

On the Advantages of Convergence of Broadcasting and Internet Technologies: Postprint

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Abstract

With the rapid development of modern science and technology, Internet technology has been widely applied across various sectors of society by virtue of its extensive influence and convenience, thereby fundamentally transforming people's lives and work. Internet technology has profoundly impacted the traditional broadcasting and television industry, while also calling for the integration of broadcasting and television technology with contemporary advanced Internet technology to effectively navigate the reform, innovation, and development of the broadcasting and television sector, and to meet the broadcasting needs of a broader user base. In its future development, the broadcasting and television industry must further deepen its understanding of the advantages of technology integration and actively explore effective strategies to promote such integration.

Full Text

On the Integration Advantages of Broadcast Television Technology and Internet Technology

Abstract: With the rapid development of modern science and technology, internet technology—characterized by its broad influence and convenience—has been widely applied across all social domains, fundamentally transforming people's lives and work. While profoundly impacting the traditional broadcast television industry, this technological wave also calls for the effective integration of broadcast television technology with advanced internet technology to address industry reform and innovation, and to better satisfy diverse user demands. Future development of the broadcast television industry must deepen understanding of these integration advantages and actively explore effective strategies for promoting technological convergence.

Keywords: broadcast television technology; internet technology; integration advantages

With the advent of the information age, internet technology has gradually occupied an increasingly prominent position in people's lives and work, generating development and transformation across all social sectors and laying an important foundation for industrial progress. To drive innovation in the broadcast television industry and effectively respond to new-era demands, strengthening the application and integration of internet technology has become a crucial pathway for industry advancement. Practitioners must fundamentally transform their work philosophies, seize the favorable opportunities presented by internet technology, and achieve deep integration with broadcast television technology to meet the personalized needs of the broad populace.

1.2 Irreplaceable Content Productivity

Although new media, represented by online platforms, has encroached upon large market segments of traditional media, credible and original news still originates primarily from newspapers, radio, and television. In the highly internet-developed United States, a Nielsen ratings study titled *Online Reader Behavior Report* analyzed millions of blogs and social media sites, revealing that 80% of links direct users to traditional American media companies, with only 14% of website content being original and 67% of news still derived from traditional media. Research from multiple universities also demonstrates that even the best new media platforms in the U.S. have limited content production capabilities and rely heavily on traditional media. In China, whether newspapers or broadcast television, traditional media maintains clear superiority in content.

1.3 Unshakable Resource Advantages

Traditional media such as broadcast television possess professional philosophies, talent pools, and brand effects that constitute significant advantages. The professional philosophy of journalism encompasses multiple operational mechanisms established during traditional media's long-term development, including press councils, professional associations, and codes of conduct—elements that cannot be replaced by online “fast-food news” in a short period. The resource advantage of professional talent manifests at two levels: news “gatekeepers” and professional editing and reporting teams. The primary responsibility of broadcast media is to select high-quality content that aligns with national interests, national spirit, and contemporary requirements for broad audiences—a capability that benefits from the extensive resource advantages of traditional media.

2.1 Strengthening Broadcast Functions

Effective integration of broadcast television with internet technology can enhance overall broadcast functions, particularly strengthening networked broadcast television capabilities and optimizing viewing experiences. Previously, audiences could only watch cable television and had difficulty sharing video and

audio content, making it challenging to meet personalized viewing needs. However, after integrating internet technology, leveraging the sharing functions of networks enables widespread distribution of video, images, audio, and other resources, dramatically improving the speed of information dissemination and reception. Users can freely select their preferred programs, which significantly drives innovation in the broadcast television industry and demonstrates the powerful capabilities of television networks.

Amidst the strong impact of emerging media, broadcast television has not shed its traditional media label. It is precisely this professional commitment that has built broadcast television's social credibility. This credibility, formed through nearly a century of adherence to professional ethics since broadcasting's inception, cannot be achieved by online media through short-term efforts. Fudan University conducted research on China's media credibility index system, showing that traditional media still surpasses online and other new media in this regard. Currently, the perception of broadcast media as highly credible remains deeply rooted in audiences' minds.

2.2 Reducing Operational Costs

In today's environment of rapidly developing internet technology, its widespread application across all aspects of social production and life reflects both societal progress and contemporary trends. Therefore, integrating internet technology with broadcast television technology aligns with developmental trends and societal requirements, reducing obstacles in practical implementation and improving execution effectiveness. Nowadays, the broadcast television industry has achieved triple-network convergence, which places higher demands on the interconnection between internet and broadcast television technologies, requiring a complete transformation from fragmented operations to resource sharing and integration through technological convergence. Consequently, guided by technological integration, broadcast industry work efficiency can be substantially improved while overall operational costs are significantly reduced.

