

Exploration of Broadcasting Network Construction under the Sharing Economy Model: Post-print

Authors: Wang Kai

Date: 2023-10-08T00:00:00+00:00

Abstract

This paper first elucidates the connotation of the sharing economy model and analyzes the new core competitiveness of broadcasting networks. Based on this foundation, it examines the current predicaments and development directions of broadcasting networks, and finally proposes a construction path for completing the technological upgrading and industrial upgrading of broadcasting networks by utilizing Internet thinking and the sharing economy model, in order to better enhance the core competitiveness of broadcasting network construction.

Full Text

Exploring Broadcasting Network Construction under the Sharing Economy Model

Abstract: This paper first explains the connotation of the sharing economy model and analyzes the new core competitiveness of broadcasting networks. On this basis, it examines the current dilemmas and development directions of broadcasting networks. Finally, it proposes a construction path that leverages Internet thinking combined with the sharing economy model to achieve technical and industrial upgrading of broadcasting networks, aiming to enhance their core competitiveness in network construction.

Keywords: Broadcasting Network; Development and Construction; Sharing Economy Model

With the accelerated pace of triple network convergence and the rapid rise of new Internet media, coupled with the long-established management model of broadcasting networks, the development of broadcasting networks has faced tremendous challenges. This has prevented them from fully leveraging their

attributes as cultural consumer products and hindered their overall development. In the new economic normal, as cable network technology continues to improve and various services based on cable television networks develop rapidly, broadcasting networks must utilize Internet technology and big data to capture and analyze user application needs. They should adopt a customer-centric approach, using Internet technology to deliver the latest information quickly and conveniently to customers through mobile terminals, adjusting operations and introducing innovations to meet customer demands for network resources. The key to future development lies in understanding current market needs and new consumer concepts to achieve industrial upgrading and build new profit models.

2. Current Dilemmas and Development Direction of Broadcasting Networks

2.1 Dilemmas Faced by Cable Digital Television

Cable digital television represents an indispensable component of China's radio and television system in the medium to long term. However, with the continuous improvement of national network infrastructure, particularly the rise and maturation of mobile networks, Internet TV has gradually replaced traditional cable digital television as the new channel for users to access television media. The primary reason is that Internet TV offers lower costs and greater perceived value for users. Although there remains a fundamental gap in viewing experience compared to traditional cable digital television, the significantly lower cost leads users to choose nearly free, albeit inferior, Internet TV over better-quality paid cable digital television. This represents an inevitable phenomenon of market economy principles.

2.2 Severe Challenges Facing Broadcasting Networks

Regarding the main architecture and operations of broadcasting networks, as individual users' network access costs continue to decrease—such as with operators like China Mobile and China Unicom—Internet services have gradually become ancillary or complimentary offerings to their mainstream businesses. Combined with backbone network export limitations and intense competition from other network service providers, broadcasting networks appear to hold no advantage in user experience. This is particularly problematic as network operation and maintenance costs continue to rise while new network technologies require substantial equipment procurement investments. Ultimately, broadcasting networks may face declining performance and significant profit erosion. Without identifying new operational growth models and transforming their operational thinking, they risk being eliminated by the Internet era.

2.3 Development Direction Requires Internet Thinking

As a network access provider, broadcasting networks offer Internet services that form the foundation of Internet connectivity and serve as carriers for network

information data transmission. This represents their most competitive core advantage. The challenge lies in leveraging this existing competitiveness to generate new competitive advantages, which requires a transformation from traditional thinking. Since network infrastructure is already in place, broadcasting networks can shift away from the traditional cycle of merely selling bandwidth and providing Internet services, then fighting for subscription renewals—a cycle that could be terminated at any time in the Internet era. As the first point of access for Internet users who must connect through broadcasting networks, providers can leverage their advantages by combining Internet thinking with the sharing economy model to deliver online content services. They should establish single or multiple Internet market platforms tailored to different user groups. Through platform operations and big data analysis of user online traffic, they can develop products suitable for potential offline consumers. This approach enables online content 引流 (traffic attraction) and offline personalized customization based on Internet services, breaking away from the traditional cycle and the role of network operators as mere “data transporters” in the Internet industry chain.

In today’s Internet era and big data economy, the core of industrial upgrading for network access providers lies in establishing big data platforms and regaining control over this “settlement” system. By leveraging their large user base and relying on the digital economy, they can capitalize on their infrastructure and technological advantages to create single or multiple user experience platforms centered on the sharing economy model. This enables traffic collection and big data settlement across data chains, allowing them to grasp trends in user consumption upgrades, formulate accurate online traffic guidance, and deliver excellent offline consumption experiences. Ultimately, using basic Internet services as the “settlement” verification, they can extend Internet+ thinking into various industries to continuously seek new frontiers for corporate profit growth.

