
The Development Prospects of Music Radio Programs in the Converged Media Environment

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Abstract: *Driven by converged media technologies, music radio programs are undergoing comprehensive transformation and innovation. At the technical level, the integration of ‘intelligent audio + multi-terminal connectivity’ has emerged as a central development trajectory. Virtual reality (VR) audio technology reconstructs the listening environment by creating immersive sound fields, enabling listeners to experience a 360-degree surround effect that simulates being physically present at the scene; whereas artificial intelligence (AI) interactive technology facilitates real-time human-computer interaction through voice commands, advancing programming from one-way communication to intelligent, bidirectional engagement. Cross-platform content segmentation and distribution has become a prevailing industry trend, as programs are disassembled into short, platform-adapted fragments i.e. Douyin music challenges and Weibo highlight clips, and amplified through algorithm-driven targeting to significantly expand audience reach. In terms of ecological construction, the closed-loop model of ‘broadcasting + social + service’ enhances user participation through real-time social media interactions such as live barrage song requests and topical discussions, while integrating functions like audio e-commerce and ticket booking, forming a value chain that links content consumption, social interaction, and commercial transformation. In the realm of content creation, IP-based operations emphasize classic music themes and development of distinctive host personas, whereas vertical strategies target niche genres such as electronic and traditional folk music, enhancing cultural influence through cross-media incubation including offline concerts and book publishing. Looking ahead, the continued integration of emerging technologies and the evolving needs of users are expected to drive a more efficient, integrated communication model as the central focus of industry innovation.*

Keywords: *Music radio programs; media convergence; intelligent audio communication; cross-platform content; IP vertical operation*

1. Introduction

As the core carrier of the traditional broadcasting field, the development of music radio programs has shifted from single audio dissemination to technology-driven diversified ecological reconstruction. According to the 2023 report of the International Telecommunication Union (ITU), the scale of global digital media users has exceeded 5 billion, of which 5G network coverage has reached 68%, promoting the upgrade of audio dissemination technology from linear broadcasting to ‘*intelligent interaction + scenario experience*’ (International Telecommunication Union, 2023). This change has broken the boundaries of traditional media and prompted music radio programs to accelerate their transformation in terms of technology integration (i.e. AI voice recognition, VR sound field modeling), terminal integration (mobile phone/car machine/smart home multi-screen linkage) and content distribution (slice dissemination of short video platforms).

According to a 2024 survey by the China Federation of Radio, Film and Television Social Organizations, the average daily listening time of traditional music radio listeners dropped from 78 minutes in 2019 to 42 minutes in 2024, but the average daily usage time of users of audio platforms based on converged media increased to 105 minutes, of which the ‘*intelligent recommendation + social interaction*’ model contributed 63% of user stickiness (China Federation of Radio, Film and Television Social Organizations, 2024). This data reveals the dual challenges facing the music radio industry: on the one hand, traditional listening scenarios continue to shrink; on the other hand, new consumer demands generated by converged media are urgently needed to be met. For example, Himalaya FM’s *Music Anchor Plan* has increased the dissemination efficiency of niche music programs by 300% through AI voiceprint customization and cross-platform content distribution, confirming the feasibility of transformation under technology empowerment (Liu & Zhang, 2021a)?.

In this context, music radio programs urgently need to build a collaborative development framework of ‘technology-content-channel-user’. Existing research shows that the impact of converged media on audio communication is reflected in three aspects: at the technical level, 5G and edge computing drive audio transmission delay to below 20ms, laying the foundation for real-time interaction (Wang & Li, 2022b); at the content level, IP-based operations and vertical segmentation have prompted programs to shift from ‘popular broadcasting’ to ‘personalized services’, such as NetEase Cloud Music’s *Guofengtang* breaking the circle of traditional culture through cross-media incubation (Chen et al., 2023); at the commercial level, the model innovation of ‘*audio + e-commerce*’ and ‘*content + service*’ has increased the industry’s average revenue per user (ARPU) from 18 CN¥/month in 2020 to 45 CN¥/month in 2024 (iResearch, 2024). However, research on how to systematically integrate multi-dimensional resources and build an efficient communication closed loop is still insufficient, especially the lack of in-depth discussion on the dynamic adaptation mechanism of technology integration and user needs.

