

## Role Positioning and Competence Enhancement of Scientific Journal Editors in the Digital-Intelligence Era: Postprint

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### Abstract

**[Purpose]** In the digital-intelligence era, technological advancement has transformed the developmental environment and competitive landscape of traditional editing and publishing industries, prompting diversified shifts in editorial roles. Enhancing the competencies of scientific journal editors facilitates the high-quality development of scientific journals. **[Methods]** By reviewing pertinent literature on advancing scientific journal development and analyzing the opportunities and challenges confronting traditional publishing editors in the digital age, this study delineates the necessity of editorial role repositioning and the imperatives for role transformation. **[Results/Conclusions]** In the digital-intelligence era, journal editors must adapt to contemporary demands and proactively adjust their role positioning. This paper proposes pathways for elevating editorial competencies across five dimensions: enhancing political stance, optimizing topic planning, strengthening editing and proofreading proficiencies, mastering new media technologies, and cultivating academic editorial expertise. This cultivates composite editorial talents endowed with extensive professional knowledge and communication skills, thereby empowering scientific journals to augment their social influence and core competitiveness.

### Full Text

#### A Brief Discussion on the Role Positioning and Competency Enhancement of Science and Technology Journal Editors in the Digital Intelligence Era

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## Abstract

**[Purpose]** In the digital intelligence era, technological development has transformed the development environment and competitive landscape of traditional editing and publishing, leading to diversified transformations in editorial roles. Enhancing the competencies of science and technology journal editors contributes to promoting the high-quality development of scientific journals. **[Method]** By reviewing relevant literature on promoting the development of scientific journals, this paper analyzes the opportunities and challenges faced by traditional publishing editors in the digital era, and points out the necessity of redefining editorial roles and the requirements for role transformation. **[Results/Conclusion]** In the digital intelligence era, journal editors must adapt to the times and actively adjust their role positioning. This paper proposes pathways for enhancing editorial competencies from five aspects: improving political stance, optimizing topic planning, strengthening editing and proofreading capabilities, mastering new media technologies, and becoming academic editors. The goal is to cultivate composite editorial talent with rich professional knowledge and proficient communication skills, thereby empowering scientific journals to enhance their social influence and core competitiveness.

**Keywords:** digital intelligence era; science and technology journals; editors; role positioning; competency enhancement

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In today's world, the organic integration and widespread application of digital and intelligent technologies—such as big data, cloud computing, blockchain, and artificial intelligence—in various social domains mark that societal development has entered the digital intelligence era. This historic progress has profoundly impacted all aspects of traditional publishing operations, bringing new development platforms and opportunities to the publishing industry while simultaneously posing new challenges. Editors constitute a crucial entity in scientific journal work, and enhancing their competencies is fundamental to improving journal quality. As media convergence advances, how traditional scientific journals can adapt to media integration trends and actively engage in convergent publishing practices [1], and how they can stand out among numerous scientific journals to enhance their core competitiveness, are pressing issues that every journal editor must deeply contemplate and research.

# 1. The Necessity of Role Positioning for Science and Technology Journal Editors

## 1.1 National Support for Publishing Talent Development

Since the 18th National Congress of the Communist Party of China, General Secretary Xi Jinping has issued a series of important instructions on publishing work, charting the course for scientific journal publishing in the new era. Xi Jinping Thought on Culture provides a scientific guide for publishing work in the new journey. General Secretary Xi Jinping emphasized the need to “accelerate the cultivation of world-class scientific journals” [2]. Building world-class scientific journals requires a high-caliber talent workforce. The *Opinions on Promoting the Prosperous Development of Academic Journals* explicitly proposes “enhancing editorial planning and gatekeeping capabilities” and “striving to build a high-level editorial team with strong political commitment, professional expertise, and upright work style.” The joint *Implementation Opinions on Promoting the Co-construction of Publishing Disciplines and Majors* issued by the Publicity Department of the CPC Central Committee and the Ministry of Education also states: “Focus on cultivating leading and backbone publishing academic talents with solid theoretical foundations, outstanding innovation capabilities, and rich practical experience” [3]. In the digital intelligence era, the high-quality development of scientific journals has placed new and higher demands on every editor.