1.2 New Core Competitiveness of Broadcasting Networks

As network operators and service providers for users, broadcasting networks possess the advantage of a massive established user base—an advantage unattainable by non-Internet enterprises. By creating information technology-based market platforms using the sharing economy model, they can break away from focusing core competitiveness solely on network infrastructure construction and user subscription renewals. Instead, they should prioritize Internet infrastructure development, continuously improve user experience, reduce network usage costs, and create market platforms based on information technology and the digital economy. These platforms provide online content and traffic services for users while leveraging big data to deliver personalized offline product services tailored to user experiences, thereby completing industrial upgrading and strengthening new core competitiveness. This approach frees them from the role of mere “data transporters” in the Internet industry chain. This aligns with the macro trend of

Internet+ thinking and service industry upgrading for national economic transformation previously proposed by Premier Li Keqiang, making broadcasting networks both witnesses and implementers of this historical opportunity.

3.1 New Technical Upgrades Facing Broadcasting Networks

Broadcasting network infrastructure is relatively complete, but with the rapid development of network technology and the need to continuously improve user experience, the long-used EPON technology will soon be replaced by GPON technology. EPON and GPON represent the two mainstream technologies of passive optical network technology, both using fiber optic transmission. In terms of performance metrics, GPON is superior to EPON, but EPON holds advantages in time and cost.

The system compositions differ: EPON systems consist of a central office optical line terminal (OLT), user-side optical network unit (ONU), and optical distribution network (ODN), forming a single-fiber bidirectional system. GPON systems typically comprise a central office OLT, user-side ONU/ONT, and ODN, usually employing a point-to-multipoint network structure.

Technically, EPON's use of Ethernet technology throughout effectively transmits IP data packet services without protocol conversion. GPON's native format transmission approach provides excellent TDM service support and enables rapid provisioning of future new services. EPON inherits Ethernet's fine traditions with low entry barriers and low chip prices. GPON chips have complex functions with high technical barriers, and GPON optical modules have stringent chip requirements, making chip prices difficult to reduce. In terms of rate levels, EPON only supports a symmetric 1.25 Gbit/s rate, while GPON supports multiple rate levels: downstream 1.25 Gbit/s or 2.5 Gbit/s, and upstream 155.622 Mbit/s, 1.25 Gbit/s, or 2.5 Gbit/s.

3.2 Industrial Upgrading of Broadcasting Networks

As network access providers, broadcasting networks should leverage their large established user base and strong corporate brand to create new industrial innovation models. By capitalizing on advantages in technology, service, channels, and organization, they can establish market platforms with massive user bases under the sharing economy model. These platforms combine online content traffic attraction with personalized customization, supported by big data from online market platforms to conduct deep exploration and analysis of users. This allows them to discover current consumption trends and potential, satisfying users' latent consumption needs with genuine, high-quality, and affordable products. They can also leverage the characteristics of the sharing economy model to achieve win-win cooperation with relevant industrial enterprises, continuously enhancing core competitiveness and achieving industrial upgrading.

Broadcasting networks must move beyond relying solely on traditional subscrip-

tion renewal models for network infrastructure usage as their primary profit source. Instead, they should vigorously exploit the sharing nature and big data capabilities of the Internet to continuously identify suitable profit growth points and ultimately achieve step-by-step industrial upgrading.

Ultimately, the continuous development and industrial upgrading of broadcasting networks depend on dedicated broadcasting professionals. While current development faces numerous crises and challenges, this also represents an opportunity for market transformation and industrial upgrading in the Internet era. Rising to challenges and continuous innovation are characteristics of broadcasting professionals. By building upon traditional services and continuously developing new value-added services, they can foster innovative team building within their organizations. In this era where crisis and opportunity coexist, broadcasting networks must continuously strengthen their existing core competitiveness while creating new core values to complete industrial upgrading.

References

- [1] Liu Shihui. Application of EPON Technology in the Two-Way Transformation of Broadcasting Networks[J]. China Media Technology, 2013(08): 162-163.
- [2] Xie Bing. Research on the Impact of Triple Network Convergence on Broadcasting Network Development[J]. China Media Technology, 2013(04): 244-245.
- [3] Hao Changchun. Analysis of Broadcasting Technology Development in the Network Digital Era[J]. Science Communication, 2017(05): 55-56.
- [4] Zhu Zhihao. Thoughts on Developing New Credit Reporting Agencies under Internet Finance Background[J]. Market Modernization, 2016(13): 142-143.

(Author Affiliation: Shandong Broadcasting Network Co., Ltd. Qingdao Branch)

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

Source: ChinaXiv — Machine translation. Verify with original.