

# Digital Publishing Technology and Post-Print Digitalization of Editorial Work in Professional Publishing Houses

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## Abstract

**Objective:** To investigate the key points of digital publishing technology and the primary methods for digital transformation of editorial work in specialized publishing houses. **Methods:** This paper begins with the essence of digital publishing technology, proceeds to explore its practical significance, elaborates that implementing digital transformation constitutes a timely reform direction for the innovative development of editorial work in specialized publishing houses, and further reflects the practical effectiveness of digital publishing technology. **Results:** Through summarizing and analyzing the essence and significance, this study identifies digital transformation pathways including advanced digital technologies, confirming publishing standards and copyrights, strengthening technological application capabilities, and enriching editorial content. **Conclusion:** The application of digital publishing technology is a crucial measure for innovation and reform in the publishing industry, and relying on these four digital transformation pathways can help specialized publishing houses achieve remarkable results in integrated digital development.

## Full Text

### Preamble

#### Digital Publishing Technology and the Digitalization of Editorial Work in Specialized Publishing Houses

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### Abstract

**[Objective]** This study examines the key elements of digital publishing technology and the primary methods for transforming editorial work in specialized

publishing houses. **[Method]** Beginning with an analysis of digital publishing technology' s connotation, the article elucidates its practical significance and demonstrates how digital transformation represents a timely reform direction for editorial work innovation in specialized publishing houses, thereby mapping the technology' s tangible effects. **[Results]** Through systematic analysis of its connotation and significance, four digital transformation pathways are identified: leveraging advanced digital technologies, establishing publishing standards and copyright frameworks, strengthening technical application capabilities, and enriching editorial content. **Conclusion** The application of digital publishing technology constitutes a crucial measure for innovation and reform in the publishing industry. By implementing these four transformation pathways, specialized publishing houses can achieve remarkable results in digital integration and development.

**Keywords:** digital publishing technology; specialized publishing houses; editorial work; VR technology

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## 1. Connotation of Digital Publishing Technology

Digital publishing refers to a novel publishing model that employs digital technology as its foundation, encompassing editorial work, marketing, and publishing management to create an entirely new publishing landscape. Digital publications in the market manifest in diverse forms, including digital journals, digital newspapers, e-books, online games, animation, and mobile novels. Unlike traditional paper-based publications, these primarily utilize new media carriers for dissemination.

As early as 2008, an Australian scholar defined digital publishing technology as “publishing technology that uses the Internet as a dissemination channel and digital databases for global platform reuse of information content.” Fundamentally, digital publishing technology maintains a close correlation with Internet technology, consistently employing Internet platforms as the primary medium for information exchange and utilizing digital databases to enable multiple uses of published works. Consequently, traditional publishing industries must fully harness the power of digital publishing technology to establish a foothold in the new era and achieve long-term development through integrated growth.

## 2. Significance of Digital Transformation for Specialized Publishing Houses

Specialized publishing houses are established with specific publishing missions as their primary focus, covering domains such as water conservancy and chemical engineering, agricultural law, people's art, and ancient classics. According to data from the China Business Intelligence Network, China's book market generated 20.4 billion RMB from physical bookstores in 2020, while online channels yielded 76.7 billion RMB, demonstrating overall growth and indicating robust momentum for digital transformation in the publishing industry. Specialized publishing houses should take a leading role in digital reform initiatives, enhancing the industry's economic level through new editorial models.

### 2.1 Achieving Efficient Manuscript Review

During content collection, specialized publishing houses must review materials for publication. In traditional editorial work, reviewers proofread manuscripts through simultaneous reading and checking, often requiring repeated reviews that consume substantial time. Against the backdrop of digital transformation, online review can now be accomplished directly through digital devices. Combined with computers and proofreading software, this approach enables rapid manuscript review, enhances manuscript standardization, and effectively controls the time spent on verification and queries during the review period.

### 2.2 Clarifying Publishing Procedures

Traditional workflows require multiple stages: initial review, editing, secondary review, final review, typesetting, three rounds of proofreading plus one reading, and printing. During revision, personnel often modify original manuscripts directly to save time, which compromises the integrity of the original when typesetting errors occur later, as manual typesetting remains the norm. Digital editing can increase the precision of each publishing step, effectively safeguard the original manuscript, and simplify the overall publishing process.

### 2.3 Developing Personnel Value

The effective application of digital publishing technology in specialized publishing houses enables deeper development of personnel value. Editorial staff in specialized publications possess strong professional foundations, yet traditional methods require considerable time for reading edited manuscripts, leaving other tasks inadequately addressed. The use of digital technology broadens review channels, improves time utilization, saves time for personnel while improving editorial quality, and generates positive impacts for both editorial work and staff.

