

Positioning and Development of Sci-Tech Journals in the New Media Era: A Case Study of Cotton Textile Technology (Postprint)

Authors: Zhao Fan

Date: 2023-10-08T00:00:00+00:00

Abstract

Amidst the evolving landscape of new media integration, scientific journals—leveraging new media and harnessing the power of the Internet—have been actively exploring innovative pathways for content creation and dissemination. New media information transmission furnishes scientific journals with a novel instrument for their communication modalities. This article employs the journal ‘Cotton Textile Technology’ as an illustrative case study, conducting analysis across dimensions including editor-reader interactivity, diversification of publishing paradigms, and requisite editorial competencies, with the aim of furnishing reference points for the positioning and development of scientific journals in the new media era.

Full Text

Positioning and Development of Scientific Journals in the New Media Era: A Case Study of *Cotton Textile Technology*

Abstract: In the process of new media convergence development, scientific journals have actively explored pathways for content creation and dissemination with the assistance of new media and internet technologies. New media information dissemination provides novel means for the propagation of scientific journals. This paper takes *Cotton Textile Technology* as an example, analyzing editor-reader interactivity, diversification of publishing models, and requirements for editorial competency, aiming to provide references for the positioning and development of scientific journals in the new media era.

Keywords: traditional journals; scientific journals; integrated development; cotton textile technology; new media

CLC Number: G230

Document Code: A

Article ID: 1671-0134(2019)06-089-03

DOI: 10.19483/j.cnki.11-4653/n.2019.06.025

New media, represented by internet-based platforms and terminals, has fundamentally transformed both the methods and content of information dissemination compared to traditional media [1]. Defining publication direction and adhering to a “content is king” philosophy should be the mission of editors.

1.2 Function of Scientific Journals in the New Media Era

Scientific journals serve not only as carriers of knowledge and scientific achievements but also as important platforms for promoting and leading scientific and technological innovation. They represent a significant indicator of national scientific development and innovation levels, providing crucial support for scientific research and technological innovation [6]. In the era of rapid development of internet, new media, and digital technologies, traditional journals face declining industrial growth. According to data from the State Administration of Press, Publication, Radio, Film and Television’ s “Basic Situation of National Press and Publication Industry in 2016,” the nation published 10,084 journal titles in 2016, representing a 0.70% increase from 2015. While the number of journal titles grew, print circulation reached 2.697 billion copies, a 6.90% decrease from 2015, and total pricing value amounted to 23.242 billion yuan, a 4.34% decline from 2015. Overall, traditional journals exhibit downward trends in print circulation, distribution volume, and market pricing [2]. However, this does not signify the end of traditional journals. Through integration with new media and leveraging internet power, some traditional journals have actively explored development pathways for content creation and dissemination, evolving from simple content providers to multi-industry service providers and embracing the internet more proactively. Knowledge services from traditional journals now flow within the knowledge economy wave [3,4].

New media information dissemination enables more convenient, comprehensive, and reliable communication, providing strong support for the promotion of new national technologies and achievements [7]. Issues that require resolution in future development include whether information depth processing is convenient, whether reader services are personalized, and whether reader feedback is timely [8].

2. Integrated Development of Traditional Journals and New Media

2.1 Necessity of Integrated Development

In an environment of rapid economic development, the emergence of multimedia has significantly impacted the operational philosophy of China's traditional professional journals. The traditional print journal industry is undergoing a critical period of transformation and reform, and must quickly adapt to current market-oriented development demands to establish its position. Traditional media channels can no longer satisfy the requirements for timely dissemination of massive amounts of information.

