Innovation and Development Path of China's Multimedia Art in the Era of Big Data

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Abstract: With the progress of society and the continuous development of human cultural achievements, it also provides more development opportunities for the innovation and development path of China's multimedia art. In today's big data era, the development speed of China's multimedia art is gradually unable to keep pace with the social demand. It is imperative to combine big data to develop China's multimedia art needs to be analyzed through a large number of big data, which is the current mainstream trend. Therefore, this paper studies how to develop China's multimedia art more efficiently in the era of big data. The innovation and development of China's multimedia art has a long way to go, and needs multi-dimensional analysis and efforts. In the research, it is found that through the analysis of big data, multimedia managers can detail the development trend and make decisions more effectively, rather than relying on the previous intuition and experience. Moreover, under the analysis and guidance of big data, the innovation and development path of China's multimedia art is clearer, which is of great significance to the development of multimedia art.

Keywords: Big Data, Multimedia Art, Innovative Development Path

1. Introduction

Innovation is undoubtedly the inexhaustible power and source for the progress and development of multimedia art [1-2]. The progress and development of China's multimedia art itself is an innovation to promote the progress and development of art. Therefore, in the future art development, innovation is still regarded as an important core and driving force to promote the continuous progress and development of multimedia art. The support and innovation of the state and policy can provide broad development space for promoting the progress and development of multimedia art and sustainable innovation. In July 2009, Premier Wen Jiabao of the State Council presided over the discussion at the
economic work meeting of the State Council, formulated and passed the plan for the revitalization of cultural industry. Undoubtedly, the formulation and implementation of this industrial revitalization policy has promoted the progress and development of China's multimedia art and cultural industry under the strong guidance and support of the Central People's government. The progress and development of multimedia technology is undoubtedly another core and driving force for Wen Jiabao to promote the progress and development of China's multimedia art. It is characterized by interactive and available digital network media, including computer animation, film and television advertising, online games, virtual augmented reality, network visual art, multimedia, digital broadcast photography, digital broadcast music, video and interactive equipment, and advanced DV (Multimedia and digital video) coding technology, Multimedia [3-5] art and culture industry has become an important core and pillar industry of China's knowledge economy in the 21st century. It will continue to make historic contributions to the future development and progress of art. The other mainly introduces the development of art industry in related countries and fields, which strongly promotes the development of multimedia art in the future. For example, with the rapid development of film, music and Internet, multimedia has more channels and admirers.

Big data [6-8] promotes cross-border integration between information and industry, and accelerates the transformation and upgrading of various industries. For the traditional art creation media which is in the accelerated stage of media convergence, the role of data in the transformation of art media is becoming more and more prominent. Its integration with the art industry forces the relevant media to have a new transformation trend. In this context, the innovative application of big data in art creation media, the specific transformative [9-10] impact of big data is clearly reflected in the investigation and research of traditional multimedia content production, marketing and television viewing. What specific adjustments should be made to art media in the face of the wave of big data is a starting point of this study.

This paper studies how to improve the core competitiveness of the multimedia art industry under the background of big data era. The development of today's era provides more development opportunities for the development of China's multimedia art, but it is also full of uncertainty about the future. Therefore, it is necessary to enhance the development potential of the multimedia art industry with the help of big data analysis to increase the core competitiveness of the industry.

2. Coping Strategies and Innovation Paths of Chinese Multimedia Art in the Era of Big Data

2.1 Big Data Development

From the perspective of big data development, compared with many new digital media, TV media has its inherent weaknesses, but this does not mean that there is no development opportunity and possibility. Big data is a background. It can change the pattern of media competition with revolutionary technology mode. Big data is also a tool. It can promote the rapid development of new media, and also bring opportunities for traditional media to achieve leapfrog development. In recent years, with the development of digital technology and the trend of media convergence, China's media industry has experienced policy changes. According to the requirements of the market and other aspects, the value chain of China's media industry has begun to form and gradually improve. While focusing on building its own industrial value chain, TV media should actively carry out in-depth
cooperation with different types of media.

2.2 Multimedia Art Creation

Artists need to show and exchange their contemporary art ideas and their works in time. In the past decades, such a problem may have been the biggest problem encountered by most artists in their creation, especially young artists and unknown new generation artists. They all have their own ideas and works of art, but they also lack the platform and opportunity to communicate with more audiences. With the rapid development of mobile Internet technology, remote video online transmission of multimedia art works has gradually become a reality. With the help of digital technology, it is very convenient to edit and make digital images (including digital painting, digital photography, digital video), and the artistic works completed by artists can be released through the Internet. They can explain their works on the spot and quickly introduce their works to art lovers all over the world without looking for distribution channels or exhibition venues. At the same time, the development of audio-visual technology enables people to watch movies and listen to music alone at home. Artists can perform as they like online and sell their works directly.