## 1.2 The Traditional Publishing Industry Faces Crisis

The traditional publishing industry has entered a period of low growth. From 2011 to 2021, the average compound annual growth rate of traditional publishing industry revenue was only 3.48%. In 2012, the industry revenue grew by 11.4%, but the growth rate has continuously slowed since then. It dropped to single-digit growth of 6.8% in 2013, and by 2017, the growth rate was merely 1.3%. In 2019, it further declined to 1.1%. In 2020, traditional publishing industry revenue experienced negative growth for the first time in nearly a decade, falling by 11.2% year-on-year [4]. The numerous challenges currently facing traditional editing and publishing are also significant opportunities endowed by the times. Responding to challenges, seizing opportunities, embracing change, and actively innovating will bring broader development space to traditional editing and publishing.

## 1.3 Changes in Audience Reading Habits

The *Report on the 20th National Reading Survey* indicates that “in 2022, Chinese adult nationals read an average of 4.78 print books, with average daily print media reading time of only 23.13 minutes. However, daily internet contact time reached 66.58 minutes, and daily mobile phone contact time reached 105.23 minutes. Among adult nationals, 77.8% read on mobile phones, and 35.5% listened to audiobooks. Mobile phone-mediated reading has become the mainstream

reading method” [5]. In the digital intelligence era, digital reading has become the dominant reading mode and information acquisition channel. This major shift in reading habits, the rapid development of omnimedia information dissemination, and the acceleration of marketization and industrialization in editing and publishing have become the new normal for the survival and development of traditional editing and publishing. For traditional editing and publishing, these challenges are also significant opportunities endowed by the times. Responding to challenges, seizing opportunities, embracing change, and actively innovating will bring broader development space. The editorial team serves as a strong support for maintaining lasting vitality and competitiveness in journal development, and editors bear important responsibilities. Strengthening the editorial talent strategy is an effective pathway to promote the high-quality development of scientific journals.

## 2. Impact of Digital Intelligence Technology on the Role of Science and Technology Journal Editors

In the digital intelligence era, technological development has transformed the development environment and competitive landscape of traditional editing and publishing. Under the impact of online new media, scientific journals face severe challenges of reader loss and circulation decline, which have become the new normal for their survival and development. In the traditional media era, scientific journals long played an important role in academic communication and knowledge leadership. However, under the impact of internet and artificial intelligence technologies, the knowledge leadership function of scientific journals has been significantly weakened. The application of digital intelligence technology has promoted the diversification of publishing content and the pluralization of communication media, making editorial functions no longer limited to the traditional functions of print editing [6]. Therefore, editors must transform traditional editorial concepts and change their original understanding of editorial work.

### 2.1 From Content Processor to Resource Manager

In the digital intelligence era, scientific journal editors are no longer merely processors and proofreaders of journal content. They must also optimize academic content from the author’s perspective [4], enrich the presentation forms of journal content, build platforms for journal content organization, and become managers of manuscript resources. They should cooperate with authors to promote and organize creative activities, particularly by actively reporting the academic viewpoints and latest research findings of renowned experts, showcasing their academic excellence, creating premium content, and promoting the dissemination of outstanding traditional Chinese culture.

## **2.2 From Knowledge Disseminator to Cultural Constructor and Disseminator**

In an era of rapid technological development, editors are required to create journal content. Editors need to enhance cultural confidence, continuously learn professional knowledge, ensure the scientific nature of manuscript content, and improve knowledge service capabilities. They should build platforms for knowledge exchange, present journal content in forms suitable for readers, promote academic exchange and cultural dissemination, and drive the creative transformation and innovative development of outstanding traditional Chinese culture.

## **2.3 From Paper Editor to Digital Content Creator and Applicator**

In the digital publishing era, building digital publishing platforms is an effective way to strengthen scientific journals. Against the backdrop of digital transformation, the functions of scientific journal editors are no longer limited to traditional manuscript selection and proofreading but are endowed with broader responsibilities and missions, including mastering and applying new digital publishing technologies to adapt to profound changes in the publishing industry. With the development and progress of information technology, traditional editors must transform into omnimedia editors, becoming not only masters of content integration but also enhancing digital thinking [8], proficiently mastering digital technologies, and becoming creators of digital products. Simultaneously, they should build publishing resource databases, author resource databases, and user resource databases to drive the digital transformation of scientific journals.

