Exploring the Transformation Pathways for Scientific Journal Editors in the Context of Media Convergence: Postprint

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Abstract

With the development of media convergence, the press and publishing industry has achieved further development driven by financial support and policy orientation. Meanwhile, numerous studies have been conducted domestically on journal development in the era of integrated media; however, keyword searches reveal that current research attention is primarily focused on the transformation pathways of journalist groups, with research on the transformation of editorial groups being relatively scarce, particularly for scientific journal editors. In view of this, this article, from the perspective of the integrated media era, focuses on exploring the transformation pathways of scientific journal editors, aiming to enrich research in this field.

Full Text

Transformation Paths for Science and Technology Journal Editors in the Integrated Media Era

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Abstract: With the development of media convergence, the press and publishing industry has achieved further advancement driven by financial support and policy guidance. Concurrently, numerous studies have been conducted in China on journal development in the integrated media era. However, keyword searches reveal that current research focuses primarily on the transformation paths of journalists, with relatively limited attention given to editors, particularly those in science and technology journals. In view of this, this article explores the transformation paths for science and technology journal editors from the perspective of the integrated media era, aiming to enrich research in this field.

Keywords: science and technology journals; media convergence; development opportunities; transformation paths; integrated media; role positioning

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Integrated media enables the comprehensive utilization of audio, video, images, and text, substantially enhancing audience sensory experiences. Science and technology journals serve as crucial platforms for students, faculty, scientific and technical workers, and researchers to obtain professional information, providing support services for scientific innovation and playing indispensable roles in scientific achievement transformation, talent cultivation, and scientific information dissemination [1]. With the rapid development of information technology, numerous new digital media forms have emerged, such as mobile media and digital newspapers and magazines. In the current context, multimedia convergence based on networks has become an important pathway for science and technology journal innovation. Against this backdrop, to achieve long-term development, science and technology journals should attempt to transition from traditional publishing to digital publishing and gradually move toward media convergence. To facilitate this process smoothly, support from high-quality editorial personnel is essential. Therefore, further exploration of the transformation paths for science and technology journal editors under integrated media holds strong practical significance.

2. Transformation Paths for Science and Technology Journal Editors in the Integrated Media Era

This article discusses the transformation of science and technology journal editors from three perspectives: transforming media, transforming functional positioning, and transforming knowledge structure.

2.1 Transforming Media to Accelerate Adaptation to Integrated Media

In practice, many science and technology journal editors currently feel at a loss when facing numerous digital media. Therefore, accelerating adaptation to integrated media is essential.

2.1.1 Leveraging Existing Journal Websites to Update Professional Skills Under the influence of integrated media, many science and technology journals have begun establishing their own official websites, which has promoted

positive journal development to a certain extent. Editors should capitalize on this advantage by continuously updating their professional skills. For instance, when conducting editorial work, they should leverage website platforms to optimize business processes through online editing and proofreading systems and online manuscript handling systems, strengthen solicitation and promotion efforts, cultivate good submission habits among authors, and improve editing, proofreading, and review efficiency [3]. Editors should also develop big data thinking, relying on system-assisted statistical functions to more scientifically and effectively analyze changes in submission traffic and dynamic trends, thereby gaining comprehensive insights into the characteristics of author and reader groups to ensure more targeted activities and provide suggestions for topic planning.

2.1.2 Actively Collaborating with Data Service Providers to Extend Information Dissemination Currently, many academic journals collaborate with database platforms such as Longyuan Journal Network, VIP Database, and CNKI. Through these data platforms, they facilitate online reading, downloading, and retrieval of journal articles, making information dissemination more efficient through enhanced publishing and priority publishing. Collaboration with data service providers makes journal articles more accessible and enhances journal influence, extending information dissemination. In this regard, journal editors should strengthen their cooperative awareness in practice, actively expand cooperation scope, establish partnerships with multiple data service providers, and utilize the comprehensive service functions of data platforms to focus on monitoring paper citations, downloads, and browsing statistics to assist in planning and adjusting journal development strategies.

