Research on the Design and Development of Animation Cultural and Creative Products in Jilin Province under the Internet Big Data

Kun Liu¹,a * Hao Lu¹,b

¹School of Art and Design, Changchun University of Technology
Changchun, Jilin, China

* Corresponding author: e-mail: a495909510@qq.com
e-mail: b1125600545@qq.com

Abstract—Under the background of the big data era, based on the regional characteristics and traditional national culture of Jilin Province, this paper focuses on the application of big data technology in the design and development of animation, cultural and creative products in different links. With big data technology as the guide of product design, the paper puts forward innovative design ideas and methods for the design of animation and cultural and creative products in Jilin Province to construct and develop the IP effect in this field, thus enhancing the competitiveness of Jilin Province in this field and solving the current problems in the development of the animation and cultural and creative industries in Jilin Province.

1. INTRODUCTION

With the widespread application of Internet technology, big data has been involved in every field of the world. According to statistics, in September 2019, the average number of daily active users of Facebook was 1.62 billion, and the number of monthly active users of Douyin was 260 million. Mankind has entered the "big data era". As early as 2012, Professor Victor Meyer Schonberg clearly stated in his book "The Age of Big Data": Big data will bring about tremendous changes in human society, and it will create unprecedented possibilities for human life. Quantitative dimensions. The famous scholar McKinsey pointed out that “data exists in all industries now, and it has a very important development role. If you make full use of these data, it will effectively promote the development of social productivity and consumption.” This shows that Data is not only data or a means of inductive analysis and sorting, but it has become an important production factor. Its application has not only changed the traditional marketing and manufacturing, but also changed the business model.

2. THE STATUS QUO OF DESIGN AND DEVELOPMENT OF ANIMATION, CULTURAL AND CREATIVE PRODUCTS IN JILIN PROVINCE UNDER INTERNET BIG DATA

The rapid development of the Internet has promoted the cross-field integration of animation and cultural creation. The animation and cultural creation industry is actually a derivative of the animation market, including theme parks, games, figures, shops, etc, mainly based on animation as a carrier to develop related peripherals industry. The big data network era provides new opportunities for the animation and cultural and creative industries, and animation and cultural and creative products have
also developed from a single commercial product to a complete industrial chain. In 2007, Haruyuki Nakano pointed out in his book "On the Creative Industry of Animation" that the scale of the peripheral derivative industry of Japan's animation industry reached 12 trillion, which has far surpassed the scale of its own animation industry by nearly 20 times.

According to relevant data, the operating profit of Disney 's theme park business has almost tripled in the middle of the year (2011-2019). As of September 2018, it has grown to US$4.5 billion, of which 40% of the profit income comes from animation commemorative products and Disney animation derivatives. With the help of a strong animation brand effect, there is also an important factor-the application of big data, which uses big data to analyze the needs and purchase orientation of tourists to meet consumer experience. Big data can help brands accurately market and help design precise positioning. In September 2015, the State Council issued the "Outline of Action to Promote the Development of Big Data" clearly stated that the government should increase and deepen the application of big data in various industries, and big data will become the country's basic strategic resource. Although the development of Internet big data in China started late and is still far from the Internet development in developed countries, we have the largest number of Internet users in the world. As of June 2019, the number of Internet users in China reached 8.54 billion, and the number of mobile Internet users reached 8.47 billion. With a huge domestic market, the era of big data has created new opportunities for various fields. The integration of the animation industry and new technologies will open a new stage of development. The cross-border between the animation industry and surrounding industries will gradually make the market become "big animation" development. According to the relevant data of the Ministry of Culture and the Ministry of Tourism, the research shows that the domestic animation derivative market scale in 2016 was nearly 45 billion yuan, the animation derivative market scale in 2017 was nearly 55 billion yuan, and the market size in 2018 was nearly 65 billion yuan. It will exceed 100 billion yuan annually.(Figure 1) The data shows that the scale of the animation derivatives market is growing by 10 billion yuan every year. The animation peripheral derivatives market in China is showing a good upward trend, has very large market potential, and has gradually become the main income of the animation industry. Europe, America and Japan have developed markets for animation IP content derivatives, occupying most of my country's animation market. At this stage, China's animation and cultural and creative industry has problems such as short-form industrial chain construction, weak originality, insufficient IP effect, and piracy. However, the domestic market has huge potential. Animation-themed games, clothing, toys, food, stationery and other cultural and creative products With strong sales, the animation derivative market has gradually become the largest market share of China's animation industry. Faced with the huge gap in China's animation market and the support of national policies, more talents will join the development of the animation industry, and original animation will rise rapidly, The market of animation, cultural and creative products gradually matures.

