

Research on Outdoor Advertising Creativity and Communication Strategy Under the Background of 5G

Xiaodie Xie

Department of advertising, Jiangxi Normal University, Nanchang 330022, China

Keywords: 5G, Outdoor advertising, Creativity, tactics.

Abstract: With the increasing maturity of 5G technology, the media industry has undergone tremendous changes in content production, distribution, user catalyst and delivery mode. With the empowerment of technology, outdoor advertising has gained more opportunities and is developing in the direction of intelligence, digitalization, data and scenes. However, it is also faced with problems and challenges such as the difficulty of measuring communication effect, the difficulty of content creativity and the change of audience consumption behavior. Therefore, under the condition of technology empowerment, how to embrace new technologies and promote the transformation and upgrading of outdoor advertising is a topic that needs to be considered and studied at present. According to the development status of outdoor advertising, this paper analyzes the influence of 5G technology environment on the development of outdoor advertising, and discusses the transformation and upgrading strategy of outdoor advertising creativity and communication under the background of 5G technology, in order to provide reference for the advertising industry and related research.

1. Introduction

Outdoor advertising, referred to as OOH advertising, is the main form of advertising in public space. Fan Zhiyu's definition of outdoor advertising in "Outdoor Advertising" is: "In a specific outdoor place, taking the unspecified majority as the object, it will continue to provide visual communication advertisements for a certain period of time." [1] According to the statistical data of "Market Analysis and Investment Feasibility Study Report of China's Outdoor Advertising Industry from 2020 to 2026" published by CICC Qixin International Consulting, the scale of China's outdoor advertising market has maintained a steady growth since 2012 and is expected to exceed 200 billion by 2021. Under the background of the fading of the Internet demographic dividend, the value of outdoor advertising reappears. However, with the change of technical environment, the expansion of public demand and the change of behavior habits, outdoor advertising presents different characteristics in different periods, especially with the arrival of 5G era, the whole media industry has undergone subversive changes. It pushes traditional media to a new stage of development, and the focus of content production in the media industry shifts to intelligence and scenes. Yu Guoming believes that the arrival of 5G has opened the "second half" of Internet development, and the future development trend will be completely different. [2] With its advantages of high connectivity, wide bandwidth, high reliability and low delay, 5G has outstanding application value in many scenarios such as live video

broadcast, telemedicine and smart agriculture. Therefore, with the support of 5G technology, the audience of outdoor advertising is no longer limited to non-specific objects, and the reception mode does not only emphasize the output of visual advertising information. Under the 5G Gigabit mobile environment, outdoor advertising relies on VR/AR, artificial intelligence, big data and other technologies further stimulated by 5G, and its delivery mode is more intelligent and accurate, the audience's sensory experience is richer, and the combination with programming is more comprehensive, and the images presented by advertising are more realistic and high-definition. Therefore, to some extent, 5G puts forward higher requirements for the content and marketing mode of outdoor advertising. Driven by "speed", the audience's attention will be taken over by new things at any time, so only when creative content and novel communication mode work together can they have lasting appeal to the audience. Therefore, on the basis of expounding the development status of outdoor advertising, this study discusses the impact of 5G technology on it, and deeply analyzes the creativity and communication strategies of sustainable development of outdoor advertising in the environment of 5G technology empowerment. It is hoped that through the research of this paper, the awareness of outdoor advertising creativity and communication strategies will be enriched, and more experts and scholars will join in the discussion of outdoor advertising strategies under the new technology environment, so as to provide feasible communication strategies for the development of outdoor advertising.

