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How Scientific and Technical Publishers Can Transform to Integrated Media and Post-Print Publishing

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Abstract

“Converged media” refers to a new form of media that fully utilizes media carriers to comprehensively integrate different media—such as radio, television, and newspapers—that share commonalities while also possessing complementary features, across human resources, content, and promotion, thereby achieving “resource integration, content compatibility, promotional synergy, and interest convergence.” Under the emerging industry landscape, the transformation of science and technology publishers toward converged media is imperative. In today’s 21st century, characterized by rapid technological advancement, science and technology publishers should leverage the advantages of converged media to create more and better pathways suitable for the development of print media. Therefore, how should traditional print media transform toward converged media?

Full Text

Preamble

Media Industry Practices: How Science and Technology Publishers Can Transform to Converged Media

Abstract: “Converged media” represents a new media paradigm that fully utilizes various media platforms to comprehensively integrate different media forms—such as radio, television, and newspapers—that share common ground yet offer complementary strengths. This integration encompasses personnel, content, and promotion to achieve “resource convergence, content compatibility, promotional integration, and shared benefits.” Under this emerging paradigm, transformation toward converged media is imperative for science and technology publishers. In today’s era of rapid 21st-century technological advancement, these publishers should leverage converged media advantages to create more

and better pathways for print media development. How, then, should traditional print media transform toward converged media?

Keywords: science and technology; traditional publishing; converged media; transformation

1. Leveraging Momentum

Converged media emerges from high-speed technological development and represents a method for people to disseminate and share information through various platforms. It breaks through the rigid, unchanging information exchange patterns of traditional media to maximize benefits. Traditional science and technology publishers must dismantle barriers while capitalizing on their “content” advantages, combining traditional distribution channels with converged media communication methods to reconstruct an operational model with comprehensively enhanced functionality, methods, and value. Through converged media, publishers should employ advanced technology as support and content construction as foundation. Under the grand cultural context advocated by President Xi Jinping, they must fully utilize new-generation information technologies such as cloud computing, mobile IoT, and big data to integrate their content—including children’s literature, animation, games, audio, video (feature films), storybooks, and picture books—with multi-angle, multi-terminal publishing platforms.

The Palace Museum’s *Mystery of the Forbidden City: Ruyi Linglong Maps* exemplifies this approach. By combining historical knowledge with the popular medium of gaming, the Museum leveraged converged media advantages to create an “physical book + online system” gaming experience. This fusion maximized the synergy between traditional media’s content strengths and converged media, turning an initial crowdfunding target of ¥100,000 into nearly ¥12 million—a 120-fold increase. For most people, the Forbidden City remains a mysterious place. The challenge lies in transforming this public curiosity into an engaging historical and cultural exploration. The Museum collaborated with a gaming company to co-create this successful product, weaving together architectural, historical, and biographical elements into an exquisite tapestry that advances narrative through gameplay, thereby stimulating reader engagement and participation.

2. Borrowing Platforms

Science popularization work gained new significance following President Xi Jinping’s 2016 address at the National Science and Technology Innovation Conference and the Academicians’ Conference: “Scientific and technological innovation and science popularization are the two wings of innovative development, and science popularization should be placed on an equal footing with technological innovation.” This statement inspires and motivates science popularization workers.

To break free from traditional publishing constraints, science and technology publishers should follow the “one center, two highlands” principle. The “center” refers to centering on scientific theory—using proven truths to guide future paths and verify whether chosen directions suit both the publisher’s development and contemporary science popularization needs. The “two highlands” are science popularization and innovation in science popularization. Science popularization carries profound significance; only by promoting scientific applications, disseminating scientific thinking, and championing scientific spirit among the masses can it be understood, accepted, and embraced, stimulating public participation. Science popularization takes many forms—entering campuses, communities, and government offices through games, crafts, and storytelling—approaches that resonate with people’s daily lives.

Publishers with limited financial resources can particularly benefit from “borrowing boats to sail.” Geological Publishing House exemplifies this strategy. In 2017, they published *Uncle D’s Exploration Journey: Where Did the Fish Go?*, an original science popularization series for young readers. The narrative traces life’s evolutionary journey, beginning when aquatic vertebrates emerged as Earth’s most extensive family after the universe’s formation and the Big Bang. Every subtle change in fish anatomy signified the dawn of a new biological era. To create truly child-centered science stories, the creative team sought direct engagement with young audiences through campus lectures on “Universe and Life Evolution,” community “Science Talent” storytelling competitions, and China Science and Technology Museum exhibitions on “Where Do We Come From?” This intimate interaction allowed the *Uncle D’s Exploration Journey* series to flourish.

