

Analysis of Value-added Service Models for Scientific Journals in the Digital Environment (Post-print)

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Abstract

Economic development is inseparable from scientific progress, which in turn requires the support of various auxiliary components, among which scientific and technological journals play a vital role. As a long-standing channel for disseminating scientific achievements and analyses, scientific and technological journals influence, to a certain extent, the pace and depth of scientific advancement. The ongoing development of information and digital technologies has brought transformative changes to all sectors of society, and these technologies likewise offer significant benefits for scientific and technological journals. This paper analyzes and discusses how such journals can leverage digital means to provide value-added services, thereby promoting their sustainable development.

Full Text

Preamble

ChinaXiv Cooperative Journal: Prospects and Judgments • Research

Analysis of Value-Added Service Models for Scientific Journals in the Digital Environment

Abstract: Economic development cannot be separated from scientific progress, which in turn requires support from various auxiliary components. Among these, scientific journals play a crucial role in advancing science. Historically, scientific journals have served as the primary channel for disseminating scientific achievements and analyses, fundamentally influencing the pace and depth of scientific development. The ongoing evolution of information and digital technologies has transformed numerous industries, and scientific journals stand to gain significantly from these advancements. This paper examines how scientific journals

can leverage digital tools to deliver value-added services, thereby fostering their sustainable development.

Keywords: Digital environment; Scientific journals; Value-added services

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1. Connotation and Development Overview of Value-Added Services for Scientific Journals

Value-added services for scientific journals refer to personalized information services that center on user needs, leverage digital technology, and process and reorganize content resources to provide richer content and more diverse presentation formats. Due to the highly specialized nature of scientific journals, their value-added services similarly exhibit strong professional characteristics. Generally, scientific journals maintain a relatively fixed user base; therefore, in designing value-added services, core users should constitute the primary design consideration, with their needs and circumstances thoroughly investigated to better grasp market trends.

Currently, domestic scientific journal publishers exhibit significant gaps compared to international mainstream journals in terms of research and application depth of digital technologies. Additionally, domestic users of scientific journals demonstrate limited understanding and awareness of value-added services, resulting in reluctance to pay for such services and consequently restricting the digital development of value-added offerings. To address this situation, publishers must pursue a two-pronged approach: first, further develop digital technologies to enable deeper application in practical operations; second, educate users about the utility and functions of value-added services to enhance their understanding and ensure successful service implementation.

In the publishing industry, digital publishing has gradually replaced traditional print-based methods, representing the future direction and trend. As a critical component of the publishing sector, scientific journals must inevitably embrace digital publishing and editing. Integrating scientific journals with digital technology will facilitate their improvement and drive overall industry development.

2. Basic Requirements for Digital Value-Added Services of Scientific Journals

New media offers technological advantages that traditional media cannot match in enhancing journal influence, improving publication efficiency, and provid-

ing convenient information access for readers. Achieving organic integration between new media and scientific journal value-added services—utilizing novel information and communication technologies to present value-added services multidimensionally—delivers more convenient experiences for readers.

Traditional journals have long been constrained by print-only publishing models, limiting their dissemination scope and speed. Digital technology enables integration between scientific journals and various emerging media platforms, facilitating comprehensive journal consolidation and providing more convenient and comprehensive services to users through integrated platforms.

Value-added services play a vital role in scientific journal publication and development. On one hand, they provide targeted and convenient services for users; on the other hand, they generate revenue for publishers, enabling greater investment in future development. Specifically, digital value-added services for scientific journals are based on users' actual needs, employing various digital technologies and methods to better serve users, including providing intelligence, consultation, research evaluation, and training courses—representing an important approach to deeply mining journal content.

The application of digital means must be based on platform-based media. Currently, three key issues demand attention in value-added service development: first, the transition from digitalization to personalization and servitization; second, the integration of content and channels onto a unified platform; and third, the utilization of interdisciplinary talent. For scientific journals, this approach can expand audience reach, promote value-added services on a larger scale, and provide users with superior experiences.

2.1 Shifting Perspectives: Customer-Centric Approach

For scientific journal editors, it is essential to promptly shift toward digital service concepts. Value-added services center on customers' specific and personalized needs; therefore, understanding precisely what services customers require—through thorough research and perspective-taking—is crucial for delivering targeted service content that attracts greater user attention and utilization.

