

# Application of Interaction Design in New Media Advertising

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**Abstract:** *The traditional way of communication through the media is gradually disappearing in our life, while new media appear more and more. This shows that the way of visual communication in the advertising industry is changing. This paper mainly studies how to use interaction design in the new media environment and the changes that need to be made about the integration of interaction design into new media. Based on the new forms of interactive expression in the new media environment, this paper mainly discusses the historical origin, current development status and future development trend of interactive design, based on the multi sensory impact of this expression on the communication of new media advertising. The second is about the impact of interaction design and the change of audience thinking on visual communication performance.*

**Keywords:** *Interaction Design, New Media Advertising, Design Application, Advertising Communication*

## 1. Introduction

Traditional advertising, because its publicity carrier is mainly based on a single way such as newspapers, periodicals, radio or television programs, its display method is also relatively limited. However, due to the rapid development of emerging media, the interactive design of new media has become the main way to break through the limitations of traditional advertising. The interactive design of new media not only makes good use of the traditional ways of viewing and listening, but also adds more diversified experiences such as experience and interaction, which greatly increases the way of traditional advertising display, and makes the communication content of traditional advertising better fit with the audience and more diversified.

## 2. Concept Definition

### 2.1. Interaction Design

Moreover, in today's technological development trend, the use of new media interactive design in advertising creativity can better make interactive advertising creativity echo with today's technological development trend, more in line with modern aesthetic standards, and present more advertising creative characteristics, so as to greatly improve the quality of advertising creativity. With the rapid development of the digital age, interactive design has been widely used in commercial advertising design[1]. With rich and diverse forms of expression, unique interactive experience and popular and convenient digital media, interactive design has opened up a new communication field for commercial advertising design, and the practice of interactive experience in commercial advertising design provides more possibilities [2].

### 2.2. New Media Advertising

Today, compared with the four traditional cultural media of broadcasting, TV programs, newspapers and magazines, "new media" is usually vividly called "the fifth media" [3], which reflects the importance of new media advertising in the field of publicity and application to a considerable extent [4]. Today, the product carriers we regard as "new media" include network platform, notebook computer, mobile phone, digital TV, etc. Obviously, they are all various technical forms carried on the

platform through information technology. Therefore, many experts and scholars also study new media from this perspective. The emergence of the term "new media" can be traced back to 1967. This plan for the development of electronic equipment video recorder products was first proposed by Goldmark, director of the Institute of science and technology of Columbia radio and television network. In the plan, he collectively referred to "electronic equipment video recorder" as "new media" [5]. In 1996, Mark Trabo, founder of rootstock.com, defined new media as a collection of new art works such as network broadcasting, digital technology, CD-ROM and video art.

At present, new media has become the most popular word in the media industry. People are used to calling it the latest media form after traditional media such as TV, radio, newspapers and magazines [6]. However, new media is still an evolving concept, but based on the scientific basis of Internet and wireless communication technology, coupled with the wide application of computers, new media forms different from various media characteristics of traditional networks are also competing. Therefore, some researchers also call new media "interactive digital integrated media" [7]. The rapid development of new media has also promoted the adjustment of the internal structure of the industrialization of China's social market economy. The word "new media" has also become an emerging term in the theoretical circles at home and abroad and the international advertising industry. As for the specific statement of the meaning of new media, there is no final conclusion in the advertising industry at home and abroad, which stems from the fact that new media is still a relatively chaotic concept with continuous development. At present, new media is still a relatively broad category, but people can understand it as a new media that provides personalized content services to users by using digital technology, Internet information technology, personal computers, mobile phones and other terminals. It is the main development tool for connecting communicators and listeners to communicate with each other. It is a new type of media that provides information and entertainment services [8]. More strictly speaking, new media should also be called digital new media. Although people's concept of new media lacks a specific concept recognized by everyone so far, after people's analysis of the characteristics of the form of new media and the summary of its development context, people can still define the form of new media from the aspects of time sequence and technical level: new media, in terms of time sequence, "new" refers to the emerging media with form innovation compared with traditional media such as TV programs, broadcasting, newspapers and periodicals, Or new media form of model innovation; From the technical level, new media is based on the development of digital technology. It is a new media form developed under the new generation technology bearing structure, which can also be called digital new media. The new media are colorful, diverse and spread widely, such as network media, mobile media, outdoor LED, touch media, etc., which are the main types of new media [9].

