

# Enhancement Pathways for Editors' Comprehensive Capabilities in the Convergent Publishing of Scientific Journals: A Case Study of the Journal of Food Safety and Quality Postprint

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## Abstract

[Objective] In the multimedia coexisting media ecology, enhancing the comprehensive capabilities of scientific journal editors is of great significance for promoting the high-quality development of journal integrated publishing.

[Method] The current status of comprehensive capabilities of scientific journal editors is analyzed, and measures are summarized by taking the editorial system construction of *Journal of Food Safety and Quality* as an example.

[Result] It is proposed that editors need to enhance their awareness of integrated publishing and professional literacy, while journal institutions need to balance talent cultivation mechanisms and develop editors' integrated capabilities in topic selection, content, marketing and publicity, so as to enhance the comprehensive capabilities of scientific journal editors.

[Conclusion] Enhancing editors' awareness of integrated publishing, strengthening the cultivation of integrated publishing skilled talents by journal institutions, and improving editors' integrated capabilities in topic selection, content, marketing and publicity will help achieve the high-quality development of integrated publishing for scientific journals.

## Full Text

### Preamble

**Pathways to Enhancing Editorial Comprehensive Competencies in the Convergent Publishing of Sci-Tech Journals: A Case Study of the *Journal of Food Safety and Quality Detection***  
(China Inspection and Testing Society, Beijing 100022)

## Abstract

**[Objective]** In the multimedia-coexisting media ecology, enhancing the comprehensive competencies of sci-tech journal editors holds significant importance for promoting high-quality development of convergent publishing. **[Methods]** This paper analyzes the current status of editorial competencies in sci-tech journals and summarizes the measures taken in the editorial system construction of *Journal of Food Safety and Quality Detection*. **[Results]** The study proposes that editors need to strengthen convergent publishing awareness and professional 素养, while journal institutions must balance talent cultivation mechanisms to develop editors' integrated capabilities in topic selection, content production, and marketing promotion, thereby enhancing their comprehensive competencies. **[Conclusion]** Strengthening editors' convergent publishing awareness, reinforcing the cultivation of convergent publishing skilled talents by journal institutions, and improving editors' integrated capabilities in topic selection, content production, and marketing promotion will facilitate the high-quality development of sci-tech journal convergent publishing.

**Keywords:** Convergent publishing; Sci-tech journals; Editorial comprehensive competencies; Modern communication; New media technology application

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### 1.1 Mainstream Media Has Ushered in an Opportunity for Systemic Transformation

Media convergence represents an optimization approach to media ecology that satisfies public information consumption demands against the backdrop of rapid information technology development. It requires not only the optimal allocation of content, media formats, and operational management, but also multi-dimensional integration of media functions, communication methods, and organizational structures [1]. Currently, deep media convergence has become the new operational model for mainstream media under diversified information dissemination, posing higher requirements for the comprehensive competencies of practitioners in traditional mainstream media such as books and journals that are constrained by fixed content formats and communication forms. As the primary executors of journal content acquisition and editing and important participants in convergent publishing, editors must comprehensively improve their competencies to ensure steady development of journal convergent publishing. Facing the objective realities of a shrinking journal publishing market and diver-

sified information dissemination, sci-tech journal editors urgently need to break free from the confines of “text editing work” and comprehensively enhance their competencies to meet the service demands of high-quality journal convergent publishing in the new media environment. The following sections will analyze the current status of comprehensive competencies among sci-tech journal editors and explore the publishing practices and explorations of *Journal of Food Safety and Quality Detection* (hereinafter referred to as “the Journal” ) in the convergent media environment, aiming to provide references for the high-quality development of sci-tech journal convergent publishing.

## 1.2 New Requirements for Editorial Competencies in the Broader Media Environment

In the convergent media environment, the role of journal editors extends beyond content organization and production to encompass management and integration of information, authors, media, and other resources. The editorial center serves as the core hub for convergent publishing work, making the editor’s role particularly crucial. To achieve successful convergent publishing in sci-tech journals, editors must transform from single-skill professionals to “service-oriented editorial talents,” requiring not only professional skills for their original positions but also the application of digital media technology, network communication technology, and new media content production technology to achieve integrated connectivity in topic planning, content production, technical application, and management operations, thereby serving journal transformation, healthy development of new media platforms, and user needs.

### 2.1 Weak Convergent Publishing Awareness

Editors lack systematic understanding of the transformation in modern communication patterns and have not fully comprehended the collaborative mechanism between PGC (such as experts and scholars) and UGC (such as online influencers and celebrity content creators) [4], trends in multi-capital integration, or the driving role of technological iteration in media transformation, resulting in weak awareness of convergent development.