2.2 Building Network Platforms: Internet Thinking

Scientific journal network platforms represent the most important channel for integrating information and users, as well as a critical method for implementing digital value-added services. Establishing a mature network platform enables faster and more effective dissemination of journal information and services to users, increasing awareness of different scientific journals. Additionally, within the journal ecosystem, network platforms facilitate communication and interaction, allowing targeted delivery of different information types and formats to different users, thereby providing convenience for reading.

2.3 Establishing Dedicated Digital Media Teams

Scientific journals require dedicated digital editorial staff and service teams to accomplish daily value-added service tasks. Applying digital means in value-added services demands professional and technical expertise. In the current digital publishing industry, digital editors for scientific journals can transform traditional journal information into online formats, consistently keep pace with digital trends, align journal content with technological developments, and direct traffic to increase user numbers.

3. Specific Value-Added Service Models

3.1 Enhanced Publishing Value-Added Services

Enhanced publishing represents a completely new journal product form that employs digital means to deliver content services. By incorporating research data, supplementary materials, and additional information beyond traditional publications, enhanced publishing transforms conventional content presentation and dissemination methods.

Academic papers published in scholarly journals are often limited to the articles themselves. Through enhanced publishing, readers can gain detailed insights into authors' research processes, examine original paper formats, and understand additional research concepts and future directions, providing references and suggestions for readers' own research while delivering new reading experiences.

Relative to traditional scientific journal publishing, the digital integration and processing of journal content and information represents a key characteristic of digital publishing. Leveraging the user base and community of scientific journals enables more targeted content delivery—an advantage of using digital technology for value-added services. First, a well-developed scientific journal platform website requires substantial high-quality information as its foundation, including papers and academic achievements. Editors can utilize platform recommendation and highlighting features to prominently present this information, enabling users to quickly grasp key journal content and facilitating reading and browsing. Second, digital technology allows secondary processing and extraction of refined content from scientific journals, enabling targeted data dissemination based on practical applications and mainstream trends to maximize journal advantages. Third, digital methods themselves offer far greater promotional reach and efficiency than traditional approaches; therefore, using digital means to provide journal value-added services can expand dissemination scope, increase journal circulation, and ultimately improve publisher revenue.

3.2 WeChat Public Platform Value-Added Services

As information technology continues evolving, reading methods are constantly updating. Few information dissemination channels can match WeChat pub-

lic accounts in terms of proximity to readers and authors. Scientific journals launching value-added services through WeChat public platforms can achieve intellectualization, personalization, interactivity, and differentiation of value-added services to maximally satisfy user needs.

Operational model characteristics include: (1) WeChat public platforms can flexibly and accurately integrate with journal branding, presenting not only traditional magazine content but also creating distinctive features that help users position content and better achieve integration between journals and digital means. (2) Digital technology can deliver more suitable journal content to users, presenting required information through multiple formats such as images and videos to provide multidimensional displays that aid user comprehension and learning.

3.3 Electronic Journal Value-Added Services

The emergence of electronic journals has transformed traditional one-way information dissemination and communication, creating closer and more direct connections between authors, publishers, and users. Journal publishers can also leverage internet distribution platform value-added services to conduct more accurate and rapid reader data statistics—including gender, age, region, and reading preferences—capabilities unmatched by traditional journals.

Electronic journal operational characteristics include: (1) Electronic journals offer large information storage capacity and can present content through repeated combinations of video, audio, animation, images, and other elements. Users can conveniently collect electronic journals, reducing collection volume by at least 90% compared to traditional print journals. (2) Geographically, electronic journals can transcend national boundaries and arrive instantly, making distribution and dissemination faster and enabling information 传播 anytime and anywhere while simplifying editorial and publishing procedures and shortening publication timelines. (3) Electronic journals significantly reduce production costs. Since distribution and sales require no investment in paper printing or mailing expenses, production costs are substantially lowered, thereby increasing profitability.

Value-added services for scientific journals ultimately deliver information appreciation and optimized user experiences, 挖掘 the multiple service functions of scientific journals for authors, readers, and industry development, creating better opportunities for journal development, enhancing core competitiveness, and achieving sustainable development.

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