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Using “Smart Broadcasting” to Drive Broadcasting Network Transformation: An Exploration of Implementation Effectiveness at Guizhou Broadcasting Network (Postprint)

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Abstract

Currently, the construction of “Smart Broadcasting” represents a historical responsibility entrusted to the broadcasting industry by the state in the new era, and constitutes a crucial measure for the practical implementation of the new development concept and high-quality development strategy. To demonstrate the significant value and strategic position of radio and television within the country’s overall digital economy strategy, it is imperative to propel the intelligent development of broadcasting, thereby enabling “Smart Broadcasting” to achieve breakthrough progress. In recent years, Guiguang Network has been fully dedicated to facilitating the construction of “Smart Broadcasting,” while actively participating in smart city initiatives across the province, accumulating substantial mature experience and attaining notable economic and social benefits, thus establishing a solid foundation for “Smart Broadcasting” to become a pivotal platform in the construction of “Smart Guiguang.” The following sections will propose relevant construction concepts and measures based on an analysis of the challenges and opportunities confronting Guiguang Network in its “Smart Broadcasting” development, with the aim of advancing the transformation of broadcasting networks through “Smart Broadcasting.”

Full Text

Promoting Broadcasting Network Transformation through “Smart Broadcasting” : An Exploration of Guizhou Broadcasting Network’ s Construction Practices and Achievements

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Abstract

The construction of “Smart Broadcasting” represents both a historical responsibility entrusted to the broadcasting industry in the new era and a crucial measure for implementing new development concepts and high-quality development strategies. To demonstrate the important value and status of radio and television within China’ s overall digital economy strategy, it is essential to promote the intelligent development of broadcasting and achieve breakthrough progress in Smart Broadcasting. In recent years, Guizhou Broadcasting Network has been fully committed to facilitating Smart Broadcasting construction while actively participating in provincial intelligent project development. Through these efforts, the network has accumulated considerable experience and achieved favorable economic and social benefits, laying a solid foundation for Smart Broadcasting to become a key platform in the construction of “Smart Guizhou.” This paper analyzes the challenges and opportunities facing Guizhou Broadcasting Network in its Smart Broadcasting initiatives and proposes relevant construction ideas and measures aimed at advancing broadcasting network transformation through Smart Broadcasting.

Keywords: digital economy; “Smart Broadcasting” ; Guizhou Broadcasting Network; Smart Guizhou; expansion areas

In November 2018, the National Radio and Television Administration issued the *Guiding Opinions on Promoting Smart Broadcasting Development* and convened a national Smart Broadcasting construction symposium in Guizhou during the same month. At a time when media convergence is gaining momentum across China, these actions by the National Radio and Television Administration reflect profound strategic considerations. Both theoretical and practical perspectives on media convergence continue to generate diverse opinions within society, leaving many practitioners troubled and confused as they explore various broadcasting media convergence models. Fully facilitating Smart Broadcasting construction is not only an important method for the radio and television sector to implement Party Central Committee spirit, establish industry direction, and seize opportunities in new technological reforms, but also represents the inevitable path for broadcasting to achieve media convergence.

1. Challenges and Opportunities in Guizhou Broadcasting Network' s Smart Broadcasting Construction

In recent years, the broadcasting industry' s transformation has accelerated, with increased rates of high-definition and two-way network capabilities and rapid advancement in intelligent terminal adoption. According to the *2019 China OTT Development Forecast Report*, smart televisions had reached 490 million users by the end of 2018 [1]. This development reflects the broadcasting industry' s strategic choice to implement new development concepts, adapt to the new normal of economic development, deepen supply-side structural reforms, and satisfy people' s aspirations for a better life. However, it also underscores how intensifying market competition has continuously narrowed the main business space for broadcasting networks, compelling the industry to pursue transformation and development.