## 2.4 Enhancing Innovation Vitality

During the digital transformation phase, specialized publishing houses must apply numerous new technologies to complete editorial tasks, requiring editors to maintain high innovation activity. They must cultivate innovative thinking during technical operations, master digital technology application skills, and devote greater attention to manuscript quality under technical guidance, thereby optimizing editorial effectiveness.

## 3. Digital Transformation Pathways for Editorial Work in Specialized Publishing Houses

### 3.1 Leveraging Advanced Digital Technologies

Editorial work in specialized publishing houses encompasses topic selection, manuscript solicitation, review, and compilation, all of which must reflect professional characteristics. When achieving digital transformation goals, these houses should fully utilize advanced digital technologies to accelerate editorial model reform. Applicable technologies are diverse; two particularly relevant examples illustrate their specific impact on editorial work.

First, VR technology employs stereoscopic imaging simulation design principles to provide immersive reading experiences. In editorial work, this technology guides editors through more realistic and comprehensive review environments, preventing oversights caused by limited visual scope. Successful precedents exist for VR technology in publishing, with news organizations establishing dedicated VR news laboratories and “VR wormholes” for topic selection and material gathering, enabling editors to fulfill their responsibilities through novel work experiences. Post-publication, new VR reading programs allow both editors and audiences to appreciate the technology’s value. Consequently, all editorial tasks—from title determination and material collection to manuscript review—can be performed within simulated reading contexts, ensuring editors transition from conventional work patterns under technological guidance.

Second, since the comprehensive commercialization of 5G technology, its rich application scenarios have provided favorable conditions for specialized publishing houses. The rational use of 5G technology in editorial work represents another important attempt at digital transformation. For instance, People’s Literature Publishing House has long applied digital technology in daily operations, adhering to the principle of “frequent use, constant renewal” by continuously introducing new technologies. Publications such as “First Lesson of School” have established innovative editorial columns like “Scan to Watch Videos,” while readers can download “Humanities Software” to experience the pleasure of audio-visual integrated reading. Editors also enhance manuscript quality through hyperlinks and audio-visual material collection, making editorial work increasingly convenient and enabling editors to excel in their positions.

### 3.2 Establishing Publishing Standards and Copyright Frameworks

When publishing digital publications, specialized publishing houses must scientifically define both publishing standards and copyright frameworks during digital transformation to maintain legality and standardization in the digital work environment.

**(1) Standards Confirmation.** Digital publications following the “reuse” principle have broad dissemination scope. To improve editorial quality, clear work standards must be established to prevent reduced information accuracy. On one hand, editors must produce comprehensive work plans detailing digital publishing technology application techniques and pathways, clearly presented in manuals or work guidelines to direct standardized operations. For example, one specialized publishing house established a “Digital Publishing Technology Specification” enumerating multiple technical application standards, guiding editors to rationally employ digital technology for industry development, including media processing, website construction, and extensible symbolic language technologies, each with specific requirements. For media processing technology, editors must understand cropping, clarity adjustment, attribute settings, and size switching for audio, video, images, and animation materials, with basic requirements satisfying fundamental editorial needs.

On the other hand, editorial work imposes stringent professional requirements, necessitating strengthened management functions during digital development. Management standards should be established to increase compliance, with management systems formulated when necessary to guide editors in observing industry standards and avoiding individual actions that impede digital transformation. Crucially, editors must correctly apply digital publishing technology according to auxiliary tool instructions during review, ensuring the publishing industry’s standardized transformation and laying a solid foundation for digitalization.

**(2) Copyright Confirmation.** Publishing specialized journals requires substantial effort from editorial staff. Due to their reliance on digital publishing technology and diverse dissemination channels, digital publications face serious homogenization issues, often stemming from weak copyright awareness. While this problem occurs less frequently in specialized publishing houses, copyright must be further confirmed to protect editorial achievements.

First, legal regulations must be clearly defined for specialized publishing houses, including strict implementation of the “Electronic Publications Management Regulations,” “Copyright Law,” “Digital Economy Law,” and “Database Copyright and Rights Regulations.” Before publication, specific editorial team members must be verified and credited to defend copyright.

Second, editors must prioritize information security protection for manuscripts, particularly digital information created on computer platforms. Software such as 360 Security Guard and Kingsoft Antivirus can purify the network environment,

and regular upgrades of editorial system software prevent information loss or leakage.

Finally, editors can employ hierarchical management to protect copyright. Permission-based management should be implemented for network databases and digital publications. Editors must accurately analyze publication value levels and establish unified management systems. Before publication, editors should establish deep interactive relationships with authors, understanding their intentions through communication and discussion to improve publication quality. Real-time communication scenarios can be created using digital technologies such as WeChat video and Tencent Meeting. Editors must neither ignore author feedback nor completely retain original content based solely on author opinions. For education publishing houses, where readers are primarily students, information deviations could negatively impact cultural cognition among the next generation, requiring editors to conduct in-depth research with authors or scholars to demonstrate strong cultural influence.

