Application Research on the Use of Big Data Technology in Book Editing Work (Postprint)

Authors: Zhang Qi

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

Abstract

In order to enhance the overall competence of book editors and improve the effectiveness of analysis in the book publishing industry, this paper investigates the application of big data technology in editorial work. From the two perspectives of improving the efficiency and quality of large-scale text editing and processing, and accurately identifying audience demands for book content, it analyzes the advantages demonstrated by the application of big data technology in relevant industries and workflows. From the two perspectives of challenges arising from user needs and self-positioning, and challenges related to reading modes and technological applications, it examines the difficulties faced by editorial work in the context of new social developments. In light of the current state of industry development, it proposes three application directions: precise positioning of target readerships and editorial topics based on big data technology; correction and screening of editorial content based on big data mining techniques; and the construction of a comprehensive workflow integrating book editing and resource-consolidated publishing. The aim is to provide some support for further strengthening the industry' s leading position in the market and for effectively aligning editorial work with the needs of target readerships.

Full Text

Research on the Application of Big Data Technology in Book Editing Work

Zhang Qi
(Zhongyuan Farmers Press Co., Ltd., Zhengzhou, Henan 450016)

Abstract

To improve the comprehensive competency of book editors and enhance analytical effectiveness in the book publishing industry, this study investigates the

application of big data technology in book editing work. The analysis examines two key advantages: improving the efficiency and quality of batch text processing, and precisely targeting audience content demands. It also identifies two major challenges facing editorial work under new social development contexts: shifts in user needs and professional positioning, and changes in reading patterns coupled with technology adoption hurdles. Based on current industry developments, the paper proposes three strategic application directions: (1) precise audience targeting and editorial topic selection using big data technology, (2) content correction and screening through big data mining techniques, and (3) constructing integrated book editing and resource publishing workflows. These recommendations aim to help the industry maintain its market leadership and achieve effective alignment between editorial work and audience needs.

Keywords: Big Data Technology; Book Editing; Application Advantages; Precise Positioning; Process Optimization

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1. Advantages of Big Data Technology in Related Industries

Leveraging big data technology in editorial work significantly accelerates information acquisition and processing speeds. Editorial staff can utilize computer systems to import data from multiple channels. When sufficient data volumes are available, data mining techniques enable extraction of key information from user search queries, while decision platforms facilitate in-depth analysis [3]. Virtually all editorial tasks can be assisted through information technology, thereby enhancing information processing and data extraction efficiency at editorial positions and progressively improving the overall competency of book editors.

The widespread application and large-scale promotion of information technology in the book editing and publishing sector have created an urgent need for industry reform and sustainable development, presenting the publishing industry with unprecedented challenges. To ensure stable market development, editors must not only recognize how this technology impacts their work but also enhance their comprehensive technical proficiency based on current editorial practices [1]. To meet industry development needs and improve their alignment with sectoral evolution, relevant organizations must develop a deeper understanding of book editing work, recognizing it as an editorial profession within the marketplace. Staff in editorial positions must analyze market audience demands to conduct topic selection, planning, editorial committee organization, author solicitation, manuscript review, content correction, and compilation for publication in books and journals. Typically, publishing units require three core competencies when recruiting editors: strong text editing and processing skills (preferably candidates with liberal arts backgrounds), robust innovation capabilities with quick adaptability to new developments and unique understanding of text layout and processing, and proficient computer operation skills with mastery of auxiliary editing tools such as drawing and word processing software.

1.1 Improving Efficiency and Quality of Batch Text Processing In the new media era, modern technologies including big data, cloud processing, and network transmission are widely applied in book editing and related work. This transformative trend has gradually marginalized traditional print media. As audiences gain access to diversified information channels, editorial staff face increasingly large volumes of information, making traditional manual data processing methods inadequate for editorial positions [2].

