

Analysis of Development Trends for Radio Broadcasting Technology in the New Media Era (Post-print)

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Abstract

In the new media era, the rapid development of radio broadcasting technology has rendered media technology increasingly critical. Nevertheless, this development process confronts numerous challenges. How to advance media technology development in the new media era and enable radio broadcasting to satisfy public demands has become a paramount issue. This paper expounds on the development directions of radio broadcasting technology in the new period, aiming to further promote the advancement of media technology.

Full Text

An Analysis of Radio Broadcasting Technology Development Directions in the New Media Era

Abstract: In the new media era, radio broadcasting technology is developing rapidly, making media technology increasingly important. However, this development also faces numerous challenges. How to promote media technology development and enable radio stations to meet people's needs has become a primary issue. This article elaborates on the development directions of radio broadcasting technology in the new era to better promote media technology development.

Keywords: new media; radio broadcasting technology; media development; media technology

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With the continuous development of modern information technology in China, the improvement of media technology has driven the development of the media industry. Currently, people's demands for media are constantly increasing. To meet these demands, it is necessary to continuously improve media technology, transform media transmission methods and forms, and bring China into a true new media era. At present, high-tech technologies are emerging rapidly, such as computer technology, satellite communication technology, fiber optic communication technology, network technology, etc. The emergence and application of these technologies pose enormous challenges to the development of the broadcasting industry. Traditional radio broadcasting technology is already incompatible with modern development and faces challenges and fierce competition from new media.

2.1 Impact of New Media Technology

With China's economic development, media technology continues to advance. Currently, people's lifestyles are accelerating, with increasingly less leisure time after work. Many individuals opt for high-speed lifestyles, using mobile phones and computers for entertainment via network technology. In this context, public attention to radio broadcasting is waning, and the audience for radio is shrinking. Although radio broadcasting still maintains some loyal listeners, it cannot reverse the reality of declining audience numbers, resulting in slow overall industry development and a sharp decrease in listeners.

1.1 Digital Broadcasting Technology

Digital broadcasting technology, as a new broadcasting technology, has developed rapidly in recent years. Digital broadcasting technology refers to the processing of digitized audio, video, and various data signals through encoding, modulation, and transmission in digital form. Unlike traditional AM, FM, and other broadcasting technologies, digital broadcasting technology achieves broadcasting and data information transmission goals through digital signal transmission based on ground transmission stations.

1.2 Computer Network Technology

Computer network technology is not actually a new concept, but it continues to evolve. The emergence of computers and the internet has changed people's lifestyles while promoting societal development, making the world increasingly integrated. Currently, the internet has penetrated various social industries and has long achieved integration with radio and television. Simultaneously, the application of computer network technology can better satisfy people's needs in program viewing [1].

1.3 FPGA Technology

From the perspective of current radio and television development trends, the industry is moving towards full digitalization and 3D stereoscopic directions, which places higher demands on related technologies. FPGA technology precisely meets these requirements. FPGA technology, or Field Programmable Gate Array, emerged when custom circuits faced significant limitations. However, FPGA technology is based on programmable controllers, fully utilizing logic cell array technology, and is clearly superior to traditional gate array technology in both structural design and overall functional performance. FPGA technology is characterized by high throughput, strong flexibility, and stable structural performance.

3. Development Strategies for Radio Broadcasting Technology in the New Media Era

In the new media era, media technology development has exhibited new characteristics. Traditional radio broadcasting has struggled to adapt to the pace of current era development. How to promote technical integration between traditional broadcasting and new media, and how to fully leverage the inherent advantages of broadcasting media, have become the main issues facing radio broadcasting development today.

3.1 Establishing a Sound Radio Management Mechanism Creating a comprehensive and high-level radio management system is the fundamental guarantee for promoting radio development. First, the quality of radio programs is the soul of radio broadcasting. Radio stations must gradually improve program systems, continuously enrich program content, enhance overall program quality, create excellent radio programs, and improve comprehensive market strength. Second, they must establish sound program adjustment systems, create scientific dynamic program management methods, and enhance staff's sense of crisis and competition.

3.2 Enhancing Core Competitiveness of New Media Broadcasting In the new media era, the main advantages of broadcasting technology are manifested in high transmission efficiency and speed. New media utilizes the internet platform as a new extension based on traditional broadcasting transmission. Broadcasting technology in the new media era must more specifically meet the special needs of particular audiences, fully leveraging its own interactive and timely adjustment characteristics.

3.3 Creating a Modern Networked Platform for Radio Stations By fully utilizing modern information technologies such as computer technology, network technology, and multimedia technology, we can achieve interconnection of various network content in radio stations, form a unified radio network,

carry out efficient management and control, and thereby fully meet the era's demands for radio modernization, diversification, informatization, and high-tech development.

3.4 Establishing a High-Level Digital Broadcast Control System Digital broadcast control systems utilize specialized equipment such as audio matrices, digital mixing consoles, digital audio ports, and network routers to form transmission channels for broadcast signals, serving as backups for each other. To ensure that the system can better adapt to the needs of the new media era in program production, broadcasting, and monitoring, and to comply with the digital and networked development trends of radio broadcasting, advanced and mature broadcasting technologies at home and abroad should be employed [3]. Simultaneously, it is necessary to fully consider future development projects and technical needs of radio networks, such as creating sound, high-quality digital playback control systems according to the needs of new media businesses like network broadcasting, digital audio broadcasting, and video playback, to fully achieve long-term development of radio broadcasting.

4. Development Directions for Radio Broadcasting Technology in the New Media Era

With the continuous development of China's media technology and the gradual promotion and application of network technology, the internet has become an essential part of people's learning, work, and life. In the new era of media technology, traditional radio broadcasting technology has been greatly impacted, and network technology development poses a significant threat to traditional broadcasting. Its comprehensive and interactive features effectively compensate for the deficiencies of traditional radio broadcasting [4]. This makes network broadcasting an inevitable trend for future radio development.

4.1 Networkization of Radio Broadcasting The main methods of radio networkization include live broadcasting and on-demand broadcasting. Live broadcasting refers to transmitting actual broadcast programs through network technology for widespread dissemination. The live broadcast method has broad and immediate characteristics, helping users receive information promptly. On-demand broadcasting refers to dividing programs into several small segments based on content, combining them with titles, and then delivering them to users. Audiences can select their preferred segments to listen to based on titles. Compared with live broadcasting, this method better meets users' listening needs and is currently the most frequently used network broadcasting method [5]. It should be particularly noted that both live and on-demand methods fundamentally involve transferring radio programs to the internet for playback.

4.2 Networked Broadcasting The network does not play a dominant role in broadcast transmission but rather presents itself as an auxiliary method. In

comparison, networked broadcasting uses traditional broadcasting methods for independent production and disseminates multimedia information through the network. The practical implementation of this process requires completely abandoning traditional broadcasting methods, fully leveraging network advantages from the perspective of network development to better complete broadcasting activities. In other words, networked broadcasting is essentially true network live broadcasting, not relay broadcasting. This method can truly achieve real-time interaction and communication with audiences [6]. After comprehensive integration of broadcasting and network technology, the communication method between hosts and users has shifted from traditional two-way communication to multi-directional common communication, with online users continuously increasing, breaking through the limitations of traditional broadcasting.

In summary, the development of media and network technology has had a significant impact on radio broadcasting. For radio broadcasting to achieve long-term development, it must fully integrate modern new media technology. In the current new media era, radio broadcasting has good development prospects and great advantages. The author believes that after integrating modern network technology, radio broadcasting will inevitably go further.

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

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