![2016-2020 China Animation Derivative Revenue](image)

Figure 1 The data comes from the Ministry of Culture and Tourism of China, the author of the picture is drawn by himself.
The development of the animation industry in Jilin Province started early, but most animation companies do animation outsourcing services, ignoring animation creation capabilities, animation product design lacks originality and brand IP effects, and market development also lacks innovation. These reasons make the animation industry in Jilin Province lagging behind. In the era of Internet big data, the problems in the development of the animation and cultural and creative industry in Jilin Province are mainly manifested in: Compared with Beijing, Shanghai, Guangzhou and other first-tier cities, it lacks a good atmosphere for industrial development, lacks a platform for market and network resource integration, and animation literature. The construction of the value chain of the creative industry is too short and shallow; the integration of digital information technology and the animation and cultural and creative industries is not deep, and the design of animation and cultural products is separated from the market; the development focus of small and medium-sized enterprises is deviated, the technology application level is relatively shallow, and the market development lacks innovation; Insufficient product design creativity and insufficient market competitiveness; the protection of intellectual property rights in animation, cultural and creative industries needs to be strengthened.

3. IN THE CONTEXT OF BIG DATA, JILIN PROVINCE’S ANIMATION, CULTURAL AND CREATIVE PRODUCT DESIGN INNOVATION STRATEGY

3.1 From the popular, life, diversity and quality of the four aspects of innovative product design thinking.

According to relevant data from the Ministry of Culture and the Ministry of Tourism of China, in 2019, the largest market share of animation derivatives in China is animation toys, accounting for about 51% of the total, and animation clothing and animation publications accounting for 20% of the total. (As shown in Figure 2) From the data and charts, we can see that the animation toys with the largest market share in my country's animation derivative market are still targeting relatively younger audiences, which is directly related to the domestic animation creation orientation. Changing the traditional design thinking mode and laws of animation products, we can carry out the design thinking of innovative animation cultural and creative products from the four aspects of popularization, daily life, diversification, and quality. First of all, market positioning must scientifically locate product users based on Internet big data, so that the design of animation, cultural and creative products is not only for young children and teenagers, but also to make audiences more inclined to young and middle-aged consumer groups. Use more popular; make the design closer to life, pay attention to the appearance design, but also pay attention to the design of the product’s function and practicality, the business model of animation, cultural and creative +X can make the product market development more diversified, from the form of product design And practical functions, to play the cultural value, artistic value and commercial value of animation in all directions; use the IP effect of animation to promote the development of cultural and creative product brands, create a boutique animation and cultural product brand, and to win more consumers in the market competition.
3.2 Build in line with the needs of the development of the Internet age diverse of the aesthetic system
In the era of Internet big data, people’s material, cultural, and spiritual needs have undergone great changes. Internet culture has gradually become popular among the people, especially young people. They are very fond of popular Internet fashions. In order to make animation, cultural and creative products more intense Having an advantage in market competition, a diversified aesthetic system should be built during product design and development, big data technology should be used rationally and scientifically in the design and development of animation, cultural and creative products, and “creative first” should be adhered to. Product design should be integrated with new Internet media. The full integration of technology and the integration of technology into the design reflect the user experience of animation, cultural and creative products, increase the interaction between products and users, and increase the sense of the times of animation, cultural and creative products. Enterprises should attach importance to the building of local cultural and creative brands, and build IP-based animation and cultural and creative products by refining typical regional cultural and historical resources, so as to sublimate the commercial value of the products and enhance the heritage and sense of belonging of the product culture.

3.3 Improve the design and innovation capabilities of animation, cultural and creative products
First, Big Data technologies help product design, adhere to product content design as the core, enhance the original design capacity, brand building; The second is to user needs-oriented, do a "people-oriented" design and optimize every aspect of product design, to achieve The purpose of improving user satisfaction and ultimately improving corporate revenue. Third, with the main line for the creation of animation elements modeling, root out the cultural practices content, the ability to use efficient dissemination of new media, prominent geographical and cultural connotations Jilin Province, cultural and creative products (such as Jilin snow culture, the Manchu culture, Shaman culture, Mongolian China’s grassland culture, Korean national culture, etc.), to build online and offline animation and cultural and creative products with IP as the core. Fourth, to digital information
technology support for product innovation, and cultural characteristics of leading creative design. Fifth, charge points using the Internet and animation symbolic elements, especially the classic cartoon image of our country, to achieve IP image design conversion, from a single cartoon image of our country, to achieve IP image design conversion, from a single cartoon character level to multiple of derivative product transformation.