2.2 Strategies for Integration Development Between Scientific Journals and Multimedia

2.2.1 Proactively Adapting to Media Development Trends Facing the impact of new media, scientific journals must reconsider their roles in this information explosion era. In the new media environment, journal publishing has become more diversified and competition increasingly fierce. Some pursue enormous profits, and certain directions that deviate from cultural content severely affect values. As a carrier of civilization inheritance and cultural wisdom, publishing's most important attribute is culture, and the foundation of cultural exchange has become the core of the publishing industry [5]. Therefore, adhering to a "culture-first" principle should be editors' mission. Traditional print scientific journals should fully utilize multi-channel dissemination methods to establish new media platforms connecting journals with readers and authors, leveraging the comprehensive advantages of new media for print scientific journals in content editing, information dissemination, and customer service. Some well-known domestic and international journals and societies have already explored and attempted this [9]. Developing new media business not only enhances journal influence but also expands readership and authorship, providing references for future development trends of relevant scientific journals. In addition to actively responding to media transformation trends, Chinese scientific journal workers can explore multiple channel approaches [10].

2.2.2 Strengthening Cross-Media Integration of Scientific Journals

Scientific journals can actively explore integration methods to achieve zero-distance, all-round contact with target readers. While adhering to traditional print journal publishing, journals should fully integrate into the internet by joining journal databases such as Wanfang and CNKI to accelerate digital and media construction, expand dissemination channels, and increase dissemination speed. This distribution model not only expands journal influence but also effectively improves digitalization levels, making Chinese journals increasingly internationalized [11,12]. Additionally, some scientific journals have their own official websites, which open important windows for external publicity and communication. Communication between journals and authors, readers, editorial

boards, and external reviewers has increased, and journal advertising revenue has grown alongside journal influence.

2.2.3 Utilizing Multimedia Means to Improve Content Quality Academic quality is crucial for a journal's survival and development. Improving content quality can fully leverage emerging multimedia means [13,14]. Using big data networks for searching and screening enables targeted and personalized delivery of relevant professional field updates to readers and authors. Selecting topics of reader interest and screening proposals and reputable, influential reviewers within the industry expands the reviewer pool while improving review quality [15,16].

3. Impact and Transformation of New Media on *Cotton Textile Technology*

3.1 Current Status of *Cotton Textile Technology*

Shaanxi Textile Science Research Institute, established in 1958, is a key national and provincial textile industry research institution primarily engaged in research, development, production, and sales of textile technologies and products for safety protection and industrial applications, as well as textile science information services and measurement testing. Its subsidiaries include Shaanxi Yuanfeng Textile Technology Research Co., Ltd., Shaanxi Cotton Textile Technology Journal Society, and Shaanxi Yuansheng Import & Export Co., Ltd. It serves as the National Cotton Textile Science and Technology Information Center, Shaanxi Textile Product Quality Inspection and Testing Center, and Shaanxi Textile Measurement Center. The Shaanxi Textile Product Quality Inspection and Testing Center is a legally qualified provincial-level testing institution recognized by the Provincial Department of Industry and Information Technology as one of the first batch of Shaanxi Industrial Product Quality Control and Technology Evaluation (Textile) Laboratories.

Shaanxi Cotton Textile Technology Journal Society, established in December 1999, edits and publishes the *Cotton Textile Technology* journal, which has been rated as a "Double-Effect Journal in China's Journal Matrix" and a Chinese authoritative academic journal. It has received the third National Journal Award nomination, first prize of Shaanxi Excellent Journal, and multiple national and provincial honors including "National Chinese Core Journal," "China Science and Technology Core Journal," and "RCCSE Chinese Authoritative Academic Journal." It has been listed by Shaanxi Provincial Press and Publication Bureau as a "First Batch of Major Journal Cultivation Object" and awarded the "Third National Journal Award Nomination" and "China Journal Matrix Double-Effect Journal." It has been indexed by the U.S. *Chemical Abstracts* (CA), *Russian Abstracts* (AJ), U.K. *Science Abstracts* (SA), U.S. *Ulrich's International Periodicals Directory*, and several well-known domestic databases and literature sources. The journal society has passed ISO9001:2008 quality management sys-

tem certification.

Committed to disseminating textile technology and providing a platform for textile industry technicians to exchange and share knowledge, the journal society strives to help textile professionals understand the latest industry trends, master new technology developments, exchange new product development experiences, discuss transformation and upgrading ideas, and share technological innovation achievements. It aims to become the most professional technology exchange and sharing platform and high-end personnel networking platform in the cotton textile industry. The journal society has established several brand conferences including the Yarn Conference, Sizing Conference, and Weaving Conference, which hold certain authority within the industry.