2.1.3 Utilizing WeChat Official Accounts to Enhance Interaction Flexibility Since its launch, WeChat has experienced continuous user growth. As a derivative product, WeChat Official Accounts have accumulated a large user base and become an important tool for institutions and individuals to promote themselves. With advantages such as flexible interaction, rapid information dissemination, and convenient user access, they provide crucial support for the networking of science and technology journals. In the integrated media context, science and technology journal editors should adopt advertising thinking by placing QR codes for official accounts prominently on print journal covers or official websites, attracting followers through WeChat groups, and promoting official accounts during academic conferences, training sessions, and exchange opportunities. These methods aim to better promote and publicize journals through WeChat Official Accounts, particularly for special topic planning, where posts can be published via official accounts to attract more readers and authors. By analyzing author and reader feedback and comments, editors can timely grasp user opinions and reasonably adjust topic focus and direction. Within certain cycles, editors should summarize published papers and previous topics, select outstanding papers through various methods such as expert invitations and editorial board 集中评选, and republish them through official accounts to retain

author groups.

2.2 Transforming Functional Positioning to Become Multi-functional Service Providers

In traditional editorial business processes, editors worked behind the scenes focusing on manuscripts. However, in the integrated media context, editors' functional positioning should change accordingly.

2.2.1 Transformation of the Content "Gatekeeper" Role Editors in the press and publishing industry have long been assigned the academic role of content "gatekeepers." However, "gatekeeping" emphasizes a work mechanism involving value screening and content filtering, while "editor" represents recognition of a professional identity that can produce institutional effects [4]. Within this dialectical relationship between "mechanism and role," there are many transitional zones for the transformation of science and technology journal editors, with content gatekeeping being the most externalized characteristic. In the media convergence context, merely playing the traditional "gatekeeper" role is clearly insufficient for achieving long-term journal development. Therefore, editors should focus on innovating editing and processing methods while gatekeeping content. For example, editors should embrace the "central kitchen" concept for new media, integrating multiple information sources and innovating processing methods according to the characteristics of various digital media to achieve differentiated cultural product outputs for different platforms. Based on Weibo' s rapid dissemination characteristics, editors should 抢先发送 research developments and new academic thinking, obtaining first-hand visual materials such as videos and images at academic forums, seminars, and annual conferences and promptly editing and uploading them online. According to WeChat user habits, editors should regularly publish concise posts with prominent highlights to enhance audience attraction. Through collaboration with other data service providers, which offer centralized and stable characteristics, editors can summarize previous papers or launch annual or quarterly collections on hot topics for publication on websites, effectively reusing journal resources and promoting healthy journal development. Through appropriate content splitting, highlighting key points, and reasonable image placement, such processing innovations can make cultural products more distinctive and adaptable to different media output models.

2.2.2 Transformation of the Scholar Linkage Role The professional positioning of science and technology journal editors endows them with the function of linking scholar communities. This function emphasizes establishing good interactive relationships between editors and authors, requiring editors to be academically grounded, continuously improve their knowledge structure, enhance professional competence, and thereby form an interconnected, cyclically interactive academic organism between "editor and author." However, under the

continuous influence of integrated media, diverse internet platforms have gradually "diverted" scholars' novel research content and original academic viewpoints, making it more difficult for editors to become primary readers of quality content and reducing science and technology journals' position as the 首发阵地 for content, consequently diminishing their attractiveness. Therefore, editors' roles must be further transformed by incorporating an "incubation" nature to better align with scholars' goals and enhance journal attractiveness. Specifically, when engaging with author groups, editors should attract authors with their solid professional competence and reasonably guide them to enhance their ability to control the academic direction of their papers, further "incubating" their viewpoints or content to make submitted papers perfectly align with journal positioning and achieve significantly improved suitability. Editors should utilize cooperative platform websites, official websites, WeChat Official Accounts, and other means to push discipline developments, special activities, and new topics, attracting author groups in relevant fields and "incubating" more novel viewpoints through mutual exchange and communication. With their experience and understanding of relevant fields, editors can "incubate" outstanding young scholars to build academic communities, enabling long-term sustained good interaction between science and technology journals and scholars. Nowadays, many science and technology journals have launched "Young Scholar Support Programs," "Doctoral Student Forums," and "Young Scholar Columns," all representing transformations that play important roles in emotionally linking with young scholars and "incubating" innovative thinking.