## **3. Science and Technology Journal Editors Must Adapt to Era Requirements**

In the digital intelligence era, traditional editors need to accurately recognize changes, respond scientifically, and actively seek changes. They must accurately grasp the new requirements that the new era has placed on scientific journal publishing, carefully analyze the new challenges facing scientific journal publishing under new circumstances, establish integrated development concepts, keep pace with the times, scientifically plan innovative measures and implementation pathways for scientific journal development, and promote high-quality development of scientific journals. Against the backdrop of accelerating integration between digital technology and the publishing industry, the new changes facing editorial work are by no means limited to the traditional functions of print editing.

### **3.1 Uphold Political Stance and Enhance Gatekeeping Capability**

Publishing work is an important component of the Party's ideological and cultural work. Scientific journal publishing should uphold the Party's comprehensive leadership and the correct political direction, constantly focusing on national development strategies and centering editorial and publishing work on major Party and national decisions and deployments. Editors must deeply study

Xi Jinping Thought on Culture, profoundly comprehend the new missions that this new thought has endowed to publishing, deeply recognize the important role of scientific journal publishing in building a strong cultural nation, and promote high-quality journal development starting from the “two overall situations.”

### **3.2 Stay True to Original Aspiration and Serve Reader Needs**

In the context of digital reading dominance, editors must keep pace with the requirements of knowledge innovation in the omnimedia era. Through market research, journal editors need to understand readers’ needs and market hotspots, and select and organize academic content targeted at reader demands [7] for creative conception and overall design. They should plan topics that align with the journal’s brand and create high-quality content with appeal and competitiveness to better play a leading role in the discipline. Scientific and technological journals must always prioritize social benefits. As emphasized in General Secretary Xi Jinping’ s *Opinions on Strengthening and Improving Publishing Work*, social benefits must be placed first. Scientific journal publishing must consistently prioritize social benefits and adhere to the “unity of social and economic benefits.” Editors must uphold “content is king,” create content with appeal, dissemination power, and value based on social needs and disciplinary development, and meticulously plan and report on major themes and hot issues.

### **3.3 Keep Pace with the Times and Strengthen Digital Intelligence Empowerment**

In the digital era, significant changes have occurred in mainstream reading methods and information acquisition channels. The traditional publishing industry must cultivate digital talent and strengthen digital knowledge and skills learning [9]. While enriching communication content, it must also innovate forms and carriers, expand communication channels, build a matrix for digital journal dissemination, and promote high-quality publishing development through deep integration. Editors must dialectically examine the favorable conditions that AI technology brings to the publishing industry while recognizing AI’ s limitations, copyright issues, and ethical problems [10].

## **4. Enhancing the Competencies of Science and Technology Journal Editors**

In the new era, building world-class scientific journals is the common responsibility and goal of all scientific journal workers, as well as the social mission and era responsibility of journals. With the rapid development of science and technology, the integration of digital technology and the publishing industry is gradually accelerating, and editorial work faces new changes [11]. To fulfill the publishing work of scientific journals in the new era, scientific journal editors must seize the significant opportunities endowed by the times, adapt to era requirements, actively respond to challenges, and be brave in innovation.

They should strive to enhance their professional competencies and business capabilities from the perspectives of political stance, topic planning, editing and proofreading skills, digital operations, and integration of editing and research, becoming high-quality editorial workers with strong political commitment, professional expertise, good academic standing, and upright work style [12].

#### **4.1 Enhance Political Stance and Strengthen Gatekeeping Capability**

As a vital force in disseminating outstanding traditional Chinese culture, ideological and political quality is an essential competency for scientific journal editors. As academic journal editors in the new era, keen political awareness is a prerequisite for doing a good job. Particularly in the new media era where information quality is uneven, journal editors must continuously enhance the “Four Consciousnesses,” strengthen the “Four Confidences,” and uphold the “Two Upholds.” They should strengthen Party spirit cultivation, reinforce political literacy, enhance theoretical learning, and deeply study the Party’s innovative theories, especially Xi Jinping Thought on Culture and important instructions on publicity and publishing. They must always adhere to the correct political direction, improve political gatekeeping capabilities in topic planning, manuscript review, and proofreading, deeply comprehend the new missions endowed by new thought, recognize the important role of publishing work in building a strong cultural nation, center on the cultural mission of the new era, promote high-quality journal development, and use publishing to drive the creative transformation and innovative development of outstanding traditional Chinese culture.