2. Development Status of Outdoor Advertising

The development of outdoor advertising has gone through four periods. In the 1.0 period, outdoor advertising groped forward in a barbaric growth state; In the 2.0 period, the outdoor advertising market was standardized due to the setting of national policies, and outdoor advertising began to develop on a large scale due to the acquisition of resources by outdoor media companies; In the 3.0 period, due to the integration of digital technology, outdoor advertising has made a qualitative breakthrough in content and form; During the 4.0 period, outdoor advertising explored in the direction of programming and tried to combine with more cutting-edge technologies. [3] Under the choice of demand, the outdoor advertisements in the market are mainly divided into two categories, one is the traditional outdoor advertisements represented by big outdoor brands, and the other is the digital outdoor advertisements using digital media (DOOH). According to CTR media intelligence data, in 2020, the publication cost of traditional outdoor media showed a downward trend, on the contrary, the delivery ratio of digital advertising showed an increasing trend, which surpassed traditional outdoor advertising and became the mainstream of outdoor advertising. Under the wave of digitalization, Focus Media, Shentong Degao and Yashiwei, the head outdoor media companies, have stepped up their digital layout in order to improve the efficiency of advertising transaction, delivery and monitoring. It is against this background that outdoor advertising presents a new development trend, that is, the traditional flat outdoor advertising is gradually intelligent. Compared with traditional outdoor advertising communication methods, outdoor advertising under intelligent media has broken through the limitation of one-way communication and realized the two-way interaction of communication, and the audience has changed from passive information receivers to all-round advertising participants, which has greatly changed the audience's position in advertising communication and made the communication effect of outdoor advertising more remarkable. In the form of advertising, outdoor advertising has also changed from two-dimensional to multi-dimensional. The combined application of various forms, such as graphics, audio and video, has brought more intense sensory experience to the audience, and also made the audience have a deeper memory of advertising. In the aspect of advertising, outdoor advertising has been trying on intelligent delivery, and the exploration of accurate delivery has achieved certain results. Li Yuxin, founder of

OOHLink, the first outdoor advertising intelligent delivery service provider in China, said: OOH Link can track and deliver online DSP according to the data collected offline, and reach the target audience effectively through targeted delivery on the mobile terminal. [4]

Although the application of new technologies can bring better communication effects to outdoor advertisements, the outdoor advertisements that audiences come into contact with in daily life are still mainly traditional outdoor advertisements, many media and technical resources have not been integrated and applied, and digital outdoor advertisements that have been widely put into the market also have certain problems. The first is the effectiveness of interaction. In recent years, digitalization has developed rapidly, but the development of digitalization in China is not yet mature, and the advertising industry lacks talents who can skillfully use digital technology. Therefore, some outdoor advertising plans only apply the "coat" of digitalization, and the advertising content is not deeply integrated with technology, resulting in "unsuitable clothes", which greatly reduces the interactive and communication effects of advertising and wastes advertising resources and expenses. The second is the accuracy of audience matching. Outdoor advertising, as an advertising medium in public places, faces complex and diverse audiences, so the traditional way of putting outdoor advertising is very rough. Although digital outdoor advertising can recognize the basic information of audience, such as gender, age and posture, and collect data such as interaction between audience and advertisement, watching time and mood, it can't apply big data technology to analyze users one-on-one like Internet advertising, so outdoor advertising still has room for exploration and improvement in audience fine matching. The third is the monitoring and evaluation of advertising effect, which is an important constraint to the development of outdoor advertising. On the one hand, compared with TV, Internet and other media, outdoor advertising has no representative indicators such as ratings and click-through rates to evaluate. On the other hand, the audience targeted by outdoor advertising has strong mobility and large flow, which greatly aggravates the difficulty of monitoring and evaluating the effect of outdoor advertising. Although domestic advertising media companies have tried to introduce foreign monitoring systems, due to the differences in consumption habits and behaviors between domestic and foreign audiences, there is a phenomenon of "acclimatization". At present, even though the digital transformation of outdoor advertising makes it possible to put it into process and use new technologies, it still fails to accurately monitor and evaluate outdoor advertising. However, the application of 5G technology can improve some of the above problems to a certain extent. Therefore, I think it is necessary to further discuss the influence of 5G on outdoor advertising in combination with the development status of outdoor advertising.

3. The Impact of 5G on Outdoor Advertising

From 1G to 4G, every change in communication technology has brought great changes to the media industry, and 5G is no exception. Because of its high connectivity, wide bandwidth, low delay and low energy consumption, it has brought revolutionary changes to the field of communication. Outdoor advertising, as a traditional media, is also deeply influenced by it, which is mainly reflected in the following aspects.

3.1. The Intelligent Technology of 5G Catalysis Gives New Vitality to Outdoor Advertising

5G has driven the transformation of network technology scene application, which is intertwined with cloud computing, artificial intelligence, virtual reality, etc., and has jointly driven the new information technology revolution marked by intelligence. [5] In this revolution, on the one hand, the mobile access of AR/VR/MR has greatly expanded the outdoor advertising scene marketing and provided technical support for the immersive experience of outdoor advertising. Taking AR technology as an example, due to the rapid development of AR technology, outdoor advertising is no longer limited to

