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Analysis of the Impact of 5G Network Technology on Promoting the Construction of Media Convergence Center

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Abstract: In the age of high-speed mobile Internet, the construction of media convergence center will face more fierce competition in market as the in-depth promotion of 5G networks and the application of 5G products and technologies. In face of a new round of technological innovation, the program production and broadcasting, data transmission and processing in media convergence center will be supported by more advanced technologies. The 5G network technology will bring unprecedented transformation and development opportunities for the construction of the media center.

Keywords: 5G Network; Media Convergence; Construction

Introduction

In today's society, science and technology are leading the future development, and network technology is changing people's daily lives. China is now focusing on developing network science and technology. With the continuous development of national information technology, people's lives have changed a lot, and the ways to obtain information and entertainment have become gradually diversified. Instead of relying solely on single platforms, such as radio, television and newspapers, there are more and better choices now. Therefore, traditional media, such as radio and television, are facing no small challenges and new requirements for radio and television projects. At the same time, radio and television engineering technology has been optimized and developed in electronic data with the technological progress. It is necessary to pay attention to the combination of network technology, media-integrated radio and television engineering technology to shape network technology a better role. By constantly improving technology to seek for development, can the media-integrated radio and television industry promote in a sound way.

1. 5G mobile network

1.1 Definition of 5G network

5G is a digital cellular network, which refers to the fifth generation network in the development of mobile communication, compared with the previous fourth generation network (4G). The peak transmission speed of 5G reaches 1GB every 8 seconds, hundreds of times faster than that 4G.

1.2 Functional characteristics

1.2.1 High speed

The biggest feature of 5G is the faster speed, compared with 4G network, which reaches 726Mbps, while the download speed of 4G LTE Cat.12 network is 62.2Mbps.

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1.2.2 Strong network links

Firstly, it refers to the extensive coverage of various areas of extreme conditions outside the areas of social life. For example, 5G network can be used to deploy sensors for environmental monitoring, geomorphological changes, earthquake monitoring and so on. The second is deep coverage, which refers to the places in the social living areas where network coverage needs to be strengthened. For example, tourist service scenic spots and underground garages can be fully covered by 5G network.

1.2.3 Super low power consumption

If the network supports large-scale Internet of Things applications, there will be power loss, while 5G these products to be charged once a week or even once a month, thus greatly improving user experience and promoting the popularity.

1.2.4 Super-short time delay

Firstly, 5G network can be applied to new scenes including the efficient connection of unmanned driving and industrial automation. The minimum requirement of 5G time delay is 1ms or even shorter, which is incomparable with the 140ms time delay between ordinary people. Secondly, 5G can also be applied in the field of driverless cars. During high-speed driving, it needs the shortest time to transmit information to the car to carry out braking and vehicle control reaction.

1.2.5 Interconnected smart devices

At present, apart from computers, mobile phones and other Internet users, with the advent of 5G network, people have entered the intelligent era. More and more public facilities, such as car sharing, smart home appliances, wearable devices watches, fitness wristbands and street lamps, have made these devices become intelligent devices through 5G interconnection.

2. The research and development process of 5G network

In February 2013, the European Union announced that it planned to launch mature 5G technology standards in 2020, with 50 million allocated euros to accelerate the research and development of 5G mobile network technologies.

On May 13, 2013, Samsung Electronics Co. Ltd. announced that it has successfully developed and mastered 5G core technology which is expected to be commercialized in 2020. This technology transmits data at 1Gbps in 28GHz UHF channel, and the longest transmission distance is 2km.

On November 6, 2013, Huawei announced that it would invest 600 million CNY to research and develop innovative 5G technology before 2018, and users could enjoy the 20Gbps commercial 5G mobile network in 2020.

In December, 2018, China's three major operators obtained the license for the use of 5G medium and low frequency band test frequency divided by the Ministry of Industry and Information Technology of the PRC.

On April 3, 2019, South Korea officially announced that it was the first country to realize the commercialization of 5G and went through the network access procedures for 5G users, which can be said to seize the opportunity of using 5G technology in the global competition.

On June 6, 2019, CMCC, China Unicom, China Telecom and China Broadcast Network respectively obtained 5G commercial licenses issued by the Ministry of Industry and Information Technology of PRC, and formally approved four enterprises to operate the fifth generation digital cellular mobile communication service.

3. The effective measures to promote the construction of media convergence centers through 5G network technology

3.1 Establish a smart all-media platform

The core point of the construction of media integration center lies in the integration of technology. The integration of 5G network technology and traditional media technology is the foundation and support for the deepening development and reform and progress of media. All along, whoever masters advanced network technology or media technology

is equal to taking the lead in building a media center, which can effectively improve the efficiency and quality of daily work, and help to streamline personnel expenses and obtain greater economic benefits. Judging from the construction of media integration center in China at present, the integration and development of radio and television media needs to adhere to the path of development of technology priority, focus on the construction and reform of network technology and hardware facilities, flexibly integrate advanced science and technology such as 5G network technology, cloud computing and artificial intelligence technology into media business, and actively expand media interaction channels with the help of two micro-terminals to increase the number of media users and the coverage of media business, thereby increasing profits and generating income.