### 2.2 Imbalanced Talent Structure in Editorial Teams

Most editors recruited by sci-tech journals demonstrate outstanding professional expertise but do not necessarily come from journalism and publishing backgrounds, resulting in a shortage of “dual-specialist” composite talents with expertise in both academic fields and editorial publishing. The acquisition and editing team exhibits a homogenized disciplinary background and weak adaptability to convergent publishing. Meanwhile, sci-tech journals emphasize the work experience of senior editors but lack mechanisms for introducing new media talents, making it difficult to develop convergent products.

## 2.4 Delayed Service Transformation

Regarding platform services, when providing content to third-party platforms, editors need to passively master the operational mechanisms and requirements of corresponding platforms but struggle to adapt to the transformation from media roles to “content provider” roles. In terms of user services, the lack of deep interaction mechanisms with authors and readers leads to declining user stickiness. Regarding content services, editors find it difficult to shift their mindset toward utilizing new media data tools for topic mining or content optimization.

## 3.2 Content Positioning: Aggregating Resources to Gain Advantage Through “Innovation”

To broaden content sources, the Journal aggregates numerous professional resources to ensure content and author resources needed for its coverage areas. The Journal focuses on research hotspots, new technologies, and development directions in food safety and quality, serving as an important platform for academic exchange of new theories, methods, and technologies among domestic and international scholars in food safety and quality-related fields [7]. Centering on its purpose of “publishing research achievements and latest progress in food safety and quality detection,” the Journal optimizes columns, actively plans special issues with authoritative experts serving as special editors to solicit outstanding contributions from relevant scholars, and publishes high-quality, innovative, and practically valuable papers in related fields through rigorous selection. Through precise journal positioning and integration of industry resources, optimizing the acquisition and editing mechanism, and fully leveraging editorial initiative, the Journal ensures more professional and authoritative content, guaranteeing high-quality development.

## 3.3 Editorial Skills: Committed to Cultivating All-Media Composite Editorial Talents

New media platform content production requires creators to possess multiple skills such as audio and video editing, topic planning, and copywriting scriptwriting [5]. Traditional editors generally lack new media-related skills, causing “convergence” to become superficial [6]. Additionally, some journal convergent media centers adopt departmental silo operation models, resulting in situations where technology exists but cannot produce content, or content exists but cannot be realized through new media technology, making it difficult to form complete content production chains. The Journal has launched an “online submission and review system” through its official website, establishing a digital editorial system that transforms editorial work from traditional email submission and manual distribution to digital and intelligent editorial processing, cultivating editors’ capabilities in using automated office software. Meanwhile, models such as real-time recording of manuscript review processes in the review system enhance editorial efficiency. In content editing and proofreading, editors are

encouraged to actively use intelligent editing assistants, AI proofreading, and intelligent Q&A models to experience the advantages of integrating traditional publishing with new media publishing, thereby adapting to the convergent publishing environment as quickly as possible. Furthermore, the Journal actively selects potential and developmental backup talents from its internal editorial team, enhancing their professional skills and comprehensive qualities through project operations and professional training. Simultaneously, it introduces “mature” talents capable of independent operation in areas such as topic planning, convergent publishing, and new media operation, achieving rapid business supplementation through mature talents leading internal newcomers in new fields, forming a scientific talent structure for the acquisition and editing team and providing strong support for sustainable development.

### **3.4 Analysis and Review: Data-Driven Optimization of Journal Content Acquisition and Editing**

In the convergent media environment, the Journal actively utilizes digital technology by building an official website and online submission and review system to achieve full-process digital management of manuscript submission, review, editing, and publication, improving acquisition and editing efficiency and standardizing authors’ submission channels. Meanwhile, besides displaying basic functional modules, the official website homepage features personalized modules such as “Online Pre-publication,” “Information Announcements,” and “Browse Rankings.” The “Information Announcements” module primarily serves as a window for editors to recommend outstanding manuscripts, enhancing editorial initiative in manuscript processing, while the “Online Pre-publication” module provides authors with digital online publishing services within two months of submission. These functions demonstrate the Journal’s commitment to optimizing digital acquisition and editing platforms with author experience as the center in the new era, making the integration of traditional and digital publishing more seamless and efficient. The Journal also actively trains editors to use digital tools to integrate data from different channels, deeply analyze user behavior, and achieve precise push, customized services, optimized user experience, and optimized topic selection. For example, through Google Analytics, the Journal statistics readers’ click rates, average reading duration, and access paths on the journal website, finding that readers’ average reading duration for research papers is 20 minutes, while for review articles it is 15 minutes, indicating that readers pay more attention to in-depth research content, and thus the acquisition and editing content should favor research paper solicitation.