2.3 Enhancing Life Convenience

The integration of broadcast television and internet technologies represents an inevitable trend in broadcast industry development under contemporary conditions. The results of this technological convergence align with current lifestyles, substantially enhancing life convenience and satisfying diverse demands. Products and practices that meet market needs will undoubtedly have bright prospects and will trigger greater transformations in people's lives, making them more colorful. Intelligence is a key characteristic of today's societal development, and the integration of internet and broadcast television technologies drives this intelligent development. With internet technology support, the pace of television intelligence development has gradually accelerated, winning widespread public favor and enabling people to understand world affairs without leaving home, with obvious improvements in life convenience.

3.1 Actively Promoting Mobile Multimedia Television Business

Mobile multimedia television business represents a typical product of broadcast television and internet technology integration, significantly developing network platforms and expanding business scope to mobile terminals, enabling audiences to watch programs anytime and anywhere. Digital transmission technology from internet technology can improve signal transmission stability, enhance signal quality, and reduce capital investment. Stable signals and broad coverage allow people to connect mobile terminals with network broadcast television programs, fully satisfying immediate needs. Meanwhile, technological integration greatly enriches television content and enables information push according to different audience needs, rapidly improving industry benefit levels. Currently, mobile multimedia television business has expanded to all aspects of our lives, with its competitive advantages gradually becoming prominent. Future efforts must further deepen technological integration, promote the networked development of broadcast television, and fundamentally improve intelligence levels.

3.2 Using Digital Technology to Improve Service Quality

Both technologies possess distinct advantages, and their integration can effectively combine and amplify these strengths, thereby improving overall broadcast television service quality. Digital technology serves as important support for enhancing broadcast television quality and represents a crucial branch of internet technology. In the integration with broadcast television, it demonstrates outstanding advantages. To further leverage digital technology and ensure overall program quality, broader technological penetration and application are needed, with timely summarization of emerging issues to lay foundations for technology improvement and enhanced integration effects. For example, in audio broadcast programs, using analog audio delivers optimal sound quality, while quantization and digital sampling may increase the likelihood of quality loss, affecting user listening experience. To address this issue in technological application, solutions can be implemented through digital-to-analog and analog-to-digital conversion methods. Thus, in the current network information era, audio technology cannot be completely replaced by digital technology; rather, technological integration is required to combine their respective advantages and compensate for individual limitations.

3.3 Effectively Improving Professional Staff Quality

In this rapidly changing developmental environment, the integration of internet and broadcast television technologies has promoted new business generation and ushered the entire industry into a new stage of innovative development. Traditional broadcast television, lacking internet technology support, exhibited singular development characteristics with limited business types, making it difficult to actively serve users or meet growing television demands. With internet technology integration, the broadcast television industry has shown diversified development trends, with gradually enhanced resource integration expanding

business scope through resource sharing and generating numerous new businesses adapted to user needs, enriching life experiences. In summary, technological integration is an inevitable choice for driving broadcast television industry innovation, injecting vitality into its rapid development while requiring the industry to explore how to better leverage integration advantages based on current development conditions.

In the broadcast television industry development guided by technological integration, many fields have undergone significant changes, requiring relevant practitioners to improve their adaptability to these changes by enhancing ideological understanding and strengthening practical training to effectively familiarize themselves with both internet and broadcast television technologies and master methods for driving industry innovation through technological integration. On one hand, leadership must increase emphasis on technological integration, strengthen understanding of online media, analyze its competitive advantages, and accurately identify directions and effective pathways for integration. Simultaneously, they should intensify promotion of integration advantages to ensure all staff fundamentally recognize that technological integration represents the necessary path for broadcast television industry development. On the other hand, education and training for relevant practitioners must be strengthened to improve professional and ethical qualities, particularly emphasizing information literacy cultivation and enhancing staff familiarity with and application capabilities of internet technology to better adapt to new positions and responsibilities brought by technological integration.

Deep integration of broadcast television technology and internet technology serves as an important driving force for broadcast industry reform and development. To further leverage integration advantages, we must first deeply recognize that technological integration can effectively strengthen broadcast television functions, reduce operational costs, enhance life convenience, and generate new businesses. Based on this foundation, we must actively promote mobile multimedia television business under integration guidance, use digital technology to improve broadcast service quality, and gradually enhance professional staff quality to maximize integration advantages and drive sustained, stable industry development.

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