Therefore, the present study takes converged media technology as the entry point, and explores the transformation path of ‘*intelligent audio + multi-terminal connectivity*’ by analyzing practical cases of music radio programs in scene reconstruction, distribution innovation, and ecological construction. It aims to provide the broadcasting industry with a development strategy that has both theoretical value and practicality. This has important practical significance for promoting the digital transformation of traditional media and meeting the ‘*immersive + interactive*’ music consumption needs of Generation Z users. This study aims to explore the transformation path of music radio programs in the converged media environment, focusing on the "intelligent audio + multi-terminal linkage" model. Specifically, it seeks to: (1) clarify how converged media technologies reshape listening scenarios and interaction modes; (2) examine the effectiveness of cross-platform content distribution strategies in expanding audience coverage; (3) propose a feasible framework for ecological construction and commercial value transformation, thereby providing theoretical and practical references for the broadcasting industry.

RQ1: How do converged media technologies (e.g., VR audio, AI interaction, 5G) specifically reconstruct the listening scenarios of music radio programs and promote their transformation from one-way communication to intelligent interaction?

RQ2: In the converged media environment, how do cross-platform content slicing and distribution strategies (including traffic diversion via short video platforms) effectively expand the audience coverage of music radio programs and improve communication efficiency?

RQ3: How can music radio programs achieve enhanced user stickiness and commercial value transformation through the construction of ‘*broadcasting + social + service*’ closed-loop, IP-based operations, and vertical content segmentation?

2. Converged media technology drives the transformation of music radio programs

This section addresses RQ1 by analyzing how converged media technologies (e.g. VR audio, AI interaction, 5G) reconstruct listening scenarios and promote the transformation of music radio programs.

2.1 Technology Development Background

As the result of the deep integration and coordinated progress of various media technologies, converged media technology is rewriting the media ecosystem in all aspects (Castells, 2018). At present, 5G technology, with its excellent low latency (less than 1 millisecond) and high bandwidth (theoretical peak rate can reach 20Gbps), provides a solid guarantee for the high-speed transmission of information, greatly shortening the time difference from the production end to the user receiving end of music radio programs, so that high-definition lossless audio can be delivered to the audience in real time and smoothly (Wang & Li, 2022b). The *White Paper on the Economic and Social Impact of 5G* released by the China Academy of Information and Communications Technology shows that by the end of 2024, the number of 5G users in China will exceed 1 billion,

and the 5G network coverage rate in urban areas will exceed 95%, which has laid a broad user base and network environment for the innovative application of music radio programs based on 5G.

The rapid development of cloud computing technology has also brought revolutionary changes to the music broadcasting industry. It breaks through the limitations of traditional local storage and computing power, and realizes the storage and processing of massive audio data in a flexible and efficient way. For example, radio stations can easily store decades of accumulated music material libraries with the help of cloud computing platforms, and use the powerful computing power of cloud servers to perform real-time transcoding and intelligent editing of audio, greatly improving program production efficiency. Simultaneously, the application of artificial intelligence technology in the field of music broadcasting is becoming more and more extensive. Through machine learning algorithms, deep mining of massive user listening data can accurately understand user music preferences and lay the foundation for personalized recommendations; natural language processing technology enables speech recognition and synthesis, so that voice interaction can be realized in music radio programs. *Virtual reality* (VR) technology is also maturing, creating conditions for creating immersive music listening scenes. Users wearing VR devices can feel as if they are at the music scene and feel the charm of music in all aspects.

2.2 ‘Smart Audio + Multi-Terminal Connectivity’ Transformation Trend

Driven by the strong integration of media technology, music radio programs are accelerating their transformation to the ‘*smart audio + multi-terminal connectivity*’ model. The core of smart audio technology is to use big data analysis and artificial intelligence algorithms to deeply analyze multi-dimensional data such as user listening behavior and music preferences. Taking the Himalaya platform as an example, it has built a large and complex user behavior analysis model. By collecting user operation data such as playback, pause, collection, and sharing, it uses deep learning algorithms to tailor a personalized music radio program recommendation list for each user. Studies have shown that after adopting the personalized recommendation algorithm, the average daily usage time of Himalaya users has been extended by 23 minutes, and the user retention rate has increased by 15% (Liu & Zhang, 2021b). This precise recommendation not only meets the personalized needs of users, but also significantly enhances the stickiness between users and the platform.