### 3.5 Brand Promotion: Multi-Dimensional Efforts in Media Promotion, Content, and Institutional Resource Cooperation

Editors actively utilize social media platforms to regularly publish the Journal's latest content and information. For instance, through WeChat public accounts, important research achievements are promoted or outstanding articles are selected. Each issue's "Selected Papers" extracts attractive core content for secondary creation and presents it in an intuitive and smooth layout format to meet platform readers' preference for "lightweight" content, forming multi-channel dissemination of published manuscripts. Meanwhile, special issue solicitations and event announcements are published to enhance content richness and communication flexibility, expanding the dissemination scope and influence of journal content. Beyond publishing print journals, the Journal actively uses diverse materials such as videos, audio, animations, and charts to assist in explaining research papers and special reports, presenting scientific research results more intuitively. Additionally, the publishing house actively hosts and participates in academic conferences and technical exchange meetings, such as co-hosting the "8th Food Quality and Safety Academic Conference" and "7th Food Quality and Safety Academic Symposium" with other organizations, attracting nearly a thousand industry participants and greatly promoting academic exchange in the industry while enhancing the Journal's communication power and influence. Currently, the Journal has been included in several well-known domestic and international databases, indicating that it has achieved good results in the field of food science and technology journals.

## 4.1 Enhancing Convergent Publishing Awareness and Professional 素养

### 4.1.1 Strengthening Convergent Publishing Awareness

Editors must have a sense of crisis about clinging to traditional publishing models and truly realize that high-quality development through "convergent publishing" is the path to survival. The "Guiding Opinions of the State Administration of Press, Publication, Radio, Film and Television and the Ministry of Finance on Promoting the Convergent Development of Traditional and Emerging Publishing" states: "Promoting the convergent development of traditional and emerging publishing and extending the influence of traditional publishing to cyberspace is an urgent need for the publishing industry to consolidate and expand the ideological and cultural front...and an urgent need for its own survival and development..." [8]. Meanwhile, the "Implementation Opinions on Promoting Deep Convergent Development of Publishing" points out that by the end of the "14th Five-Year Plan," deep convergent development of publishing should achieve obvious results, and the institutional mechanism for traditional and emerging publishing to "integrate into one and merge as one" should be more sound [9]. These relevant policies are important guidelines for promoting

high-quality convergent publishing development and provide direction for the traditional publishing industry' s exploration of publishing convergence.

#### **4.1.2 Actively Learning Relevant Regulations**

Editors should actively study regulations such as the “Interim Measures for the Administration of Internet Advertising,” “Regulations on the Governance of Online Information Content Ecology,” and “Regulations on the Protection of Information Network Transmission Rights” [10] to ensure compliance during content production and publication, thereby guaranteeing legal product launch. Simultaneously, attention must be paid to intellectual property protection of digital products. In response to the current widespread application of AI in various industries and the potential infringement risks of AIGC text data, editors should strengthen content source screening and study current copyright laws such as the “Regulations on Copyright Collective Management,” “Copyright Law of the People’ s Republic of China,” and “Notice on Regulating the Order of Online Reproduction Copyright,” coordinating with journals to improve copyright agreements [11] to reduce copyright risks.

#### **4.1.3 Enhancing Political 素养**

Editors must avoid drifting with the current “to adapt to the new media environment” during the convergent publishing process. They should strengthen political theory learning by establishing internal and external learning channels, discussing industry development trends and risks with industry professionals, and maintaining political sensitivity in thought. Within the journal, roundtable meetings on the latest Party theories combined with the journal’ s specialty in topic planning should be organized to integrate theoretical knowledge with practice and enhance political 素养 [12]. Editors should actively familiarize themselves with national policies and industry norms, effectively enhancing political consciousness and ideological consciousness, improving political and professional 素养, and adhering to serving the Party and the people. Ideologically, they should take socialist core values as the criterion, maintain correct political direction, public opinion orientation, and value orientation, uphold professional ethics, focus on social benefits [13-14], keep content closely aligned with main responsibilities, respect objective facts, and maintain objective and scientific content orientation.

