a strong talent reserve; university programs have relatively mature training systems and continuous talent supply; and for publishing talent (including future practitioners), beyond professional skill learning, practice is needed for verification. While the basic knowledge system is important, knowledge- and capability-driven publishing talent cultivation can address the industry' s rapid changes.

To this end, practice institutions and training institutions need deeper-level "two-way empowerment" and "two-way embedding." Existing research, based

on new era characteristics and practical needs, proposes that curriculum chain reconstruction is crucial for ensuring high-quality development of publishing professionals [20]. Starting from the publishing industry' s latest talent needs and based on modern communication concept development and technology application deepening trends, exploration of curriculum system reconstruction rules and feasible solutions is needed. On this foundation, the invisible wall between universities and publishing units must be broken, extending the curriculum chain into a training chain. The publishing knowledge service industry should timely participate in publishing talent cultivation, actively providing windows for talent to understand current knowledge service market changes in the digital media era, offering more pathways to enter practical application platforms and more diverse practice platforms, and participating in establishing 良性有效的快速反馈机制 (良性有效的快速反馈机制 should be "sound and effective rapid feedback mechanisms"). Simultaneously, publishing professional training units should proactively "front-load" and "extend" relevant training and teaching research activities, providing channels for contacting practice within students' program duration while offering professional consulting and other social services to practice institutions, using trained and delivered specialized talent as the link.

4.3 Expanding the Plane: Using Talent to Connect Multi-Level Integration

In the diversified knowledge service supply landscape, boundaries between industries are increasingly blurred, with mutual penetration and integration trends becoming more pronounced. Existing research has proposed integration at product, operation, and industry levels [7]. Compared with objective elements like content, channels, and technology, talent as living organisms will catalyze the connection of multi-level integration in knowledge services.

Compared with other emerging knowledge service supply entities, one of publishing' s advantages lies in its disciplinary knowledge system and talent cultivation system that support industry development, possessing relatively mature industry and professional communities that constitute the "plane" of publishing knowledge services. On this foundation, specialized publishing talent should serve as tentacles to extend this plane horizontally and vertically. Horizontally, publishing talent cultivation should transform from closed, inherent knowledge 灌输 (灌输 should be "indoctrination" or "transmission") to open, capability-oriented approaches, requiring connection of the aforementioned training chain. Drawing on and referencing the "revolving door" mechanism not only enables professional students and various trainees to possess both professional foundational knowledge and practical experience but also promotes trainers such as professional faculty to more deeply and comprehensively engage with industry frontiers, such as through 挂职和轮岗 (挂职和轮岗 should be "secondments and rotations") within publishing institutions while actively hiring "industry mentors" from publishing practice. Vertically, compound talent who understand data integration, process integration, and business model integration need to

be cultivated to serve as communicators between different entities and levels.

4.4 Building Collaborative Entities: Participating in Open Innovation Among Diverse Stakeholders

If the aforementioned "point-line-plane" dimensions remain confined within the publishing domain, the "body" dimension adapts to the previously mentioned diversified knowledge service supply landscape. In this multi-supply landscape, the broad knowledge industry—including publishing, education, and training—will undergo a new round of reshuffling and restructuring. Compared with past industry integration driven by production ends, this round is fundamentally demand-driven, with more profound impacts [6]. For publishing institutions to establish themselves in the new knowledge service landscape, they must, on one hand, abandon the mindset of dominating upstream and downstream industrial chains and focus on cultivating their unique ecological niches and value growth points, and on the other hand, actively link with other entities, seeking extensive cooperation with relevant domain stakeholders to expand market space while amplifying their own advantages and defending their 固有阵地 (固有阵地 should be "inherent positions").

When it comes to publishing knowledge service talent cultivation, the diversified supply landscape described in this study not only supplies knowledge products to knowledge audiences but also provides diverse talent output channels, talent mobility opportunities, and talent cultivation platforms for publishing talent cultivation. In reality, traditional publishing institutions are extensively and deeply cooperating with diverse entities such as internet platforms, education industries, consulting industries, and individual self-media. In this process, practitioners from the publishing industry continuously play and optimize their capabilities in content product design, planning, processing, editing, and integration. This capability nourishment from the front lines of cooperation, in turn, enriches the disciplinary knowledge foundation of publishing. Therefore, in future multi-entity collaboration, not only should technology and channel integration be emphasized, but deep talent integration should also be valued.

In April 2022, the *Implementation Opinions on Promoting Deep Integration Development in Publishing* issued by the Publicity Department of the CPC Central Committee explicitly proposed innovating content presentation and dissemination methods, fully grasping new reading needs of different audience groups in the digital era, and launching more digital publishing products and services widely accepted by readers and suitable for network dissemination [21]. The publishing knowledge service industry is still in its infancy. Novel audio-visual experiences, multi-screen interactive reading, and specialized knowledge products demonstrate the value space where people and technology complement each other. Talent reserves are crucial forces for sustainable industry development. In the future, whether for public-oriented or institution-oriented knowledge services, deep segmentation of knowledge products and model innovation will bring new opportunities and challenges to industry development. The publishing in-

dustry should, based on the overall trend of knowledge service development, further strengthen deep integration between "traditional professional advantages" and "emerging technologies," boldly innovate publishing talent cultivation models, and contribute important strength to deep publishing integration and knowledge society development.

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Note: Figure translations are in progress. See original paper for figures.