plane and video images, but has become a three-dimensional scene advertisement. Such as giving music, depth of field, highlight, background, etc. to print advertisements, or adding text, audio and video to individual advertisements, so as to show products to consumers in all directions. The blessing of 5G also enables the cross-border integration of LED display technology. During the epidemic, naked-eye 3D advertisements of Yingjia Building in Taikooli, Chengdu were all over the Internet. This advertisement presents the images of the spacecraft warehousing in front of the audience like science fiction, creating a visual sense that the spacecraft will "fly out" and attracting the attention of the audience. Then naked-eye 3D advertisements appeared in Xi 'an, Guangzhou, Chongqing and Seoul, which brought strong visual shock to people. With the help of the east wind of technology, outdoor advertising creators can produce works with more visual impact and attractiveness, which enhances the appeal of outdoor advertising and the effectiveness of communication. On the other hand, the Internet of Things built by 5G can bring a large amount of consumer information data and make marketing more accurate. It upgrades the interconnection between people and the world to physical and psychological interconnection, so it can reflect the consumer behavior and habits more comprehensively. Then, under the application of big data technology, the information obtained is mined, so that the content of advertisements matches the needs of consumers, thus improving the accuracy of outdoor advertising. In the context of the Internet of Everything, enterprises can more accurately understand the needs of consumers and carry out targeted delivery; Consumers can also quickly obtain the required advertising information, so that they can be free from useless advertisements.

3.2. The Incitement of 5G Technology Accelerates the Transformation of Outdoor Advertising Forms

According to the data compiled by CNNIC and China Business Research Institute, by the end of 2020, the number of online video (including short video) users in China reached 927 million, accounting for 93.7% of the total number of Internet users. Among them, the number of short video users is 873 million, accounting for 88.3% of the total number of netizens, which shows that online video has won the favor of consumers. In the 5G era, all-round videoization has become a major trend in the media industry. Yu Guoming said that the high speed of 5G information transmission means that video language will replace written language as the main expression form of social communication. [6] This is mainly due to the real-time transmission and high-definition image quality brought by 5g. Compared with 4G, 5g's network transmission speed and transmission quality have made a qualitative leap. Its peak speed is as high as 20gbps, and the experience speed can reach 1Gbps. It also supports the mobile speed of more than 500km per hour and 8K resolution. [7] This undoubtedly provides a better "soil" for outdoor video advertising content production, and drives outdoor advertising to a new stage of development. On the one hand, digital outdoor advertising can present more high-definition and realistic advertising images, and bring good experience to the audience, so as to enhance the audience's good impression on the brand. On the other hand, 5g promotes digital outdoor live advertising to a higher level. Although digital outdoor advertising live broadcasting has been realized in 4G era, under the background of low network speed, it is easy to get stuck and stop broadcasting, which reduces the communication effect and audience perception, and 5g application solves this problem. On July 26, 2020, the fast hand short video platform and Jay Chou jointly broadcast the live broadcast on the outdoor LED screens in Beijing, Shanghai, Guangzhou and other cities to attract the audience. The outdoor LED display has become a natural gathering place for fans. Through the interaction of fans and the creation of gas field, it brings strong popularity to the live broadcast of the first show. Behind the success of live broadcasting, we can't do without the perfect cooperation of ultra fast network speed and outdoor LED display screen.

3.3. 5g Quickly Changes Information to Reduce the Turnover Time of Outdoor Advertising Materials

Traditional outdoor advertising takes a long time to install and update information. Compared with traditional outdoor advertising, the biggest advantage of digital outdoor advertising is that it is easy to change. With 5g, outdoor advertising can quickly change the content and provide the latest advertising information to the audience through real-time update, which will reduce the turnover time of advertising materials. For consumers, this can reduce the loss caused by advertising information lag and help them make better consumption choices. For the media, the reduction of material turnover time can help them serve more customers and improve profits. For advertisers, real-time advertising information can improve the target audience's good impression on the brand and avoid bad impression on the old advertising information. Advertisers can also add or delete content in time according to the audience's response to the advertisement, or deliver temporary notice to the audience, which is conducive to the brand to track social hot spots and carry out marketing by taking advantage of the situation. Secondly, real-time information update means that more advertising information can be delivered in the same time, which will greatly reduce the cost of advertising. "I know half of my advertising money is wasted, but unfortunately, I don't know which half is wasted," John warnamek once said At present, the most expensive advertising is not the advertising content, but the media cost, which accounts for 70% - 90% of the total advertising budget. Therefore, the reduction of advertising media costs will greatly save advertising costs and provide more budget space for advertising creativity and planning.