China's new media has broad prospects for development. China is in an important development period of economic structure transformation. The national 12th Five year plan emphasizes the need to continue to cultivate a number of "strategic emerging industries". These industries are mainly represented by new information technology. The main development of telecommunications network, radio and television network, Internet triple play, Internet of things, cloud computing and other digital technologies are the technical support foundation of the new media industry [10]. From the perspective of the future development trend, new media will still maintain the trend of rapid development. The analysis report on the market prospect and investment strategic planning of China's media industry in 2014-2018 released by the forward looking industry research institute points out that the advantages of new media are concentrated in three aspects: the richness of information resources, the timeliness of information release and the high participation of the audience. In the next four years, with the promotion of science and technology, the overall system of new media will gradually take shape, New media will enter a new stage of integration of new media resources, explosive growth of industrial scale and prosperity and maturity of Industrial Development [11].

### ***2.3. Interactive Advertising***

Interactive advertising is a form of advertising that requires or allows viewers to respond to interactive Web 2.0 application technology. Although clicking on banner advertising can be regarded as interactive behavior in a broader sense, this is why some scholars think it is a kind of banner advertising [12]. However, we usually define "action" as sending a request to the viewer or allowing the viewer to find relevant information on these "activity" pages. This includes interactive behavior using mouse, keyboard, camera, microphone, etc. The main forms of interactive advertising are website promotion, application promotion and social media platform promotion (such as QQ, microblog, wechat, Facebook, twitter, instagram, etc.). In addition, classic media such as print advertising and outdoor advertising with QR code can also be regarded as interactive advertising. Interactive

advertising is characterized by strong interaction. Rich experience, strong interest and good communication effect. This form of advertising interaction continues to develop with the progress of technology.

### **3. Development Status of Interaction Design**

#### ***3.1. Historical Traceability of Interaction Design***

In the environment, users can use their five senses of vision, touch, taste, smell and hearing to understand the existence of products; On this basis, people will also subjectively understand and process the learned design information, and finally put it into corresponding design actions according to the conclusions drawn from the processed results. Although the user's social culture, background and experience directly determine the user's response to the product design content, there are often various obstacles and problems in the user's accurate understanding of the product design content because the designer and user are often separated by various regional factors composed of time, space and community culture [13]. Cooper, an American researcher, expressed the uncertainty of the conclusion of cognitive judgment as "cognitive friction". Donald Norman pointed out that the formation factors of "conscious friction" mainly stem from the differences between the design model and the actual use module, as well as the contradiction between the designer's design intention and the user's actual use intention, which led to problems in the user's actual life and work. Therefore, scientific product design methods must understand the interactive relationship between users and product design from a more in-depth perspective, and the interactive relationship plays a decisive role in the feeling of product use. The interactive relationship with nature has gradually revealed in the design practice that it has enhanced the thinking effectiveness of users' feelings. The design concept of natural interactive products has gradually stood out in the traditional human-computer interaction product design ideas, and promoted the transformation and evolution of design methods and product design ideas in the field of traditional human-computer interaction product design.

The emergence of the new definition of affordance provides more advanced design theoretical support and more scientific design methods to bridge the understanding gap among designers, products and users [14]. So that we can concretize their relationship, so as to provide an opportunity to alleviate the cognitive friction between their products, and also to form a natural interactive relationship between users and products. The definition of availability comes from the understanding of the idealized immediate behavior between man and the natural environment in the direct intuition theory, so that people can more clearly understand how the natural information exchange between man and the surrounding environment takes place through this definition. On the cornerstone of the definition of availability, Naoto Kanazawa, a well-known industrial designer in Japan, uses the unconscious product design concept as the creativity of goods, and uses the method of "transforming casual behavior into visible things" to avoid the so-called "cognitive friction", which makes his design and works have an excellent feeling of use. This paper also points out that the root of the success of Shenze Zhiren's unconscious design thought is to realize the transition from physical logic design to behavioral logic design in theory. In the product design process, scientific and reasonable planning and setting of various "availability" between users and products are carried out, so as to achieve the integration of users' unconscious behavior, and then achieve the product pleasure beyond the cognitive scope of users [15]. In short, the purpose is to minimize "cognitive friction" and achieve the state of "doing it naturally". This concept of product design, which advocates the way of interaction with nature, has a great impact on the development of product design and promotes the progress of interactive product design research.