1.2 Precise Positioning of Audience Content Demands Beyond the aforementioned advantages, standardized big data usage enables precise audience demand positioning. Following industry transformation, editorial work must recognize the limitations of traditional models in modern contexts and understand that only by enhancing capabilities, acknowledging big data' s significant advantages, and adopting new editorial mindsets can the profession keep pace with development trends [4]. For instance, when 热点 events occur, editors can capture audience interest points through targeted information gathering to predict editorial directions. When assessing information value, editors must combine their professional experience with big data technology to evaluate audience information preferences. By identifying correlations between different data points, they can precisely pinpoint valuable or representative information for prioritization in book editing, thereby accurately predicting information value and validity to ensure published content aligns with public demand and promotes healthy industry development.

2. Challenges Facing Book Editing in the Big Data Era

2.1 User Demand and Professional Positioning Challenges Conventional book publishing and text editing typically employs basic market research methods for audience demand positioning, using random sampling approaches that suffer from significant lag [5]. Although big data technology can optimize this process as noted above, imperfect standardization in its application still results in insufficient front-end user demand information. When demand directions shift, front-end systems fail to provide timely insights, causing practical work delays.

Furthermore, under new industry development contexts, editorial sectors that have not updated their operational models face constrained market dominance and discourse power. Confronted with this situation, some organizations still fail to recognize the importance of reforming existing editorial workflows. While traditional operational models cannot be completely overturned overnight, this does not justify maintaining the status quo. Therefore, insufficient self-awareness and positioning within the editorial industry amid widespread big data adoption represents a key factor inhibiting sectoral development.

2.2 Reading Patterns and Technology Application Challenges In the new media era, user information access methods have changed, with people in-

creasingly preferring mobile terminals such as smartphones, iPads, and laptops as primary information carriers. This reading approach not only accelerates information acquisition but also expands two-way communication channels, making the transformation of content presentation formats editorial work' s greatest challenge [6]. Particularly in today' s era of massive information aggregation, user demands extend beyond print materials to electronic and digital reading modes, posing significant challenges for the editorial industry.

Moreover, as a product of modern technology in the new media era, big data technology can create new opportunities for editorial industry development but also imposes new requirements on editorial work, creating high demand for big data talent. Although current staff have upgraded their capabilities according to industry developments, most technicians lack innovation and divergent thinking, resulting in poor adaptability to new developments and inability to align with audience habits. Therefore, to achieve editorial work innovation in the new context, fresh talent must be recruited, with computer proficiency and innovative thinking serving as core supports for future industry development.

3. Applications of Big Data Technology in Book Editing Work

3.1 Precise Positioning of Audiences and Editorial Topics Using Big Data Technology To enhance editorial comprehensive capabilities and core competencies, this section examines big data applications in precise audience demand positioning and editorial topic selection. Book pre-publication topic selection and specialized planning represent key editorial projects; integrating big data technology can revolutionize traditional editorial workflows. For audience and user positioning, editors must extract keywords, key phrases, and critical statements from content to screen user groups online, then optimize article author selection based on publication direction and user resource demands. This approach improves audience-content compatibility and creates favorable conditions for subsequent editorial tasks.

When selecting book editing authors, big data-enabled screening and editing technologies allow publishers to input keywords, key terms, and creative directions into networks to retrieve suitable authors' identity and background information. After author selection, online discussions and video conferences can determine writing style and manuscript fees, with final selection based on multiple factors. Compared with conventional author selection, this model enhances both audience-content fit and adaptability.

Upon completing these tasks, big data integration functions support pre-editing topic selection. Editors can first screen user demographics, predict industry development trends based on market dynamics, and thereby identify editorial growth potential. Building on this foundation, recent hot news and trending events can be retrieved and aligned with editorial themes to maintain high market relevance. Simultaneously, aligning with related market topics can enhance content quality, ensuring stable and healthy industry development.