3.4. 5g Expands the Two-way Communication and Multi-media Interaction between Brand and Audience

In the Internet age, the effectiveness of interactive communication with consumers has become one of the standards to evaluate the quality of outdoor advertising. In this context, outdoor advertising has carried out a series of exploration in interactive communication in 4G era. With the development of 5g, the communication between advertisers and target audience is real-time. On February 18, 2020, the British Brit Awards red carpet was broadcast live on Europe's largest digital outdoor advertising screen. In this live broadcast, interactive messages sent by users via mobile phones can appear on billboards in London street, enabling users to have close contact with the red carpet of the British Music Festival. Thus, outdoor advertising has been given the function of live interaction. This provides a real experience for the audience and can effectively improve the communication effect and appeal of advertising.5g also provides more powerful technical support for multi-media interactive communication and brings more opportunities for outdoor advertising. The reason why outdoor advertising tries to connect with a variety of media is mainly because with the popularity of smart phones, users' attention is shifted by new media. According to the statistical report on the development of China's Internet, as of December 2020, the number of Internet users in China has reached 989 million. The fragmented media environment makes brand communication more difficult, so outdoor advertising must be connected with the mobile terminal to obtain accurate user information from the mobile terminal. Secondly, relevant research has proved that if the audience saw a brand's advertising outside, and then saw the brand on the mobile phone, the click through rate would increase by half.

[8] The combination of digital outdoor and mobile terminal can closely connect the advertising content with the environment of the audience, and provide a deeper level of interactive communication between the brand and the audience, which will greatly improve the advertising communication effect and make "1 + 1 > 2".

4. Outdoor Advertising Creativity and Communication Strategy under 5G Background

4.1. Pay Attention to the Coordination and Linkage of Outdoor Advertising and Marketing Activities

Since its birth, outdoor advertising has been carrying the function of information disclosure, which is responsible for the transmission of advertising information. However, most of the outdoor advertising in China only stays at the level of informing, which is insufficient to coordinate with the depth of marketing activities. In the new technology environment and consumption environment, outdoor advertising and marketing activities are particularly important. On the one hand, the development of new technology has laid a solid foundation for the combination of outdoor advertising and brand promotion activities. On the other hand, with the advent of the era of 5g Internet of all things and the Internet of everyone, the advantages of smart phones are becoming more and more obvious. Therefore, outdoor advertising needs to borrow from mobile terminals to promote all media integrated marketing.

To strengthen the integration of outdoor advertising and marketing activities, two strategies can be adopted. One is to enhance the interaction of outdoor advertising, so that outdoor advertising not only plays a didactic role in transmitting advertising information. The new intelligent technology provides more possibilities for outdoor advertising to interact with the audience. Therefore, marketing personnel should pay more attention to the creation of high-quality content, strong interaction and high participation in advertising. We can use interesting games, competitive challenges and other forms to attract the audience to participate actively, or make use of the specific behavior of the audience to naturally participate in advertising. The second is to promote the integrated marketing of outdoor advertising and other kinds of media to realize multi-media interactive communication. Stephanie gutnik, vice president of global business development, said outdoor and mobile media are golden partners like steak and wine. Outdoor advertising has a wide range of users and great creative potential. The personalized and operability of mobile phones can be used as a supplement to outdoor advertising. [9] Therefore, with the help of massive data brought by the Internet of things and mobile media, marketers can associate the virtual world with the real world, and realize the cross communication of advertising information between different media. McDonald's in Sweden used to use large outdoor electronic billboards to link with its game website and adopt geographic positioning technology. Consumers can choose their favorite McDonald's food in advance, and then play ball blocking games through interactive billboards. In the game, consumers use the mobile phone touch screen to control the baffle in the game. As long as the ball stays on the interactive outdoor billboard for 30 seconds through the baffle, they can go to the nearby McDonald's for free. This advertisement combines mobile terminal with outdoor advertisement, and uses game form popular with young people to stimulate consumers' interest in advertising. If the free food is replaced by coupons, the process of consumers watching outdoor advertising will become the process of product purchase, thus forming the synergy effect of product sales and consumer interaction.

