

Research on the Development of Television News Live Broadcasting in the Era of Media Convergence: Postprint

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Abstract

Live broadcasting is unconstrained by temporal and spatial limitations, thereby facilitating the maximal manifestation of radio and television's inherent advantages. Television live broadcasting creates an intense atmosphere with strong realism, which serves to enhance audience engagement and participation. Therefore, it is essential to fully comprehend the characteristics and advantages of television news live broadcasting to further promote the development of radio and television stations. This paper provides an overview of converged media and video live streaming technologies, and proposes transformation strategies for television news live broadcasting in the era of converged media.

Full Text

Research on the Development of TV News Live Broadcasting in the Integrated Media Era

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Abstract: Live broadcasting transcends temporal and spatial limitations, enabling radio and television to maximize their inherent advantages. TV live broadcasting creates an intense atmosphere with strong authenticity, enhancing audience engagement. Therefore, it is essential to fully understand the characteristics and advantages of TV news live broadcasting to promote further development of radio and television stations. This paper provides an overview of integrated media and video live streaming technology, and proposes transformation strategies for TV news live broadcasting in the integrated media era.

Keywords: Integrated Media; TV News; Live Broadcasting; Live Broadcasting Transformation; Live Broadcasting Model

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TV news live broadcasting focuses on current events, employing factual reporting to meet audience psychological needs and comprehensively present the timing, location, and process of events. In terms of delivery, users can watch news live streams on computers, mobile phones, or any internet-connected device. Technically, video live streaming differs significantly from video on-demand, eliminating the need for segmentation, transcoding, and publishing processes, thereby ensuring real-time program delivery. The TV news live broadcasting workflow consists of acquisition, preprocessing, encoding, streaming, and distribution, as illustrated in Figure 1 [Figure 1: see original paper].

Traditional news dissemination methods were monolithic, typically limited to television or newspapers. With the rise of live broadcasting, audiences can access needed information in the shortest time possible, making television stations more competitive. However, as the internet has developed, public attention has shifted away from television toward mobile phones, computers, and various smart applications, with audiences increasingly obtaining information through new media platforms, resulting in declining attention to traditional news. Radio and television stations must innovate news live broadcasting by integrating it with mobile phones, computers, and various smart applications to continuously expand their audience base, enrich news content, follow public focus and hot topics, and improve news reporting quality.

1.1 Integrated Media

Integrated media is a comprehensive concept that combines independent entities such as television, internet, and radio, sharing strengths in functionality, value, and means while effectively avoiding respective weaknesses [1]. It emphasizes resource integration, mutual promotion in publicity, and shared benefits. By integrating human and material resources from old and new media, the model shifts from separate services to unified service, clarifying relationships between old and new media, understanding their respective advantages and disadvantages, and achieving mutual complementarity and inclusive integration. In the integrated media era, various media should not be jealous or fearful of what “others have but I lack,” nor reject or refuse what “I have but others lack,” thereby demonstrating $1+1>2$ benefits in media convergence and achieving greater social and economic returns. In developing TV news live broadcasting, stations should seek steady progress and breakthroughs at bottlenecks to provide better live broadcasting services and lay a solid foundation for sharing TV news resources with integrated media.

1.2 Video Live Streaming Technology

With the exponential growth of internet users and improvements in network bandwidth, China's online video market has continuously expanded, with live streaming websites emerging rapidly like bamboo shoots after rain [2]. In terms of forms, video live streaming includes live concerts, press conferences, Olympic Games, TV dramas, personal shows, academic forums, and various technical training sessions.

2. Transformation Strategies for TV News Live Broadcasting in the Integrated Media Era

2.1 Adhering to the Principle of Seeking Truth from Facts in Live Broadcasting The most common form of TV news live broadcasting involves reporters filming on-site while simultaneously broadcasting, presenting the dynamic development of events through documentary-style reporting. TV news production has always prioritized seeking truth from facts as the primary standard, with live content being objective and authentic to deliver the latest information to the public—this is the purpose of TV news live broadcasting. In the integrated media era, the dissemination scope of TV news live broadcasting information is increasingly broad, utilizing websites, various video software, and social media platforms to complete live streaming, forwarding, and distribution, reaching large audiences [3]. Simultaneously, it is necessary to ensure news authenticity, conciseness, and immediacy, enabling rapid dissemination so that people can grasp news facts in the shortest time and enhancing the credibility of live broadcasting. Television stations should leverage the advantages of information dissemination in the integrated media era to actively spread authentic news information, as only by ensuring content authenticity in TV news live broadcasting can they guide correct public opinion and promote the development of live broadcasting.