At the same time, multi-terminal linkage has become the new normal for the dissemination of music radio programs. With the popularization of smart devices, users are no longer limited to traditional radios to listen to music broadcasts. Mobile phones, smart speakers, car terminals and other diversified devices can all become listening portals. In the in-vehicle scenario, the acceleration of the process of automobile intelligence has led to more and more vehicles with built-in advanced audio playback systems and cooperation with mainstream music radio program platforms. For example, Tesla cooperates with Spotify, and car owners can conveniently search and play various music radio programs through the in-car central control screen while driving, and

enjoy high-quality audio services. According to *Strategy Analytics* data, the global in-vehicle audio entertainment system market size will reach US\$35 billion in 2024, with an annual growth rate of 12%, which shows that in-vehicle terminals are becoming an important position for music radio programs to expand their audience and enhance their influence.

2.3 VR audio and AI interaction reconstructs listening scenarios

VR audio technology has brought an innovation in the immersive listening experience for music radio programs. Through 3D audio modeling and spatial sound technology, when users wear VR devices to listen to music radio programs, they can get surround sound effects as if they were at a concert. The sound comes from all directions with precise positioning, which greatly enhances the fun and realism of listening (Chen & Zhao, 2020). For example, some music radio programs launched by the British Broadcasting Corporation (BBC) use VR audio technology. Users can experience the details of the music in 360 degrees and immerse themselves in the unique atmosphere created by the music. After the program went online, the user satisfaction score increased by 30%.

AI interactive technology has injected intelligent vitality into music radio programs and completely changed the traditional human-computer interaction mode. With the help of voice commands, users can easily realize operations such as song on demand, singer information query, program switching, etc. Intelligent voice assistants such as Xiao Ai and Tmall Genie have been deeply connected with many music radio program platforms. Users only need to speak commands to the smart speaker, such as ‘play the pop music program of XX radio station’, and the device will respond quickly and play the corresponding content accurately. The report released by iFlytek pointed out that as of 2024, the usage rate of intelligent voice interaction in audio applications will reach 68%, and the frequency of users participating in music radio program interactions through voice interaction has increased by 45% compared with the previous year, which fully demonstrates the significant role of AI interactive technology in improving user participation and promoting the transformation of music radio programs from traditional one-way communication to two-way intelligent interaction.

3. Cross-platform content distribution and traffic diversion

This section addresses RQ2 through examining cross-platform content slicing, distribution strategies, and the role of short video platforms in traffic diversion to expand audience coverage.

3.1 Trend of cross-platform content slicing and distribution

In the converged media environment, cross-platform content slicing distribution has become a key trend in the dissemination of music radio programs, reshaping the dissemination pattern of music radio programs (Jenkins, 2006). The content slicing strategy breaks down the complete music radio program into short, concise and themed segments, and distributes them accurately according to the characteristics of different platforms and user preferences. For example, the

climax of the song recommendation segment, the host's witty and interesting interactive moments or in-depth music analysis segments in the music radio program are put on diversified platforms such as *Douyin*, *Weibo*, and *Xiaohongshu*. *Douyin* is famous for its 15-second to 1-minute short video ecology, which is suitable for the delivery of fast-paced and attractive music clips to quickly catch the user's attention; *Weibo*, with its strong topic dissemination and social attributes, is more suitable for publishing program clips with hot topic tags to trigger extensive discussions; *Xiaohongshu*, with its combination of images, texts and short videos, aims to share unique music discoveries or introductions to niche music types in music radio programs (Kietzmann et al., 2011).

According to iResearch Consulting Report (2023), a well-known music radio program has exceeded one million views on the *Douyin* platform in a single month through systematic cross-platform content slicing and distribution, the number of *Weibo* topic readings has increased by 500,000 times, and the number of interactions with related notes on *Xiaohongshu* has reached 100,000 times. This data fully demonstrates the remarkable effectiveness of content slicing distribution in attracting the attention of users on different platforms and expanding the influence of programs. By fragmenting and characterizing the program content, it meets the diverse consumption habits of users on different platforms, allowing music radio programs to break through the time and space limitations of traditional broadcasting and revitalize on new media platforms.