In addition to journals and conferences, to adapt to the “Internet Plus” development wave, the journal society established a new media information platform, forming a new media matrix supported by websites and WeChat, focusing on creating “technology, information, and social media full coverage.” Among these, the Shuttle Lecture Hall is a mobile learning platform for the textile industry that gathers industry experts and frontline technicians, using online live streaming to create a learning community for textile professionals to enhance technical knowledge and skills under the sharing economy.

3.2 Enhanced Editor-Reader Interactivity

The application of new media in traditional journals enables editors to communicate conveniently and in real-time with authors, readers, and review experts, facilitating remote editing, manuscript solicitation, and review processes. This relatively increases interaction between scientific journals and their audiences. For instance, authors and readers can enjoy better service experiences. Establishing WeChat public accounts can publish latest developments such as journal tables of contents, enabling readers to quickly understand journal updates. Additionally, authors can communicate with editorial departments through these WeChat platforms to provide opinions and suggestions that help improve journal services.

For fixed professional readers, some scientific journal websites promote RSS feeds and email alert functions. By creating journal audience QQ groups, editors and authors/readers can engage in online Q&A and emotional exchanges, promoting mutual communication and forming a fixed loyal audience base for the journal.

3.3 Diversified Publishing Models

Through rich experience in editing and publishing theories and practices of core journals, *Cotton Textile Technology* has accumulated substantial operational expertise. Facing new media development, reader needs have become increasingly diversified, and traditional print magazines can no longer satisfy demands for *Cotton Textile Technology*. While consistently adhering to the publishing philosophy of “rigorous, innovative, and pragmatic,” the journal has formed a unique

style emphasizing “forward-looking, adaptable, and operational.” Currently, electronic and print versions are published simultaneously, making reading and dissemination more convenient. Additionally, *Cotton Textile Technology* offers complimentary copies with customized personalized platforms for enterprises, highlighting corporate brand advantages.

3.4 Higher Requirements for Editorial Competency

The Cotton Textile Technology Journal Society employs an online editorial management system, implementing standardized automated processes from author submission to editorial revision, including functions for filling out review comments, manuscript organization, thematic planning, and production layout. This greatly improves editorial work efficiency and facilitates reader information management.

The journal society emphasizes talent cultivation. Editorial staff possess not only knowledge in the textile professional field but also solid publishing practical experience. All editors have passed the intermediate-level publishing professional examination by the State Administration of Press, Publication, Radio, Film and Television and completed registration as responsible editors. Editorial staff have received the Shaanxi Science and Technology Journal Youth Editor Award multiple times. The journal society encourages editors to engage with industry information, participating in events such as ITMA International Textile Machinery Exhibitions, Shanghai International Textile Industry Exhibitions, Shaanxi Core Journal Editorial Society Academic Exchange Conferences, Publishing Convergence Editorial Innovation Training Programs, and annual continuing education for publishing professionals. Under this talent cultivation program, editorial competency continues to improve, laying a solid foundation for journal innovation and development.

With the upgrading and improvement of network information technology, traditional journals are becoming increasingly rich and colorful under media convergence. The inherent form of publications and the cognitive scope of industry practitioners have changed due to new media emergence, transforming from fixed products to upgraded services and from cultural and spiritual product processing to personalized reading experiences. The dissemination of scientific journals based on new media development will gradually become the mainstream trend in the publishing industry. Scientific journals must actively adapt to era development, cultivate market awareness, expand distribution channel construction, optimize reading experiences, consolidate digital publishing, strengthen media convergence, and ultimately achieve organic integration and win-win outcomes between old and new media.

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Author Affiliations: 1. School of Journalism and New Media, Xi'an Jiaotong University; 2. Shaanxi Cotton Textile Technology Journal Society

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

Source: ChinaXiv –Machine translation. Verify with original.