### 3.3 Strengthening Technical Application Capabilities

Digital transformation of editorial work in specialized publishing houses demands exceptional digital publishing technology application capabilities. Current capability assessments reveal that many editors remain limited by traditional work thinking, resulting in low adaptability and acceptance of new technologies. If editorial capabilities are weak, there exists a widespread risk of reducing cognitive levels. Therefore, editors must focus on capability development.

Specialized publishing house editors are the main force of digital transformation. Capability strengthening should proceed along two dimensions:

First, organize specialized technical training. Editors should regularly participate in training programs offered by publishing houses, gradually improving their technical application capabilities through theoretical learning and practical exercises, with particular emphasis on dual cultivation of professional ethics. For example, Weifang Beida Jade Bird Huaguang Typesetting Enterprise provides 120-minute online training courses for publishing houses, focusing on digital composite publishing technology. Through in-depth study of systems such as the Changda News Reporting Command System and Release Management System, editors profoundly recognize digital publishing technology's impact on editorial work. As online training, this approach expands training scope, enabling more editors to review course recordings during free time and promoting effective integration between traditional and new editorial work.

Second, strengthen deep interaction with authors. As personnel responsible for topic selection and manuscript review, editors should establish real-time communication scenarios with authors using digital technologies. Editors must balance author feedback with professional judgment, particularly in education publishing houses where readers are primarily students lacking discernment. Weak

editorial capabilities could universally lower cognitive standards, making capability development essential.

### 3.4 Enriching Editorial Content

As knowledge carriers created through digital publishing technology, digital publications typically do not undergo significant content changes. For education publishing houses, textbook updates mainly involve layout adjustments or removing less valuable articles. For content innovation, editors should consider incorporating current affairs or academic achievements aligned with contemporary contexts. This not only increases content comprehensiveness but also demonstrates novelty.

For technical publications, editors must promptly include new technology-related content. During digital development, improvements to traditional editing models should prioritize digital integration rather than directly replacing paper resources. Instead, paper resources should be used rationally in review and compilation details to establish complementary workflows.

Taking the long-established Central Compilation & Translation Press as an example, when editing publications such as *Meditations* and *The Color of Character*, editors can collect new materials and popularity data across multiple languages from online platforms, then compile them into multilingual publications based on original paper resources to expand content influence. Additionally, ancient books publishing houses among China's specialized publishers should utilize computer and electronic scanning technologies to restore ancient texts with greater authenticity during digital editing, while adding QR codes and VR reading modules to provide readers with multi-layered reading experiences under editorial guidance.

During the deepening reform of specialized publishing houses through digital publishing technology, enhanced collaborative interaction with foreign publishers is also possible. As digital publishing technology becomes widely adopted, more international publishers are initiating cooperation projects, allowing specialized publishing houses to gain practical experience from partnerships, including breakthroughs in editorial technology and unique content perspectives. International publishing cooperation typically employs two methods: copyright import and copyright export. The former involves publishing translated works to provide readers with comprehensive understanding of domestic and foreign scholars' thoughts. For instance, People's Literature Publishing House and Hebei Education Publishing House introduce outstanding foreign literary works when publishing educational books, seeking professional guidance from international publishers on copyright issues to achieve civilizational interaction through content exchange. The latter involves introducing Chinese writers and translators to overseas publishers to deepen their understanding of Chinese culture and achieve content sublimation in publication. Both methods create favorable interactive platforms through digital publishing technology.

For example, John Wiley & Sons consistently emphasizes publishing cooperation in China, engaging in deep exchanges with domestic publishers on “digital publishing issues.” With digital publishing technology support, China’s specialized publishing houses can develop within the “Belt and Road” framework.

During digital transformation, specialized publishing houses must also emphasize technology integration, actively seeking innovative experience from successfully transformed peers regarding technology application channels and methods under legal and reasonable premises.

## Conclusion

In summary, the effective application of digital publishing technology in specialized publishing houses has become a mainstream trend. To ensure editorial quality, digital transformation goals should be implemented through four pathways: advanced digital technology, publishing standards and copyright, technical application capabilities, and editorial content enrichment. This approach will enhance specialized publishing houses’ digital editing levels, lay foundations for future industry influence, and satisfy publishing needs in the information age.

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Chen Jianfeng (1985-), male, from Gaobeidian, Hebei, holds intermediate publishing qualifications at China Civil Aviation Publishing House Co., Ltd. His research focuses on editing and publishing.

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

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