The book employs a “storytelling science” creative approach and QR code technology integration. Scanning codes enables free audio story access, “Science Talent” career experience games, and “Growing Together” club membership to “earn” family growth funds. Science communication expert Mr. Wang Zhangjun praised the work: “It disseminates scientific knowledge through vivid storytelling with lifelike characters, cleverly presenting paleontological knowledge. This innovative and valuable work will not only teach children scientific knowledge and reading enjoyment but also inspire their love for science and exploratory spirit. While ‘literary youths’ abound in modern society, ‘science youths’ remain rare. This work, targeting children and families, calls for ‘science youths’ and should become an essential science popularization resource for Chinese households—a classic benefiting both present and future generations.”

In marketing, the publisher borrowed external strengths, identifying internal weaknesses and leveraging other resources to compensate. Geological Publishing House partnered with Chongqing Publishing Group, utilizing the latter’s marketing advantages to sell nearly the entire first print run of 10,000 copies within the same year.

3. Content-Technology Integration

Content is fundamental; technology is the means. China's traditional science and technology publishers should strengthen internal reform mechanisms, actively employ various emerging media integration technologies, support operations with advanced scientific methods, and cultivate media-integrated publishing talent. By leveraging each publisher's unique advantages and applying internet thinking, they can rapidly capture key markets using technology-plus-internet approaches to ensure development needs. Simultaneously, they should conduct secondary or multiple developments of existing content, presenting rigid, outdated knowledge in forms suited to contemporary readers and social development, making knowledge more engaging to achieve broader acceptance and preference.

The establishment of the State Administration of Press, Publication, Radio, Film and Television's Converged Development (Wuhan) Key Laboratory exemplifies how converged media and integration technology innovation represent a paradigm shift for editors—transforming traditional thinking to adapt to converged media development. The laboratory's "Publishing Integration Technology Editor Innovation Competition" uses QR code technology as an entry point to design interactive, expandable, and profitable publishing innovations for mobile internet services, distinct from traditional print books. This competition cultivates traditional editors into composite strategic talents.

4. Daring to Innovate

In 21st-century publishing, good topics abound. The challenge lies in how acquisition editors select the most outstanding and reader-appropriate topics from numerous options. This requires editorial courage to innovate across multiple dimensions: content innovation, product form innovation, creative technique innovation, integration technology innovation, and product service innovation. Achieving these innovations transforms traditional publishing and distribution into converged media-era publishing and distribution, meeting the demands of converged media development.

Brief History of Life Evolution exemplifies fusion innovation across three dimensions: "temperature," "width," and "depth." "Temperature" represents 热度 and humanistic care. "Width" manifests in the combination of science and humanities, transforming readers into learners, discoverers, and creators with deep scientific interest. It emphasizes integrating scientific spirit with modern technology to broaden thinking, employing a four-in-one positioning of "story + scientific knowledge + traditional culture + psychological art" to promote scientific spirit. "Depth" reflects the completeness and systematicity of scientific knowledge and embodies the intrinsic spirit of scientific exploration, aiming to present people, objects, and spirit together.

The evolution from traditional publishing to digital publishing and then to converged media reflects era development, social progress, and cultural prosperity.

Having not yet achieved successful transformation through digital publishing, science and technology publishers can seize opportunities in the converged media era. By leveraging mobile internet advantages—such as developing and maintaining WeChat official accounts, subscription accounts, Weibo, and Toutiao accounts—they can connect readers with professional fields and knowledge, regularly delivering needed content for subscription fees. This represents a major transformation for traditional science and technology publishers under converged media. Through integration, they can enhance service capabilities for enterprises and society, combining traditional publishing’s content and channel advantages with emerging media’s technological strengths. Taking the integration of traditional and emerging publishing as the main direction for future transformation and upgrading serves as a crucial strategy for traditional publishing to achieve technological iteration and for emerging publishing to open new frontiers in the “Internet Plus” era. Adhering to integrated development as the “main body” and traditional and emerging publishing as the “two wings,” publishers should fully utilize new technologies to innovate publishing methods, improve publishing efficiency, and specialize in their domains.

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

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