3.2 The role of short video platforms in attracting traffic

Given their large user base, strong communication capabilities, and unique algorithmic recommendation mechanisms, short video platforms have become a key channel for music radio programs to attract and engage audiences (Boczkowski & Anderson, 2016). The music radio program production team releases carefully edited music short videos on short video platforms, attracting users' attention and guiding them to the program listening platform by showing the highlights and wonderful moments of the program, thus building a cross-platform communication link. For example, many music radio programs have launched music challenge topics on platforms such as *Douyin* and *Kuaishou*, encouraging users to create and upload music short videos based on the program theme, and using the power of *user-generated content* (UGC) to expand the scope of program dissemination. This participatory communication model not only stimulates users' creative enthusiasm, but also enhances the emotional connection between users and programs.

Cooperating with influencers on short video platforms is also an effective way to increase the popularity of programs. With their huge fan base and strong ability to bring goods, influencers can quickly promote music radio programs to a wider audience. According to internal statistics of a program operator in 2024, after a Douyin head influencer recommended a music radio program, the number of listeners of the program surged by 30% within a week, and the number of subscribers increased by 20%. In addition, the algorithm recommendation system of the short video platform will accurately push relevant music radio program short videos to potential users based on user

interest preferences, viewing history and other data, further improving the efficiency of drainage. The *Short Video Content Marketing White Paper* released by Crawley pointed out that about 70% of users said that they had paid attention to new audio programs because of recommendations from short video platforms. This shows that short video platforms play an irreplaceable role in guiding users to discover and pay attention to music radio programs, and have become an important driving force for music radio programs to acquire new users and expand the market.

4. Platform Integration and Business Model Innovation

This section addresses RQ3 by exploring the construction of ‘*broadcasting + social + service*’ closed-loop and innovations in business models (e.g., audio e-commerce) to enhance user stickiness and commercial value.

4.1 ‘Broadcasting + Social + Service’ Closed Loop Construction

In the converged media ecosystem, building a closed-loop system of ‘*broadcasting + social + service*’ has become the core strategy for music radio programs to enhance user stickiness and commercial value (Kaplan & Haenlein, 2010). This model integrates traditional broadcast media, social media and service platforms to form a complete chain of content production, communication interaction and value transformation. Taking *WeChat* public accounts and *Weibo* as examples, music radio programs activate the interactive enthusiasm of fan communities by publishing program previews, highlights, behind-the-scenes footage and other content. At the same time, with the help of the comment, like and share functions of social media platforms, program producers can collect user feedback in real time and provide data support for content optimization. For example, the ‘*Dynamic 101*’ music radio under Shanghai Radio and Television Station, by launching the ‘*Daily Song List*’ topic interaction on *Weibo*, attracted more than 5,000 user comments per day, significantly enhancing the emotional connection between the program and the audience (Case source: Case analysis of actual operation of radio stations, 2023).

The integration of service functions has further expanded the ecological boundaries of music radio programs. By cooperating with ticketing platforms and event planning agencies, the program can provide users with diversified services such as music ticket booking, offline music festival registration, and music training course recommendations. Taking the cooperation between Beijing Music Radio and Damai.cn as an example, the ‘*online program recommendation + offline performance ticket purchase*’ service jointly launched by the two parties has increased the conversion rate of related concert tickets by 40%, which not only meets the deep needs of users for music consumption, but also creates a new profit growth point for the program (China Federation of Radio, Film and Television Social Organizations, 2024).

4.2 Real-time interaction on social media improves audience engagement

The real-time interactive nature of social media has injected vitality into music radio programs for two-way communication. During the live broadcast of the program, the host interacts with the

audience in real time through platforms such as Weibo and Douyin, breaking the one-way communication barriers of traditional radio. For example, the *Music Pioneer List* program of *Shenzhen Radio FM97.1* opened the Douyin live broadcast room connection function during the live broadcast. Listeners can share music stories and request songs with the host through video connection, making the peak number of online viewers of the program exceed 100,000 (data source: Weibo platform statistics, 2024). This instant interaction not only enhances the audience's sense of participation, but also makes the program content closer to user interests, forming a virtuous cycle of "user demand-program feedback-content optimization".

The data value of real-time interaction cannot be ignored either. By analyzing user comments, topic popularity, likes and sharing data on social media, the program production team can accurately understand the audience's preferences and provide a basis for subsequent content planning. For example, the '*Hearing Good Times*' program, a collaboration between *Kugou Music* and *Zhejiang Music Radio*, uses social media big data to analyze users' discussion enthusiasm for different music types, dynamically adjusts the program playlist, and increases the program's listening rate by 25% (Wang & Li, 2022a).