For Guizhou Broadcasting Network specifically, the impact of emerging media such as OTT and IPTV, combined with internal business upgrades and structural adjustments, has created enormous challenges and unprecedented pressure. These challenges manifest in several key aspects. First, user growth has been sluggish, affecting operating revenue and net profit. Data show that in 2019, Guizhou Broadcasting Network' s operating revenue reached 3.418 billion RMB, with a net growth rate of 5.23% for cable television users, yet net cash flow from operating activities decreased by 70.33% compared to 2018 [2]. Second, technical support capabilities remain insufficient. The existing technical systems have not adapted to Smart Broadcasting requirements, with inadequate IP-based transformation, insufficient intelligence, poor user experience, inadequate technological support for business expansion, and continuously diminishing core competitiveness. Third, the product structure is overly simplistic. The broadcasting network' s main industry still relies on traditional television program transmission, with value-added services and innovative businesses failing to develop into new economic growth drivers. Finally, user services remain extensive. Despite a large user base, the 挖掘 of user value is not high.

Faced with these challenges, Guizhou Broadcasting Network must also identify its new value and development opportunities.

1.1 Government' s Responsibility in Advancing Digital Economy Development

The 19th Party Congress report' s strategic deployments for building a technologically strong nation, cyber power, digital China, and smart society provide powerful policy guarantees for the broadcasting industry' s development. Regional efforts to promote digital economic development have also created greater prospects for the broadcasting industry. As of June 30, 2020, Guizhou Province had added 165,000 new users for the Colorful Guizhou "Broadcasting Cloud" household service, with cumulative provincial users reaching 3.3938 million households, achieving the goal of "exceeding half the annual target by

mid-year” [3]. Additionally, in promoting media convergence, the Provincial Radio and Television Bureau has explicitly proposed using broadcasting networks to facilitate deep media integration. Broadcasting has acquired new functions in both digital infrastructure construction and ideological position building.

1.2 Informatization Demands from Various Social Industries

The vigorous informatization construction across major industries has opened broader development space for the broadcasting sector. Guizhou Broadcasting Network’ s traditional business focus was on radio and television program broadcasting, whereas current private network services have expanded to smart villages and other areas. These new demands have, to some extent, driven the integrated development of Smart Broadcasting with other industries.

1.3 User Demands for Digital Life Create New Development Opportunities for Broadcasting

As socialism with Chinese characteristics enters a new era, the primary issue in cultural supply is no longer scarcity or insufficiency, but rather quality and refinement. For Guizhou Broadcasting Network, total daily live broadcast hours exceed one thousand, with hundreds of thousands of hours of interactive program content storage—already a substantial quantity. However, user demands for program quality continue to rise. In recent years, the number of two-way interactive users at Guizhou Broadcasting Network has gradually increased, with the interactive homepage receiving millions of daily visits [4]. In this new era, users’ constantly evolving multi-level and diversified needs have created greater market development space for the broadcasting industry.

Within this environment of government promotion, market demand, and technological advancement, Smart Broadcasting has become a shortcut for the broadcasting industry’ s upgrading and development. Years of reform and innovation have laid a solid foundation for Guizhou Broadcasting Network’ s upgrade from traditional broadcasting to Smart Broadcasting. Since its establishment, Guizhou Broadcasting Network has continuously advanced informatization and digitalization construction, becoming Guizhou Province’ s only cable broadcasting network operator. Through years of development, it has evolved into a comprehensive information network integrating high-quality television, broadband internet, various information service private networks and platforms, achieving five-level connectivity across province, city, county, township, and village levels. The network has built a two-way interactive bearer network covering the entire province with high-bandwidth access and various comprehensive information services, serving millions of digital television users and possessing significant advantages in user access [5]. As the most efficient and convenient information dissemination method that reaches thousands of households, the broadcasting network has naturally connected various families. How to leverage this advantage to build a Smart Broadcasting new ecosystem starting from intelligent applications in video services represents a key consideration for Guizhou’

s transformation and development.

2. Smart Broadcasting Construction Ideas and Specific Measures for Guizhou Broadcasting Network

To adapt to continuous information technology progress and satisfy user demands for a better life, Guizhou Broadcasting Network has established its vision as an expert in beautiful digital life services for the new era, clarifying a strategic arrangement focused on intelligence, high-definition, platformization, and ecologicalization. Collaborating with Tencent Cloud to build a new Smart Broadcasting ecosystem represents an important measure for Guizhou Broadcasting Network to develop new functions and achieve high-quality development.