For example, CCTV made good use of mobile live broadcast and high-definition transmission technology in the 2019 Spring Festival Gala. It transmitted the live real-time signals of Shenzhen and Changchun to the main venue through 5G network, and got 4K ultra-high-definition TV signals, which brought people different media experiences, broke the barriers of traditional media, and realized the construction plan of media integration center, being conducive to the healthy development of China's media industry.

3.2 Accelerate the pace of 5G commercialization

With the development and trial application of 5G network technology, many advantages of the application of 5G network technology can be found. In addition to fast propagation speed and low delay, 5G network technology plays a key role in the process of building a media center. The application of 5G is an important part of the development layout of China’s media and network, which has brought great changes to people’s lives and work. Besides, commercialization of 5G network technology should be gradually accelerated in the future development process with better and more applications in the commercial field, which will promote business integration and cooperative development of all walks of life, and social progress. At present, the United States, developed countries in Europe and other countries have started the commercial and transmission experiments of 5G network technology, and the three major operators in China have also carried out the application experiments of 5G network technology one after another, which can provide some application experience and bring some inspiration for the construction of the media integration center, thus promoting the construction and development of the media integration center, striving for the early realization of media integration, improving the media environment and providing people with better media services.

3.3 Realize the integration and innovation of media content

The focus of the construction of media integration center is the integration and innovation of content. Radio and television media need to firmly grasp the media advantages brought by 5G network technology, give full play to the professional role of 5G network technology in media content production, and actively change the traditional business service concept, enrich the media business forms and integrate the media business content from the perspective of media users, so as to gain universal recognition and support from media users and speed up the construction of media integration center.

Therefore, during operation and development, radio and television media should always take operation and service as the premise. In order to improve the richness and comprehensive coverage of media content, it is also necessary to keep up with the development trend of the times and the impact of 5G network technology on the current media environment, enrich and optimize the existing media business content, and study and carry out media content integration development activities, such as live TV programs, featured on-demand, self-media content and network real-time information. Meanwhile, with the support of 5G network technology, radio and television media should give full play to their leading role in media business, strive to become the leader of the media industry, occupy the commanding heights of media business communication authority, and then improve the communication power, influence and credibility of radio and television media content.

At the BIRTV exhibition held in 2019, the scientific and technological innovations such as “5G+4K+AI” of the Central Radio and Television General Station and “5G+8K+VR” of pi technology made wonderful appearances,

providing real application experience and integration samples for the construction of media integration center. All radio and television media need to take advantage of their own advantages in media content production and innovation, actively apply 5G network technology, and develop applications such as “5G+VR/AR News”, “5G+VR/AR Games” and “5G+VR/AR Shopping”, so as to improve the service scope of media business and promote the comprehensive integration and development of media content.

3.4 Establish a sound institutional mechanism for media integration and development

Establishing a sound system and mechanism of media integration development is a deep-seated problem to promote the construction of media integration center. It is necessary for radio and television media to establish a system and mechanism of media integration development in line with their own development and business innovation in combination with their own business development, media technology application, media equipment usage and mastery of 5G network technology, so as to lay an institutional foundation for the construction of media integration center. 4G changes life and 5G changes society. Radio and television media want the development opportunities and challenges brought by 5G network technology in Fully understand, actively use 5G network technology to transform dia business and upgrade products, build brand-new media brands, break the shackles of traditional media technology application and business management concepts, fully implement network integration and cross-media interaction, and then realize multi-terminal integration and sharing of media business. The radio and television media need to adapt to the development trend of the times, optimize the media communication structure under the premise of the application and integration of 5G network technology, standardize the media business process through system establishment, clarify the direction and goal of the construction of the media center, accelerate the efficiency and quality of the construction of the media center, and promote the coordinated and healthy development of the media industry.

3.5 Face the challenges of 5G network technology application actively

At present, the application of 5G network technology in China has entered the final experimental stage and will be put into commercial use immediately. At this time, the wide application of 5G network technology will surely bring about a new round of social changes. For radio and television media, the application of 5G is not only an opportunity for the construction and development of media center, but also a challenge for radio and television media. It is necessary to recognize the application characteristics and advantages of 5G network technology, and strengthen the integration of media content and technology, so as to realize the comprehensive application of 5G network technology and promote the healthy development of media industry. At the same time, when applying 5G network technology to promote the construction and development of media integration centers, radio and television media should focus on the challenges of talent shortage, great market competition pressure and difficult business supervision, seize the opportunities brought by 5G network technology, rationally plan and lay out the construction of media integration centers, make use of the existing audience and business resources of radio and television media, and actively face the challenges from the aspects of 5G, Internet of Things and artificial intelligence to find new breakthroughs in the construction of media integration centers.

4. Conclusion

Under the background of comprehensive application and coverage of 5G network technology, the construction of media convergence center should keep up with the development trend of the times, and vigorously promote intelligent radio and television based on the convergence of media content and technology. Meanwhile, radio and television media should confront to the application of 5G network technology. By catering to the market demand and the development potential of technology application, a brand-new media format and a new radio and television media brand can be set up. In this case, the sustained and healthy development of radio and television media industry will be promoted and the construction speed of media convergence center will be accelerated.

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