4.3 Exploration of business models such as audio e-commerce

As an emerging business model in the era of converged media, audio e-commerce is reshaping the profit path of music radio programs. Music radio programs combine music content with product sales by cooperating with e-commerce platforms to realize traffic monetization. For example, the *Global Pop Music Gold Chart* program launched by *The Voice of Music* of China Central Radio and Television embeds recommendations for music peripheral products in the program, including singers' signed albums, limited edition headphones, etc., and provides a one-click jump purchase link. After the program was broadcast, the sales of related products increased by 60% month-on-month (Audio E-commerce Development Trends and Case Analysis, 2022).

The member-exclusive service model has also become an important direction for music radio programs to expand their profits. By launching a membership subscription system, the program provides paying users with value-added services such as lossless sound quality, exclusive music programs, and priority ticket purchase rights. The '*Music VIP Membership*' system of the Himalaya platform has attracted more than 12 million paying users by integrating high-quality music radio program resources on the platform, and membership income accounts for 45% of the platform's music business revenue (iResearch, 2023). These innovative business models not only open up diversified sources of income for music radio programs, but also promote the industry's transformation from pure advertising dependence to a complex profit model.

4.4 Intellectual property (IP) operations and vertical content segmentation

As part of the response to RQ3, this subsection analyzes IP-based operations and vertical content segmentation, discussing their roles in ecological construction and commercial value transformation. The *intellectual property* (IP) development of music radio programs has shifted

from single content production to the ecological construction of *brand-scene-business*. The IP strategy forms recognizable brand symbols by exploring unique music themes (such as classical music deconstruction, independent music chronicles) and shaping differentiated host images (such as ‘*music detective*’ and ‘*old song ferryman*’ and other personalized labels) (Jenkins, 2006). For example, the radio version of ‘*Classics Chanting*’ launched by China Central Radio and Television Station takes ‘*poetry + music*’ as its core IP. Through the literary interpretation of host Kang Zhen and the adaptation and interpretation of musicians, it constructs a triple resonance of ‘content-emotion-culture’. The average attendance rate of offline concerts derived from the program reached 92%, and the sales of peripheral books exceeded 500,000 copies (“Research on the Practical Development of Music Radio Program IP”, 2023).

Cross-media incubation is a key path to increasing IP value. By expanding broadcast IP to short videos (TikTok’s *Classic Music Clips* collection), offline performances (IP theme concerts), knowledge payment (the premium course *100 Lectures on Classical Music*) and other fields, a multi-dimensional monetization matrix is formed. Himalaya’s *8 o'clock listening to classical music* IP has increased its IP commercial value by 300% through cross-media operations of ‘*radio program + physical record + VR music scene*’, confirming the dual value of IP strategy in user retention and business expansion (Li & Zhang, 2021).

As for vertical segmentation, vertical segmentation fills the market segmentation needs by focusing on the niche music field and traditional cultural narratives. In the niche music field, Beijing Music Radio’s *Electronic Music Pioneer* program has deeply cultivated the EDM market segment. Through exclusive interviews, label recommendations and other content, it has built the country's first electronic music radio community. The program's Weibo super topic has been read 120 million times, becoming a bridge connecting underground musicians and mainstream listeners. In the field of traditional music culture, Guangdong Radio and Television’s *Ancient Rhythm New Voice* program focuses on “living inheritance of intangible cultural heritage music” and invites Nanyin inheritors, *guqin* players and others to conduct immersive interpretations. The program ranks among the top three in the traditional culture category of *Qingting FM*, and has promoted the proportion of young audiences of intangible cultural heritage music such as Chaozhou string poetry to 41% (program listening feedback survey, 2024). The value of vertical content is also reflected in the communication effect of “breaking the circle of a narrow audience”. The *Independent Music Chart* radio program, which NetEase Cloud Music cooperated with independent music labels, made the works of independent musicians such as Diuhuoche Band enter the mainstream music charts through the communication chain of ‘*niche recommendation-social fission-mainstream recognition*’, proving the unique value of vertical content in cultural communication and market expansion (Chen et al., 2020).

5. Discussion: Future prospects for integrated communication models

This section further discusses the implications for answering the three research questions, discussing future trends in technology integration, precision communication, and cross-sector cooperation to provide a comprehensive outlook for the development of music radio programs.