3.2 Content Correction and Screening Based on Big Data Mining Technology After obtaining book content, data mining technology enables content correction and screening research. This stage functions as the manuscript review 环节 in editorial work; improving editors' review capabilities represents a key method for ensuring publication quality. To meet industry development needs, information technology should serve as an auxiliary tool for review process innovation, ensuring published books achieve maximum effectiveness. The following details the review 环节 using modern technology.

For instance, after acquiring original manuscripts, content should first be matched with socio-cultural values to mine information aligned with social and cultural worth from massive data sets, using this as promotional material post-publication to ensure positive social guidance. Simultaneously, web crawler technology in big data can recognize and capture text in books to rescreen and verify sensitive content, culturally inappropriate information, false or distorted text, and ungrammatical sentences [8]. Initial computer-based proofreading should be followed by web crawler text screening; any errors or anomalies flagged in secondary screening require manual editor participation until all content meets publication requirements. For identified abnormal information, editors must conduct targeted processing based on publication requirements and contextual coherence to prevent adverse information from negatively impacting or improperly interfering with the healthy dissemination of market culture. This approach provides strong guarantees for book publication credibility, social influence, and dissemination direction.

Additionally, big data technology can assist in manuscript copyright screening, enabling a shift from "business-driven" to "data-driven" editorial work. After obtaining original manuscripts for publication, they can be uploaded to local resource sharing centers. To prevent information loss or distortion during this process, decoding keys can be integrated into uploaded manuscripts. Network crawlers carrying text information can then interface with other publicly available manuscripts or information to identify potential infringement issues. This auxiliary text processing method enables timely identification of copyright violations, allowing authoritative and accurate judgments about content authenticity and comprehensively enhancing editors' capabilities.

3.3 Constructing Integrated Book Editing and Resource Publishing Workflows To improve publishing industry adaptability to the big data era, integrated book editing and resource publishing workflows should be constructed after completing the aforementioned work. To achieve comprehensive publication quality and distribution standards, existing publishing models must be innovated.

For example, editors' digital publishing capabilities should be enhanced by recognizing that print and digital books have a complementary rather than antagonistic market relationship; editors should actively seek synergy or balance points between them. Published books should meet online publication require-

ments through WeChat official accounts and mini-programs, enabling users to access resources via scanning. After publication, big data platforms can identify core content for specialized promotion, increasing market exposure and effective reach.

Simultaneously, traditional publishing and editing model advantages should be integrated with big data and other digital technologies. Although traditional publishing models are gradually being phased out, they still maintain relatively high market status. Therefore, traditional resources must be rationally integrated to analyze deficiencies in current publishing models and standardize editorial processes. For instance, after completing online file editing, article formatting and font codes can be centrally adjusted following print manuscript layout methods to migrate print audience groups. Post-network publication services should include reader surveys distributed through official accounts or platforms, using feedback to improve existing publishing models and predict market and industry development needs. When necessary, online content modification can adjust credibility and influence direction, achieving integration from front-end planning to back-end services. Furthermore, reader feedback can extend publishing service models, such as supporting "online audiobook" reading formats to enhance user experience, strengthen market competitiveness, and ensure stable industry development in the big data era, creating higher value and market returns.

Conclusion

This study comprehensively examines three innovative application directions for book editing workflows based on big data technology: precise audience targeting and editorial topic positioning, content correction and screening through data mining, and constructing integrated editing and publishing processes. This research introduces new technologies and concepts for the first time, clarifying how information technology promotes industry development. To enhance their capabilities in this evolving industrial context, editorial staff must not only grasp frontier development trends but also establish correct work philosophies. To truly establish the publishing industry as a market leader, future development and research should focus on establishing integrated workflows encompassing editing, publishing, distribution, services, and management, deepening work content, recruiting specialized talent capable of guiding industry development, analyzing user information acquisition habits, and aligning industrial development models accordingly to achieve stable industry construction and development.

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Author Profile: Zhang Qi (1989-), female, from Xunyi, Shaanxi, intermediate editor. Research direction: Book publishing.

(Executive Editor: Yang Hu)

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