3. Experimental Correlation Analysis

3.1 Experimental Background

Before 1980, Chinese TV media were the mouthpiece of the party and the government in function. At that time, the popularity of television was relatively low, and the number of television owned by urban households was very small, and television did not have the influence of mass media in a strict sense. Moreover, due to the nature of its organization, there is no need for extensive publicity and promotion to improve the audience rating and advertising share. Therefore, we cannot investigate the TV media in this stage from the perspective of market development and marketing.

3.2 Experimental Design

This paper makes a questionnaire survey on three traditional media. Table 1 shows the support rates for these three media. According to Table 1, compared with newspapers, radio and other forms of media, television media has its own advantages. First of all, the combination of audio-visual and image, its strong artistry, as well as the integration of a variety of artistic language and expression, coupled with the introduction of advanced technology, the production level of television advertising is constantly improving, which can form a greater temptation and attraction to the public. At the same time, with the development of economy, TV began to enter thousands of households, and the total number of Chinese TV viewers increased rapidly. "From 1985 to 1995, the total number of Chinese TV viewers increased by 210 million; from 1995 to 1999, the total number of Chinese TV viewers increased by 276 million. By the end of October 1999, the total number of TV viewers in China was 1.123 billion, ranking first in the world. According to Table 1, since 1985, in the comparison of audience contact with newspapers, radio and television, television media has steadily occupied an absolute dominant position, with a wide range of audiences, and laid a theoretical foundation for the dissemination of advertising information and effective marketing strategies.
Table 1. Analysis of three traditional media support

| The evaluation index | newspaper | radio broadcast | television |
|----------------------|-----------|-----------------|------------|
| 1985                 | 36%       | 61%             | 91%        |
| 1995                 | 25%       | 68%             | 95%        |
| 1999                 | 55%       | 40%             | 96%        |

4. Discussion

4.1 Data Sources of Multimedia Art Development

Data source is the basis of data news production, which reflects the integrity of the report content. As shown in Figure 1, except 26.9% of news data sources are not clearly marked, 29.7% of news data sources are mainly from government departments and large research institutions. The functional departments of the government include the Statistics Bureau, the government, the Environmental Protection Bureau, the Civil Affairs Bureau, the Finance Bureau, the ocean bureau and the China Center for Disease Control and prevention. Large research institutions include Qunyi think tank, wealth Quality Research Institute, research center of Public Opinion Research Institute, and China entrepreneur crime prevention research center. Official data source is the guarantee of news content authority. The audience will judge the value of news reports according to the credibility of data source subjects. If the data source subject has authority and professional release qualification to the report content, the two constitute relatively high reliability of the news content and enhance the persuasiveness of the report content. Therefore, most media will choose to directly quote official data, which helps to improve the authority and professionalism of the report.
In addition, as can be seen from Figure 1, independent media surveys and some official data releases are the main sources of data. In the way of data collection, multimedia often cooperates with other network organizations to collect data, and network institutions have a wide range of audience coverage, which is conducive to expanding the scope of data collection. Among them, 35% of the independent survey reports are mainly in the form of online questionnaires, which get rid of the traditional form of offline distribution of questionnaires, expand the coverage of the audience, promote the accuracy of the survey information, reduce the expenditure on human, material and financial resources, and shorten the survey cycle. For example, the Southern Metropolis Daily has set up a survey data laboratory in Nandu to collect public opinion data. The laboratory often cooperates with local network media or research institutions, including Tencent Guangdong Dayue network, Xizi lake bank, zero point index data, etc. Most of the data are collected by questionnaires issued by network organizations, and data recovery and analysis are conducted by paper media. The questionnaire survey is based on the subjective experience of journalists. If a reporter thinks that an event has news value, or an element can attract the attention of the audience, he can set relevant questions to explore the attitude of netizens, which will lead to the problem is not comprehensive, even biased. At the same time, netizens will be disturbed by the environment, others and their own psychology when choosing the answer, which weakens the objectivity of the report. Therefore, the network questionnaire survey is still empirical; too many external interference factors reduce the authenticity of news content. At present, big data technology can collect all sample data, master the behavior of Internet users, analyze the needs of all Internet users, and mine the motivation of Internet users' network behavior or the reasons for public opinion guidance of an event. Therefore, the paper media through the network questionnaire data collection way needs to be improved.

The rise of social media and other new media has accelerated the process of media convergence.
Great changes have taken place in the habits of TV viewers in using and contacting the media. A large number of TV viewers turned to new media platforms. Through the participation of new media in TV program watching and two-way interaction, TV audience has completed the role transformation to TV users. At the same time, information surplus also brings people the fatigue of information consumption. In the face of the traditional mass marketing model, the audience has consumption fatigue, and the enthusiasm of consumption is gradually reduced. User information presents the characteristics of non-linear, such as the way of receiving and behavior, and the way of consumption is also full of irregularity and uncertainty. The traditional linear marketing model is no longer effective in the face of today's TV users' sublinear consumption mode, and the marketing effect will be greatly reduced. Big data TV users present new characteristics, mainly manifested in the fragmentation and differentiation of users.