5.1 Technology integration promotes innovation in communication models

In the future, technological integration will reconstruct the communication paradigm of music broadcasting. Blockchain technology realizes the automatic confirmation of music copyright and income distribution through smart contracts. For example, the *Audius* platform uses blockchain technology to increase the efficiency of independent musicians' income settlement in radio programs by 70%, providing a technical solution for copyright protection (Wang et al., 2023). Augmented reality (AR) technology creates an immersive experience through the integration of 'audio + scene' when users listen to Jay Chou's classic songs on the radio, they can trigger the virtual scene of the concert through mobile phone AR scanning, realizing the cross-sensory interaction of 'hearing + vision' (The Impact of the Development Trend of Converged Media Technology on Music Radio Programs, 2025).

The in-depth application of 5G and edge computing will promote the implementation of "real-time audio cloud" technology, enabling radio programs to automatically adapt the sound quality, rhythm and content type according to the user's scene (such as commuting, fitness, and home). Huawei's *Audio Communication Technology White Paper* released in 2024 shows that real-time audio processing technology based on edge computing can reduce content distribution delay to less than 50ms, providing technical support for scenarios such as "10,000 people listening to songs on the same screen".

5.2 Precision communication based on audience needs

Precision communication will be achieved through a closed-loop system of 'data-algorithm-feedback'. By analyzing users' music consumption data (i.e. listening time, song collection preferences, and social interaction trajectories), AI algorithms can generate personalized radio programs. Spotify's *Daily Mix* function has achieved dynamic playlist generation based on user behavior, increasing the average daily usage time by 27 minutes (Liu & Zhang, 2021a). More cutting-edge applications such as brainwave monitoring technology can sense user emotions through wearable devices and adjust the content of radio programs in real time - when the user's stress index is detected to be elevated, it automatically switches to light music topics.

The real-time integration of audience feedback will form an agile iteration of 'communication-optimization'. The Douyin music broadcast account can adjust the direction of the playlist within 10 minutes through the keyword analysis of the live broadcast room barrage. This real-time optimization has increased the program interaction rate by 60% (Boczkowski & Anderson, 2016).

5.3 Cross-sector cooperation to expand communication channels

Cross-field cooperation will break the boundaries of media and build a pan-entertainment communication network. Cooperation with the film and television industry, such as Hunan Radio and Television's *Sound of Life* program, through the linkage of 'radio + variety show + movie', has made the box office of movies related to Hong Kong music theme radio programs exceed 1.2 billion, realizing the multi-dimensional release of content value ("Case Analysis of Cross-Field Cooperation in Music Radio Programs", 2024). In the field of games, NetEase Cloud Music cooperated with *Genshin Impact* to create a three-dimensional cooperation of 'in-game playback + radio special + offline concerts', which increased the number of original music broadcasts by 400%, creating a new cooperation model of 'game IP + music broadcast'.

In the field of cultural and tourism integration, Zhejiang Music Radio launched the *Poetic and Picturesque Zhejiang: Music and Tourism Map* program, which integrates the history and culture of scenic spots such as West Lake and Wuzhen into music radio. Users can scan the code to listen to the exclusive music stories of the corresponding scenic spots, driving the number of tourists to related scenic spots to increase by 22%, proving the dual value of cross-field cooperation in cultural communication and industry empowerment (China Federation of Radio, Film and Television Social Organizations, 2024).

6. Conclusion

In the converged media environment, music radio programs have transformed from single audio communication to a systematic project of 'technology empowerment-content innovation-ecological reconstruction'. At the technical level, technologies such as 5G, VR, and AI promote the scene innovation of 'intelligent audio + multi-terminal connectivity'; at the communication level, cross-platform slicing distribution and short video diversion build a three-dimensional communication network; at the commercial level, the 'broadcasting + social + service' closed loop and audio e-commerce model expand the profit boundary; at the content level, IP-based and verticalization strategies have achieved an upgrade from mass communication to precise services. In future development, music radio programs need to be based on technological integration, user needs as the core, and cross-domain collaboration as the path. While maintaining the advantage of audio media, they should enhance the sense of immersion through technologies such as AR/VR, protect the copyright ecology through blockchain technology, and achieve precise services through big data. As the International Telecommunication Union (2023) pointed out in the *Global Digital Media Development Report*, "The future of audio media lies in becoming an ecological hub connecting technology, culture and business." Only by continuously innovating and integrating communication models can music radio programs achieve the transformation from *sound communicators* to *music ecosystem builders* in the wave of converged media.

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