2.2 Enriching TV News Live Broadcasting Content TV news live broadcasting topics primarily include public health emergencies and major events or conferences. Public health emergencies such as typhoons, floods, and earthquakes are extremely hazardous with wide-ranging impacts, attracting widespread social attention and becoming hot topics in TV news live broadcasting [4]. Presenting the latest developments of public health emergencies through live broadcasting not only creates strong impact but also allows content to unfold progressively, fully demonstrating news value. TV news live broadcasting also focuses on various social issues, including food production, food safety, and the proceedings of major national conferences—all focal points for the public. TV news live broadcasting involves not only hosts, guests, and live audiences but also randomly interviews on-site citizens, asking questions closely related to events so that audiences can clearly understand the situation and maintain strong interest in the news. Evening news programs, with more ample time, can conduct thematic live broadcasts around selected

topics, enriching news content while ensuring program quality. Morning news programs, constrained by time, should emphasize conciseness, focusing on weather, road conditions, and traffic to meet public information needs.

To improve live broadcasting quality, the following steps should be taken. First, prepare the signal source for live broadcasting. For real-time event coverage, prepare high-definition cameras for image acquisition. For TV program live broadcasting, prepare digital cable boxes or satellite receivers that can receive broadcast TV signals. To simultaneously acquire ten TV program signals, ten digital cable boxes or ten satellite receivers should be prepared. Second, prepare front-end signal acquisition and processing equipment. Broadcasting station program sources may be real-time footage from cameras or pre-recorded video content. For real-time camera footage, relevant equipment is needed to acquire the live images, using live acquisition and encoding processing devices connected to cameras via video cables for real-time audio-visual signal acquisition.

2.3 Ensuring Instantaneity and Speed in Live Broadcasting Timeliness is a crucial characteristic of news. In the internet era, new media has developed rapidly, and TV news has shifted from delayed broadcasting to real-time reporting. To meet public demands for news, it is necessary to continuously improve live broadcasting workflows and ensure stronger vitality in news live broadcasting. TV news live broadcasting must demonstrate instantaneity, employing satellite technology and multi-camera comprehensive coverage to promptly present on-site dynamics to the public and accurately describe news content. Since news events are reported directly from the scene, although reporters and audiences are in different locations, they can maintain real-time synchronization in time, using on-site sound and images to help audiences clearly understand the situation, avoid doubts caused by post-recording editing, and increase trust in TV news [5]. TV news live broadcasting can also prevent information distortion and misleading dissemination, but instantaneity must be achieved in live broadcasting.

TV integrated media broadcast trucks can be selected for live broadcasting, typically used in major conferences, sports events, and cultural performances, providing high-definition video to audiences. Specific functions include: (1) The system can meet live broadcasting requirements for important conferences, major events, variety shows, and sports events, ensuring clear images and normal signal transmission. (2) The system can support high-definition TV program production, live broadcasting, and recording, with integrated functions such as subtitles, quick editing, time delay, and monitoring, capable of transforming and outputting standard-definition versions. (3) The system records in full file-based format, creating conditions for material utilization, simplifying post-production workflows, effectively reducing operation and maintenance costs, and ensuring efficiency, supporting users in building all-media, tapeless technical production platforms at the technical level. (4) The audio system can reflect functions such as stereo program production, recording, transmission, and restoration, enabling

high-quality audio signal input and output with multi-channel push, ensuring audio-visual consistency. According to user needs, it can achieve interconnection between radio and television, relying on high-definition truck audio control equipment to realize simultaneous live broadcasting of radio and TV programs. The interior of the TV broadcast truck is shown in Figure 2 [Figure 2: see original paper].