4. BUILDING A NEW BUSINESS OPERATION MODEL FOR ANIMATION, CULTURAL AND CREATIVE PRODUCTS UNDER THE BACKGROUND OF BIG DATA

4.1 Establish a big animation industry development concept for the entire industry chain in the era of big data
The animation and cultural and creative industry should be based on the establishment of a global industrial chain, data-driven cross-industry integration, strengthen interaction in other fields of cultural creativity, and form a business model of “animation and cultural and creative + X” to obtain more new economic growth points.

4.2 Optimize the industrial chain and make the industrial chain a virtuous circle
For Mickey, a brand of Disney animation derivative cultural and creative products, this is undoubtedly a successful case. The derivative market is obtained through the use or transfer of authorized stores and animation modeling, and the classic animation elements are applied to clothing, toys, stationery, Publications, daily necessities, etc. give full play to Disney's classic animation brand effect and form a new economic growth point. Jilin Animation cultural and creative industries should be in the current business model, based on the establishment of a market, network resource integration platform, to build animation cultural and creative products into commercial operation a new model of development path, were all closely linked, from the creation of cultural and creative animation products Increase the originality of product design in the link of management and management, pay attention to cultivating creative design talents, and fully tap the regional cultural effects; in the process of industrial chain integration, pay attention to product market research, make full use of Internet big data to scientifically locate markets and users, and timely Feedback and adjustment of product creation and design links; in the product sales link, make full use of the Internet network platform and the speed of Internet information dissemination, and increase the sales of animation, cultural and creative products from multiple angles and channels. Make animation, cultural and creative product content providers and operation service providers play their respective roles, improve the position of operation service providers in the industry chain, and make products enter a profitable state.

5. CONCLUSION
In recent years, the domestic animation industry has developed rapidly. As an important pillar industry in the cultural and creative industry, it can drive huge economic effects. In addition, Jilin Province is a multi-ethnic and multi-cultural province, with Korean culture and Eastern Guandong culture. The intersection of various cultures such as Manchu and Qing culture runs through the vast land of Jilin Province. At the same time, ice and snow resources have long become the regional culture of Jilin Province. These have bred rich human resources for the creation of animation products. Therefore, this paper is based on the development status of animation products in Jilin Province, analyzes the market and locates the market based on the advantages of the Internet, uses big data to fully understand user consumption concepts and purchase orientation, accurately locates animation users, and designs and develops animation cultural and creative products. At the same time, through the development of visual symbols of cultural products, the cultural value, artistic value and market value of the animation and cultural creation industry are explored.

ACKNOWLEDGMENT
This article is a project of the Jilin Provincial Department of Education's project " Research on the
Development Strategy of the New Format of Cultural and Creative Industries in Jilin Province in the Internet Big Data Era ", project number JJKH20191332SK research results paper.

REFERENCES

[1] Zhi yan Consulting Group.2019-2025 China Animation Derivative Industry Market Status Analysis Report.
[2] Wang Qin, The construction of animation industry in the era of new media[J], Youth Reporter, 2018.
[3] Wang Hui min, Research on Cultural Creative Industry: Theoretical Frontiers and Hot Issues[M], Shanghai Academy of Social Sciences Press, 2016.
[4] Li Hui, Analysis of the development of my country's animation industry under the Internet environment, Design Art Research, 2017.
[5] Hu Fei, Art Design Semiotics, Tsinghua University Press, 2008.
[6] Nakano Haruyuki, Translated by Zhen Xi, "Animation and Creative Industry Theory", International Culture Publishing Company, 2007.
[7] Chen Kun jie, Research on Regional Cultural Creative Product Design from the Perspective of Communication, Hunan University. 2018.
[8] Xia Lei, Intelligent Data Analysis Technology under The Exploration of Big Data, Science and Technology Innovation Guide, Issue 10, 2014.
[9] JINGdigital, (2019) What should you consider when choosing an SEO provider, https://baijiahao.baidu.com/s?id=1634378702527113871.