4.2. Promote the Integration of Outdoor Advertising and Environment for Scene Marketing

Outdoor advertising is an environmental media, as an important part of urban construction, has a great impact on the construction of city image. In the construction of smart city, outdoor advertising plays an important role in promoting. Therefore, in the level of national urban construction, outdoor advertising is required to combine with urban landscape, so that outdoor advertising plays a role in shaping the city image. Back to the level of advertising marketing, the traditional preaching outdoor advertising has been difficult to attract the attention of target consumers, but outdoor advertising and environmental integration of advertising more and more favored by consumers, this kind of

advertising is known as environmental media advertising. In is any body out there, American Mark Austin and Jim agison define environmental media as: suitable for spreading advertising information, which can be used for writing, coloring, hanging, and anything you can borrow to convey brand contact. [10] Environmental media advertising can not only attract the attention of consumers with its novel creativity, but also draw on local materials to connect with the urban environment harmoniously. The important thing is that it can effectively reduce the cost of advertising with the help of rich media carriers. Therefore, we should strengthen the integration of outdoor advertising and publishing environment, which is a direction of advertising creativity.

First of all, marketing personnel should change the traditional advertising creation process of creating first and then looking for the publishing media. Starting from the terminal media, marketing personnel should take the publishing environment as an important prerequisite for advertising creation. Secondly, the relationship between product features and environmental media is deeply explored, and the correlation between them is strengthened through creative content. In this process, we should not only pay attention to the choice of environmental media, but also pay attention to the characteristics of different types of outdoor advertising. In the application of VR / AR technology, we should skillfully combine the technology with the real environment, rather than simply using technology to create scenes. PepsiCo, together with AMV BBDO, launched a frightening transparent bus stop advertisement on the streets of Oxford, London, UK. With the help of AR technology, passers-by can see through the transparent glass screen such incredible scenes as underground Octopus walking, Bengal tiger attacking passers-by and passers-by being taken away by UFO. The scene in the advertisement is perfectly combined with the environment of the bus station, which seems to be a real thing, attracting passengers to see why behind the billboard. By strengthening the relationship between the real environment, creative content, virtual technology and advertising media, this advertisement attracts the attention of consumers and achieves good communication effect.

4.3. Improve the Predictive Measurement and Accuracy of Outdoor Advertising

To improve the predictive measurement of advertising delivery, that is, advertising delivery should precede the needs of the audience. [11] Traditional outdoor advertising mainly uses passenger flow and ticket volume as the evaluation index of advertising coverage and communication effect, which has disadvantages of low accuracy of data and high investment cost. At present, advertisers generally adopt the audience tracking strategy as the measurement method of advertising communication effect, but this measurement method can not achieve good results because of its serious lag. The main performance is that when the audience has completed the purchase behavior, but the background will still push advertising to the audience. This way can not accurately grasp the needs of the audience, not only easy to cause the audience's disgust and conflict, but also waste advertising resources. Therefore, outdoor advertising should improve the predictive measurement of advertising delivery, so that advertising delivery first. Under the background of 5g driven new information technology revolution, outdoor advertising can use artificial intelligence, face recognition, eye tracker and other intelligent technologies to evaluate the audience's basic information such as height, age, gender, weight, etc., analyze the specific time and environment, and recognize their facial expression and posture. Through the above operation, we can realize the multi-dimensional analysis of the audience, match the data obtained from the analysis with the brand, and push the personalized advertising to them, so as to gradually improve the predictive measurement and accuracy of advertising.

4.4. Explore Data Operation and Strengthen Intelligent Operation

With the vigorous development of digital outdoor advertising, data plays an increasingly important role in outdoor advertising. In recent years, western countries, led by the United States, have made

various explorations in the data operation of outdoor advertising, and achieved remarkable results, especially in the programmatic buying of outdoor advertising. Programmatic buying refers to relying on the advertising network platform and advertising trading platform, using big data and other technologies to push advertising information according to the individual needs and characteristics of consumers. [12] Through the advertising trading platform, this model matches the needs of advertisers with advertising media resources, realizes the transformation from purchasing advertising space to purchasing advertising resources, and obtains triple benefits of improving the utilization rate of advertising media resources, making advertising more accurate and reducing the advertising cost of advertisers. More and more advertisers began to work hard in programmatic buying. For example, Google, Xaxis and other technology companies began to try outdoor programmatic buying as early as 2015, by capturing outdoor real-time data and using electronic outdoor billboards to send advertising information to pedestrians. Under the epidemic situation, JCDecaux, Clear Channel, Pattison and other global outdoor advertising companies docked SSP with mobile and digital outdoor DSPs to digest inventory. With the support of massive 5G user data and the simplification of digital media access trading platform, the epidemic situation has accelerated overseas outdoor programmatic buying to some extent, making outdoor advertising integrate into a larger digital advertising ecology. [13] Domestic advertising operators should actively learn from the experience of foreign countries in programmatic buying and strengthen data operation.