#### **4.2 Improve Topic Planning and Carefully Design Columns**

Editors must possess unique vision and keen discovery capabilities, and have a thorough understanding of reader needs and market hotspots when planning topics. They should focus on the Party and state’s key work priorities and directions, create content with appeal, dissemination power, and value according to social needs, and meticulously plan and report on columns covering major themes and hot issues. As editors of traditional Chinese medicine scientific journals, they must have high political sensitivity and keen professional insight, focusing on academic hotspots, popular topics, and academic frontiers, grasping the development trends of traditional Chinese medicine, and presenting the full picture of the field. Heterogeneous resources are the foundation and necessary conditions for creating distinctive columns [13]; therefore, column design should avoid homogenization with peer journals and focus on differentiation. Practical column design should be emphasized to ensure journal content meets readers’ practical needs while demonstrating unique academic value. Timely solicitation and publication of manuscripts on social hotspots and public health issues may increase journal readership and gain good social attention, promoting high-quality journal development.

### **4.3 Strengthen Editing and Proofreading Skills to Improve Journal Quality**

Journal content quality is the lifeline of a journal in the industry, and editors must always maintain a rigorous work attitude. In the digital intelligence era, editors should focus on improving information capture capabilities, be adept at discovering and applying new publishing information, keep pace with the updating speed of professional and disciplinary knowledge, master solid professional knowledge, and enhance logical thinking skills to make accurate judgments in editorial work and optimize manuscript content. Simultaneously, they should strengthen high-level peer exchanges, both within the same discipline and across disciplines, to broaden their editorial horizons and comprehensively improve journal quality through multi-perspective and multi-level exchanges.

### **4.4 Master New Media Technologies to Expand Dissemination Channels**

The rapid development of the internet has driven deep media integration and profound changes in communication methods. To respond to these changes and challenges, traditional publishing must accelerate digital transformation. Editors should understand the characteristics and communication patterns of both traditional and new media, leverage the communication advantages of both, and focus on deep integration with new media to explore new “print-digital synchronization” publishing models [14]. They must learn and master new media technologies and AI technologies to truly become experts in applying modern media methods and technologies. Editors should continuously adapt to the new situation of media convergence, innovate communication methods, expand the distribution channels of scientific journals, and enhance their appeal and influence on readers [15]. Achieving diversification in content presentation forms and communication channels to meet the needs of different audiences, they can also use big data technology to integrate relevant media information online, breaking through temporal and spatial limitations to provide readers with quality reading services [16].

### **4.5 Focus on Integration of Editing and Research to Become Academic Editors**

The integration of editing and research is an effective way to improve editorial capabilities and journal quality. The new era requires editorial workers to become composite talents who, in addition to basic editing and proofreading skills, possess review capabilities required by their disciplines, learn multi-domain skills [17], and can make objective judgments on manuscript quality. Editors must have solid business capabilities, professional knowledge, and profound cultural literacy. In the new era of rapid scientific and technological development, editors should understand cutting-edge professional knowledge and development trends, track industry hotspots, actively participate in academic activities related to their journals’ disciplines, improve both editing quality and journal

content academic quality, enhance academic innovation leadership [18], create brand columns, and increase the influence of scientific journals.

## Conclusion

In the digital intelligence era, where information communication methods and channels show diversified trends, opportunities and challenges coexist for traditional journal publishing. In scientific journal publishing work, journal editors must keep pace with the times, remain true to their original aspirations, lead innovation, continuously enhance their business capabilities, professional knowledge, and literary literacy, familiarize themselves with the characteristics and era requirements of scientific journal work under the integrated media background, strengthen digital awareness, learn and master new media technologies and AI knowledge and skills, take initiative, be brave in innovation, run good journals, edit good articles, maintain quality control, leverage the advantages of integrated media, achieve innovation in scientific journals, promote high-quality journal development, and contribute wisdom and strength to building a strong cultural nation in the new era.

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