2.1 Accelerating Smart Broadcasting Media Development to Promote Deep Media Integration

Promoting Smart Broadcasting construction requires prioritizing Smart Broadcasting integrated media development while efficiently fulfilling the Party's important mission of public opinion guidance. First, foster Smart Broadcasting integrated media development. Following a user-centered principle, accelerate the construction of a converged communication system featuring integrated resource allocation, multimedia content aggregation, co-platform content production, multi-channel content distribution, multi-terminal precision services, and full-process intelligent collaboration, dedicated to creating Smart Broadcasting integrated media with converged production, precise services, and intelligent delivery. Second, promote the development of county-level integrated media centers. Broadcasting departments at all levels must take immediate action, viewing county-level integrated media center construction as a driving force and opportunity to implement central requirements and promote broadcasting transformation, actively participating in county-level media center construction. They should advance deep and grassroots expansion of broadcasting media convergence by supporting content, optimizing experience, improving services, and innovating models. Third, accelerate the development of high-definition and ultra-high-definition television. According to the strategic deployment of the National Radio and Television Administration's gradual phase-out mechanism for standard-definition channels, by the end of 2019, major programs in prefecture-level cities in central and eastern China had achieved high-definition broadcasting. By 2020, high-definition channels had become the mainstream broadcasting mode, with more diverse 4K ultra-high-definition television channels and content. Fourth, properly build, utilize, and manage broadcasting big data. Promote the establishment of a scientific, effective, and reliable comprehensive evaluation system for broadcasting program viewership to effectively serve government decision-making, management, and broadcasting transformation and upgrading with various data achievements [5-6].

2.2 Accelerating Smart Broadcasting Network Construction to Promote Network Upgrade and Transformation

We should actively adapt to new technological developments and significant changes in media communication patterns, striving to build an efficient, secure, intelligent, and large-scale new broadcasting transmission coverage system. First, promote the integration and optimized development of China's cable television networks. The broadcasting and television system must thoroughly implement central government requirements, genuinely strengthen ideological and action consciousness, focus on strengthening strategic cooperation, promoting network transformation, adjusting industrial structure, and improving user services, while emphasizing the development positioning of cable television and enhancing its network transmission capabilities. Second, improve the quality and efficiency of broadcasting public services. Address deficiencies in broadcasting public service coverage, quality, and effectiveness by strengthening technical systems, improving service efficiency, enhancing content supply, and optimizing service quality to make broadcasting public services more responsive to user needs, better meet user expectations, and highlight quality outcomes. Finally, build a mobile interactive broadcasting network based on 5G. Seriously implement the central government's mobile-first strategy, strengthen connections with industry, academia, and research institutions, conduct research on networking forms that can reflect broadcasting characteristics while complementing telecommunications advantages, and fully promote strategic cooperation and co-construction and sharing to achieve broadcasting's "universal access, mobile access, and terminal access," thereby enhancing users' audiovisual experiences through 5G networks [7].

2.3 Accelerating Smart Broadcasting Network Improvement to Promote Technological Innovation Development

Smart Broadcasting construction should adopt two parallel approaches. One follows the overall informatization process of radio and television, focusing on terminal convergence for Smart Broadcasting services and exploring development space for smart media based on the Internet of Things. The other effectively leverages broadcasting media's role in smart city construction and smart life services, diversifying into numerous service areas by actively undertaking work in smart city and broadcasting media platform construction, new media and smart community culture development, and smart tourism and smart village construction. On the foundation of Smart Broadcasting construction, effectively expand the broadcasting television industry. Smart Broadcasting is an important component of overall smart society construction and the necessary path for transforming traditional broadcasting into modern broadcasting, which can effectively change internet traffic patterns. In terms of technological innovation, urban news media centers must strengthen construction in several areas: integrated development of traditional and modern media platforms, network-based transformation of the overall broadcasting transmission structure, and using big

data to provide targeted service support [8]. Against the backdrop of converged and collaborative media development, intelligence has gradually become the main driving force for broadcasting's continuous development and adaptation to users' needs for high-quality information. Smart Broadcasting construction is an inevitable move to adapt to supply-side reform driven by technology in the new era, possessing far-reaching practical significance.