Rich and diverse user data not only optimizes the delivery of outdoor advertisements, but also profoundly changes the layout of outdoor media. Nowadays, many brands use the data of consumers' geographical location and consumer behavior to guide outdoor advertising. For example, McDonald's decides whether to broadcast coffee advertisements according to road conditions. Therefore, outdoor media companies can adjust the layout of their advertising resources based on data, formulate media development strategies, and strengthen the intelligent operation of outdoor advertising.

4.5. Embrace New Technologies and Develop New Outdoor Advertising Carriers

McLuhan believes that everything is media, and media is everything. With the coming of 5G era, this view has been strengthened. 5G will release a batch of new media, which will enable the sensors all over the city to have the ability to search, store and transmit information. As a result, the definition of media is extended, and outdoor advertising also encounters more development opportunities. Advertising carrier is an important factor affecting advertising creativity, and good creativity often starts from advertising carrier. Therefore, media practitioners should integrate intelligent objects with new technologies, so as to develop more powerful outdoor advertising carriers. In the development of new carriers, we should not stick to traditional forms, but dare to combine old elements with technologies. Old elements are common things in daily life, and new combinations are combined with intelligent technology. Chengdu Qiyue Technology Co., Ltd. has developed an intelligent outdoor trash can called VAJRA King Kong. VAJRA smart trash can is equipped with Android operating system, which can provide users with free WIFI. When users connect to the network, it can judge users' needs according to their choice of functions. This intelligent outdoor trash can attracts the audience's attention by virtue of free hot spots. The trash can, which is an essential element in urban construction, is selected as the advertising carrier, and the advertising information is accurately pushed through the combination with technology. In the process of advertising carrier development, media practitioners should have good technical literacy, be clear about the characteristics of new technologies, and avoid wasting advertising and technical resources due to the phenomenon of "unsuitable clothes".

5. Summary

Through research, we can see that outdoor advertising has developed greatly under the environment of 5G technology, while facing some long-standing problems and new challenges. Therefore, it is necessary for relevant subjects to actively change their thinking, and explore and practice the collaborative linkage between advertising and marketing activities, integration with the environment, predictability and accuracy of delivery, data operation and development of new outdoor advertising carriers. To sum up, with the empowerment of technology, outdoor advertising is showing a good development trend, but it still needs to be explored and studied in terms of creativity and communication mode.

References

- [1] Zhiyu Fan. *Outdoor advertising*. Shanghai: Shanghai people's publishing house, 2003: 11.
- [2] Yu Guoming. *Opportunities and Essentials of Media Development in 5G Era*. *News and Writing*, 2019(03): 63-66.
- [3] *The big waves wash the sand, and the sink is the research report of Jin Zhongguo outdoor advertising market*. Shanghai iResearch Market Consulting Co., Ltd. *iResearch Consulting Series Research Report (No.8, 2019)*. Shanghai: Shanghai iResearch Market Consulting Co., Ltd., 2019: 67.
- [4] China Net, *OOHLink: Online+offline intelligent marketing, triggering a new experience of outdoor advertising*. http://science.china.com.cn/2017-08/28/content_39100758.htm.
- [5] Tan Wangyang. *Intelligent Breakthrough and Development Space of Visual Communication in 5G Era*. *Journalist*, 2019(08): 59-65.
- [6] Digital Economy Research Center, Institute of Business Models, Chinese Academy of Management Sciences, Yu Guoming: *5G will become a decisive turning point in the development of the media industry!* <https://baijiahao.baidu.com/s?id=1636554089709549052&wfr=spider&for=pc>.
- [7] iResearch, *canoe has passed through Chung Shan Man-5G application scenario research report in 2019*. <http://report.iresearch.cn/report/201911/3469.shtml>.
- [8] Li Shanshan. *Strategies for upgrading and developing outdoor advertising in the era of intelligent media*. *Young Journalists*, 2020(12): 102-103.
- [9] Sohu.com, *mobile media is an ideal supplement to outdoor advertising creativity*. https://www.sohu.com/a/273793682_100116573.
- [10] Zhang Zhu. *Analysis of the interactive experience of environmental media advertising*. *Media*, 2016(24): 69-72.
- [11] Kun Wei. *New technology empowerment: the strategic choice of outdoor advertising communication innovation*. *media*, 2021(04): 75-77.
- [12] Honglei Ju, Huan Li. *Difficulties in the governance of advertising fraud in programmatic buying*. *China publishing*, 2019(02): 31-34.
- [13] Sohu. com, *in 2021, data will affect outdoor advertising from these three aspects!* https://www.sohu.com/a/442283165_100091764.