2.4 Enhancing Interactivity of Live Programs In the integrated media era, TV broadcast media has shown initial disadvantages due to its one-way communication model and single transmission path. To improve program quality, TV news live broadcasting must become more interactive. In terms of program content, preliminary investigations should be conducted according to specific target audiences, continuously optimizing content from the perspective of audience experience. Increasing audience participation in live broadcasting through two-way interaction can enhance news dissemination effects [6]. For example, in the “Protect the Reclining Buddha” special live broadcast on Chongqing News Channel’ s First Look App, the program combined the fact that the Dazu Rock Carvings are immovable important cultural relics and that Chongqing people have deep feelings for them. The program not only launched a hand-drawn cartoon activity but also publicly solicited “Me and the Reclining Buddha” photos, fully mobilizing citizens’ enthusiasm. One week before the live broadcast, the program team collected over 500 submissions from audiences, with some photos taken recently and the earliest dating back to 1950. During the live broadcast, these photos were displayed along with the stories behind them, deeply moving audiences and significantly improving program quality. Additionally, quiz activities related to the Dazu Rock Carvings were set up on TV and online platforms, transforming one-way broadcasting into two-way participation and further expanding the audience for news live broadcasting.

2.5 Shaping a “All-Media Era” Live Broadcasting Model Traditional live broadcasting methods were relatively simple, requiring SNG live trucks on-site, with the disadvantage of often missing exciting content. In the integrated media environment, such problems can be effectively solved. Many areas in cities are now equipped with surveillance cameras, covering most regions primarily for traffic monitoring and community safety. When breaking news events occur, footage from surrounding surveillance cameras can be presented simultaneously during live broadcasting, with hosts providing explanation and analysis. This approach prevents SNG satellite live trucks from missing important content while traveling to the scene and ensures the timeliness of live broadcasting.

The role of mobile phones in live broadcasting has gradually become prominent, helping to improve media response speed, enhance live broadcasting timeliness, and ensure audiences receive news information firsthand. Using mobile phones in TV news live broadcasting can significantly reduce costs, especially for covering unpredictable events. With mobile phone support, radio and television programs can break through time and space limitations, greatly expanding stu-

dio space and connotation. Particularly in areas lacking communication signals, mobile phones can serve as part of the studio, strengthening interaction and communication between TV media and audiences and transforming the relationship between media and audiences [7]. The rise and application of smartphones, especially with internet support and comprehensive wireless network coverage, has created favorable conditions for TV news live broadcasting. Typically, surveillance cameras capture panoramic footage, while smartphones can capture highly immersive scenes. Everyone can use their phones to shoot exciting footage and capture wonderful moments, using unique perspectives to deepen people's understanding of news events. Television stations can collect materials shot by citizens and process them after verification. These are valuable first-hand information and crucial content for TV news live broadcasting. When SNG live trucks arrive on-site and reporters conduct field reporting, combined with footage from various channels, it lays a solid foundation for comprehensive and in-depth TV live broadcasting.

In conclusion, in this information explosion era, radio and television stations must not only focus on news authenticity and timeliness but also meet people's personalized needs, demonstrating interactivity and participation in news live broadcasting. With the development and application of modern network technology, journalists must actively adapt to changes, innovate news live broadcasting methods, and enhance audience viewing experiences. In the integrated media era, to broaden the development space for live broadcasting, television stations need to strengthen innovation, enrich publicity, apply new technologies, enhance audience experience, and improve live broadcasting timeliness. Only then can television stations fulfill their public opinion guidance function and create conditions for social development and progress. Furthermore, various platforms should strengthen cooperation to achieve comprehensive integration in technology, branding, and content, promoting the rapid development of TV news live broadcasting in the integrated media era.

- References:** [1] Yang Jianjun. Exploring the Transformation Path of Journalists Under the "New Normal" [J]. *China Media Technology*, 2020(12): 70-71.
- [2] Fan Jia. Research on the Development Path of TV News Live Broadcasting in the Integrated Media Era [J]. *News Research Guide*, 2019(24): 237-238.
- [3] Bi Jingbei. Research on Video News Live Broadcasting in the Integrated Media Era [D]. Xi'an: Northwest University, 2019.
- [4] Li Kewei, Bo Hanbin. Research on Innovation and Breakthrough of TV Media in the Integrated Media Era [J]. *China Media Technology*, 2020(12): 35-37.
- [5] He Sugang. Transformation and Development of TV News Live Broadcasting in the Integrated Media Era [J]. *Satellite TV & Broadband Multimedia*, 2019(4): 37-39.
- [6] Chen Gao. Reform and Development of TV News Live Broadcasting in the Integrated Media Era [J]. *Media Research*, 2018(33): 76.
- [7] Jia Mengyu. Development of Network Live Broadcasting Technology in the Integrated Media Era [J]. *China Media Technology*, 2020(12): 125-127.

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

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