Guizhou Broadcasting Network comprehensively and systematically manages production, broadcasting, transmission, reception, operation, and service processes to meet users' demands for high-quality audiovisual experiences while using high-definition joint transformation as a carrier. On one hand, through resource integration and complementary advantages, further promote integration between stations and networks, highlight mobile-first and network-first strategies, and empower mainstream values with big data to expand toward grassroots levels and approach users. On the other hand, adjust new media communication channels of "two micros, one end, and one platform" (referring to Weibo, WeChat, news client, and integrated platform), and employ artificial intelligence and other technologies to guarantee accurate content publishing and precise service provision.

2.4 Accelerating Smart Broadcasting Ecosystem Cultivation to Expand Industrial Fields

As traditional media advertising revenue continues to decline, broadcasting networks should broaden their vision, expand their mindset, adapt to new demands in the new era, improve service terminals, cooperate with others, and expand business and service cooperation with government affairs, education, commerce, finance, tourism, and other areas to establish a "Smart Broadcasting +" ecological chain that comprehensively penetrates people's production and life, forming a multi-channel and diversified development situation. Currently, Guizhou Broadcasting Network has taken firm steps: first, closely cooperating with government affairs, focusing on but not limited to advertising, and building close cooperative relationships with government agencies and public institutions through image planning and special film production to achieve mutual reinforcement; second, innovating activity implementation, with revenue-generating departments adding Smart Broadcasting elements according to different functional positioning to customize corresponding activities for users and maximize broadcasting functional advantages; third, taking Guizhou Broadcasting Network Company as the main body and focusing on smart city construction, intelligent projects, and operator engineering construction to achieve greater breakthroughs; fourth, strengthening broadcasting exhibition brand design, emphasizing development advantages, supplementing weaknesses, actively integrating upstream and downstream resources, and enhancing self-promotion efforts [9] to increase user recognition and develop the exhibition industry into a broadcasting advantage industry.

Smart Broadcasting construction primarily aims to realize intelligent "Broadcasting +" businesses. Based on new broadcasting network development, it

openly integrates with other media and related industries to comprehensively, 立体ly, and multi-dimensionally extend the broadcasting industry chain and value chain, forming a complete system in content product production, processing, transmission, and delivery. As Smart Broadcasting continues to develop, its service fields expand to civil, government, and commercial applications, enabling systematic utilization of broadcasting networks' exclusive resources and comprehensive, intelligent development of methods, forms, and businesses to provide intelligent services for users and society. Moreover, it can promote cross-industry cooperation between broadcasting networks and other sectors to further expand the industry chain.

2.5 Accelerating Smart Broadcasting Supervision Strengthening to Enhance Security Assurance Capabilities

We must attach equal importance to security and development, actively adapt to the new trend of more diversified development in broadcasting communication methods, business models, and carrier formats, and accelerate the construction of a modern broadcasting management system. First, implement the overall national security concept. Based on further improving existing supervision and monitoring systems, strengthen supervision of new media, new services, and new business formats such as OTT, IPTV, and short online videos. All departments of the broadcasting network must earnestly fulfill their primary responsibilities, clarify business extension directions and management scope, and provide guarantees for orientation, broadcasting, network, and information security. Second, accelerate the advancement of intelligent supervision processes. Address deficiencies and gaps in broadcasting and online audio-visual monitoring and supervision work by adopting more scientific, effective, and intelligent means to achieve precise and targeted supervision. Promote the construction of comprehensive, integrated, large-scale, and continuous intelligent supervision across networks, terminals, platforms, and businesses to further improve the rationality, feasibility, and accuracy of the broadcasting supervision system [10].

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