![Figure 2. The scale of mobile Internet users in China](image)

As shown in Figure 2, with the rise of Internet technology and the popularity of mobile devices such as electronic devices, users' information receiving channels have changed greatly. According to Figure 2, as of December 2019, China's Internet users have reached 1.063 billion, including 921 million mobile Internet users, accounting for 83.8%. The Internet access rate of iPad and TV was 32.8% and 17.6% respectively. 74.9% of video users chose to watch videos on their mobile phones. It can be seen that Internet users account for the majority of China's total population, and the Internet has penetrated into the daily life of the public. Smart phones, iPad and other mobile devices have become the main choice for the public to browse information and watch videos. People no longer rely on watching video programs and receiving information through television. The user's viewing terminal presents the characteristics of diversification.

4.2 New Development Direction of Multimedia Art in the Future
Multimedia art has gradually become a new means of artistic expression for art creators. At the same time, in the process of multi-media language integration, the language style of independent narration has been formed. From the perspective of analyzing the characteristics of the current multimedia art and its development momentum, the future of multimedia communication art and its development power are completely based on the three multi-media dimensions of technology, thinking and its concept. The characteristics and progress of each multi-media dimension are actually the result of stimulating the thinking and motivation of multimedia art development. However, with the continuous development of multimedia communication art, art will inevitably show more thinking and characteristics. At present, the future characteristics and development of multimedia communication art must be based on the continuous progress of its technology, ideas and concepts.

Multimedia image art is the inevitable product of the organic combination of modern information electronic science and technology and modern image art. Its development has experienced a historical process from imitation to originality, from part to whole, from singleness to diversification, which is leading China into a new stage of comprehensive, rapid and healthy development. In the future, the healthy development of multimedia image art will be promoted through the innovation of art itself, the guidance and support of policies, the innovation of technology, and the promotion and innovation of art in related industries and fields, and it will make continuous progress in technology, ideas, concepts and other dimensions.

5. Conclusions

This paper introduces that in the background of the era of big data, in order to enhance the core competitiveness of multimedia art, we need to innovate the development path of multimedia art. In the development of the current era, multimedia art presents a rapid development trend. We must make the multimedia art more adapt to the development of the times, and better carry out the innovation of multimedia art. It is necessary to use the power of big data in the current era to boost the flames. Under the analysis of the conditions of big data, the development context of multimedia art is more clear. It is no longer necessary to rely on intuition and inspiration to guide the development of multimedia art in the past. With the blessing of big data analysis, the road of multimedia art development is smooth.

References

[1] Marya C. Endriga, Kathleen A. Kapp-Simon. Psychological Issues in Craniofacial Care: State of the Art[J]. Cleft Palate Craniofac J, 1999, 36(1):3-11.

[2] Mijumbi R , Serrat J , Gorricho J L , et al. Network Function Virtualization: State-of-the-Art and Research Challenges[J]. Communications Surveys & Tutorials, IEEE, 2016, 18(1):236-262.

[3] Zhang D , Wang J J , Ni H G , et al. Spatial-temporal and multi-media variations of polycyclic aromatic hydrocarbons in a highly urbanized river from South China[J]. Science of the Total Environment, 2017, 581-582(MAR.1):621-628.
[4] Zhang S, Su X, Lin X, et al. Experimental study on the multi-media PRB reactor for the remediation of petroleum-contaminated groundwater[J]. Environmental Earth ences, 2015, 73(9):5611-5618.

[5] Maruya K A, Dodder N G, Sengupta A, et al. Multimedia screening of contaminants of emerging concern (CECS) in coastal urban watersheds in southern California (USA)[J]. Environmental Toxicology & Chemistry, 2016:1986-1994.

[6] Assunção M D, Calheiros R N, Bianchi S, et al. Big Data computing and clouds[J]. Journal of Parallel & Distributed Computing, 2015, 79:3-15.

[7] Hashem I A T, Yaqoob I, Anuar N B, et al. The rise of "big data" on cloud computing: Review and open research issues[J]. Information Systems, 2015, 47(jan.):98-115.

[8] Lv Y, Duan Y, Kang W, et al. Traffic Flow Prediction With Big Data: A Deep Learning Approach[J]. IEEE Transactions on Intelligent Transportation Systems, 2015, 16(2):865-873.

[9] Riva G, Villani D, Cipresso P, et al. Positive and Transformative Technologies for Active Ageing[J]. Studies in health technology and informatics, 2016, 220:308-315.

[10] Anderson L, Ostrom A L. Transformative Service Research: Advancing Our Knowledge About Service and Well-Being[J]. Journal of Service Research, 2015, 18(3):243-249.