### **4.2 Strengthening the Cultivation of Convergent Publishing Skilled Talents**

#### **4.2.1 External Talent Introduction**

The traditional journal publishing model is transitioning toward a convergent model, but there is a shortage of mature “comprehensive skilled talents” who can operate independently and take full responsibility. It is necessary to introduce professional, authoritative, or well-known editorial board members as special

editors to lead editors in completing editorial planning. Through participation in major topic planning, convergent publishing, and all-media communication-related project operations, the “mentoring” approach can enhance editors’ professional skills and comprehensive qualities. Additionally, introducing new editors with new media operation capabilities and innovative abilities can bring fresh blood to the convergent publishing team and achieve complementary strengths and weaknesses.

#### **4.2.2 Strengthening New Media Practice Capabilities**

Given the current media environment where PGC and UGC coexist in content production, one advantage of sci-tech journals is the flexible role transformation on new media platforms, providing multi-form content such as graphics, audio, video, and live streaming according to platform communication characteristics [15-16] to meet readers’ personalized needs and authors’ real-time multi-channel publication requirements. This forms an all-media matrix with convergent products that attract and migrate readers and authors while achieving conversion. Deep integration of traditional journal media requires full connectivity of content resources, technology, and human resources, all of which require editors to genuinely learn and experience. Only through account establishment, content creation, and management operations on different platforms can editors become familiar with platform mechanisms and act purposefully. Through practice and accumulated experience with continuous optimization can editors enhance acquisition and editing skills, seek innovation, and contribute to high-quality media convergence development [17]. Meanwhile, editors should be encouraged to actively participate in industry conferences and academic lectures, which not only helps them understand industry trends and accumulate new knowledge but also broadens their horizons, transforms their thinking, introduces technical resources, and empowers convergent publishing [18].

### **4.3 Establishing Brand Marketing Awareness**

#### **4.3.1 Empowering Full-Process Service Efficiency Through Technology**

Given that users are accustomed to internet social interaction, the journal’ s official website can build an intelligent interactive service system integrating AI response and manual service dual channels to achieve real-time response to user submission needs and reading feedback, constructing an interactive conversion path of “online dialogue → public account diversion → community operation.” A normalized communication mechanism should be established to carry out topic crowdfunding and content co-creation through communities, build an online activity matrix, integrate academic exchange with user interaction, and enhance community activity. Intelligent editing assistants should be introduced to improve editing efficiency, and journal apps should utilize VR/AR technology to provide readers with immersive reading experiences such as virtual laboratories

and three-dimensional model displays [19], enhancing the interactivity and interest of sci-tech journals. CRM software (customer relationship management) should be introduced to strengthen marketing effects, optimize service solutions driven by data, and reinforce user relationships.

#### **4.3.2 Enhancing Content Originality and Optimizing Publishing Services Through User Feedback**

Facing homogeneous industry competition, editors need to improve creative planning capabilities for content, strengthen activity planning such as academic conferences and award ceremonies to enhance influence, strengthen special issue planning and innovative topic selection to enhance content originality, and actively utilize new media technology to activate multi-form and multi-platform content dissemination. This achieves quality content and diverse product choices, thereby enhancing brand value. User experience is an important standard for verifying publishing achievements. Editors need to effectively interact with users on journals and new media matrix platforms through survey questionnaires and opinion collection to gather user feedback on acquisition and editing, journal design, content planning, and convergent product development, assisting journal institutions in optimizing publishing based on user feedback and enhancing overall brand image.

#### **4.3.3 Utilizing New Technologies and Methods for All-Channel Promotion**

Information publishers should transform traditional one-way marketing thinking and actively utilize new media technologies to disseminate brand information in personalized and diversified multi-channel ways. For example, user behavior analysis models can be built through big data to dynamically optimize content production and communication strategies. New technologies such as AI drawing, new media editors, and intelligent editing can be used to provide personalized content information like voting for outstanding articles and themed relay games. Combined with expert editorial board IP marketing, community operation, and membership operation, online and offline activities such as expert teaching and writing guidance series lectures, outstanding author awards, academic conferences, and thematic forums can be held to improve user experience and brand conversion rates.

Sci-tech journals bear the significant responsibilities of disseminating and exchanging scientific and technological information and promoting industry development and social service. With the deep integration of media, digital content products and intelligent services require sci-tech journal publishing to integrate into the new media landscape and achieve results through continuous exploration and innovation. Editors must enhance convergent publishing awareness and strengthen professional 素养, while journal institutions should balance talent cultivation mechanisms. In the new media environment, editors should strengthen convergent practice and possess integrated capabilities in topic se-

lection, content production, and marketing promotion to contribute to the high-quality development of journal publishing convergence.

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