2.2.3 Transformation of the Cultural Documentation Role Science and technology journals not only report scientific research achievements but also serve as "archival records" of established culture across eras. However, in the integrated media context, numerous information acquisition channels have dispersed audience attention, causing many classic texts and viewpoints previously carried by journals to be suddenly overshadowed by diverse information and leading to audiences' gradually fading memory of journals. Moreover, in recent years, influenced by various factors, many journals and newspapers have ceased publication, indicating that on one hand, paper-media databases storing large amounts of cultural information have been replaced by technological updates, and on the other hand, the disappearance of paper-media platforms means that the tools a generation relied on for knowledge acquisition and storage are gradually being erased from memory, with some information beginning to be lost at an accelerating rate [5]. Under such circumstances, if editors remain limited to the traditional cultural documentation role—still using basic methods such as identification, selection, and optimization to record cultural development and changes—it will be difficult to slow the speed of information loss and increase audience attention to journals. In response, science and technology journal editors should transform their function from cultural documentation to cultural evocation. Editors should evoke readers' memories of unique content and viewpoints previously published in journals, continuously increasing readers'

attention and recognition of journals. Simultaneously, they should successfully evoke emotional cognition among author groups, strengthen identification with shared academic culture, and convert it into identification with and emotional attachment to journals. Achieving these two goals requires editors to effectively utilize integrated media platforms such as WeChat and Weibo in the current context, employing various methods to re-establish journal brands, thereby successfully evoking audience memories of journals, increasing audience attention, and transforming editors into active players 驾驭多元平台 rather than being limited to the cultural documentation role.

2.3 Transforming Knowledge Structure to Strengthen Interdisciplinary Integration

Previous knowledge requirements for science and technology journal editors mainly focused on editorial theory knowledge and disciplinary professional knowledge. However, in the integrated media context, to achieve more long-term journal development, previous knowledge structures are somewhat insufficient, requiring editors to continuously transform and update their knowledge structures.

2.3.1 Enhancing Legal Knowledge to Skillfully Navigate Policies and Regulations In the past, papers published in science and technology journals had relatively low probability of containing political and ideological content. However, under the wave of integrated media, since the internet contains complex and diverse information, editors need to strengthen information screening during processing, particularly to properly control major political issues such as ethnic unity and national unification. Simultaneously, to avoid copyright disputes, editors must have sufficient understanding of relevant laws and regulations in the publishing industry, such as the Copyright Law, and be able to use these laws to protect the rights of journals and themselves.

2.3.2 Integrating Interdisciplinary Professional Knowledge to Continuously Enhance Academic Literacy With continuous social progress and development, disciplinary knowledge is constantly being enriched and updated, with increasingly more cross-disciplinary and interdisciplinary research emerging and moving from theory to practice. Therefore, continuously enriching interdisciplinary professional knowledge is a necessary point of attention for science and technology journal editors in the integrated media context, as it directly affects journal quality. Since the column settings and editorial positioning of science and technology journals vary, different professional editors should be reasonably configured. For example, agronomy and biology have strong compatibility and broad coverage, enabling editors to handle many column papers; other majors have stronger specificity, with expertise needing to be applied in specific column papers. Regardless of editors' majors, besides conducting in-depth research in their own professional fields, they should also actively absorb content from other majors to continuously improve their knowledge structures

[6]. In summary, when re-creating submitted manuscripts, editors must not only have strong language skills but also deeply understand the frontiers and development of relevant majors, striving to make their knowledge structures precise, deep, broad, and extensive, and continuously strengthening their academic cultivation.

2.3.3 Gradually Refining Editorial Types and Rationally Applying New Media Technologies Driven by the rapid development of computer technology, new media types are constantly emerging. To address the digitization of media forms, editors should distinguish among different media types during processing and employ appropriate technical means. Art editors and text editors from the paper-media era are gradually being refined and transformed into various editorial types such as video editors, animation editors, and website editors. Different types of editors share commonalities in their work content while also having certain differences. Therefore, science and technology journal editors must not only master basic editorial knowledge but also be able to rationally apply new media technologies. For instance, for WeChat Official Account editing, editors should use tools such as Xiumi Editor and 135 Editor; for website editing, they should master various graphic processing and webpage production software such as Photoshop, Adobe, and Dreamweaver; for manuscript editing, they should be proficient in charting software like Excel and Origin and text processing software like Adobe Acrobat and Office. Additionally, in all-media publishing, editors will also be involved in new knowledge areas such as network security technology, internet sales technology, big data analysis technology, and UI design, requiring editors to continuously supplement, update, and deeply study relevant knowledge content.

In conclusion, under the advocacy of integrated media concepts, science and technology journals face unprecedented development opportunities while also encountering numerous challenges. In this situation, to enable science and technology journals to calmly address challenges and seize development opportunities, editors must focus on their own transformation. This article has discussed the transformation paths for science and technology journal editors from three aspects: media, knowledge structure, and professional positioning, hoping to enrich research in this field and enable science and technology journals to better play their roles in scientific achievement transformation, talent cultivation, and scientific information dissemination, thereby promoting the steady development of China' s scientific endeavors.

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