#### ***3.2. Current Situation of Interaction Design***

The development of science and technology has changed people's consumption and living habits, and the information level of modern commercial advertising is expanding. The advertising push mode has changed. Nowadays, as long as there is a mobile network, we can complete the purchase and consumption without leaving home. Therefore, the opportunity to deal with traditional two-dimensional commercial advertising is reduced. Internet advertising has become a bridge between producers and consumers. Consumers have gradually become the controllers of various digital terminals, which can easily avoid most commercial advertisements, and the number of consumers who choose to deal directly with producers has increased. This phenomenon is a great problem for advertisers. Therefore, advertisers seek survival in the cracks and find their new identity [16].

As a new form of commercial advertising, interactive advertising has developed from PC end interaction to mobile end interaction, and then to intelligent environment interaction. In nature, it has developed from single channel design to multi-channel design completed by trial, listening, touch and other cooperation. It has attracted the attention of merchants and the favor of consumers. It has great potential, but also has crises and challenges. The development of science and technology has changed people's consumption and living habits, and the information level of modern commercial advertising is expanding. The advertising push mode has changed. Nowadays, as long as there is a mobile network, we can complete the purchase and consumption without leaving home. Therefore, the opportunity to deal with traditional two-dimensional commercial advertising is reduced. Internet advertising has become a bridge between producers and consumers. Consumers have gradually become the controllers of various digital terminals, which can easily avoid most commercial advertisements, and the number of consumers who choose to trade directly with producers has increased. This phenomenon is a big problem for advertisers. Therefore, advertisers seek survival in the cracks and find their new identity. Since the 21st century, enterprises and advertisers have focused on using digital technology and new media to create personalized experience for consumers and establish contact with brands. Interactive commercial advertising has responded to the general trend. This interactive advertising centered on "user experience" has firmly grasped the psychology of consumers, established a variety of contacts with communication companies by using the development of information technology, and used various symbols to display the creation of advertising. Effectively highlight the personality of advertising, attract the attention of consumers, and strong interaction, so that the audience can easily integrate into the advertising situation, so as to enhance the participation of consumers and stimulate the emotional resonance of the audience.

### ***3.3. Future Development of Interaction Design***

At the initial stage of the development of domestic interactive advertising, certain achievements have been made in the communication results. A large number of information feedback and example experience provide a reference for the development of interactive advertising. Domestic well-known brands gradually begin to pay attention to the research of interactive design. The strong development of interactive design brings innovation to the advertising industry. Tsinghua University and Peking University have established human-computer engineering laboratory and multimedia and interactive design laboratory respectively to meet the needs of modern development and application. With the development of Internet technology and the deepening of people's demand for experience, interactive commercial advertising is slightly weak in the form of design and creation. Advertisers are also gradually aware of the importance of interactive advertising experience design in guiding users to produce interactive behavior. When digital media has been integrated into our life, people's aesthetic, insight and voice desire are also increasing. This interactive way can be more easily and intelligently integrated into our life. In the device system of mobile terminal, people are also in the scene of two-dimensional mode, but three

The desire for dimension is also gradually increasing, and the realistic expression mode of virtual creation is gradually derived. For example, augmented reality technology (as shown in Figure 1) skillfully combines virtual information with the real world, which has not only visual, auditory and tactile experience. This technology provides great help in the field of design, such as three-dimensional modeling, scene fusion, and some software about understanding customers, such as all marketing channels, Analytics, which collects and analyzes customer data in real time, takes corresponding actions and establishes unique audience files after analysis, analyzes valuable customer groups and uses these files across all digital channels. Interactive experience also promotes the progress of science and technology.



*Figure 1: VR technology*

#### 4. Application of Interaction Design in New Media Advertising

In commercial interactive advertising, the most direct contact with users is the man-machine interface, including touch gestures, images, sounds, words, etc. in the advertising picture (as shown in Figure 2). However, the advertising design interface does not simply arrange the interactive gesture, navigation bar and interface content into the screen at will. It needs to comprehensively study the framework of plot content, the planning of design process, the selection of interactive components, the presentation of aesthetic laws in the interface and so on. Advertising interface is a necessary factor to attract users to participate in the experience. As the external expression of commercial advertising, it is an important part of advertising itself. A good advertising interface can make users experience the principle of content first, give priority to the information users need, simplify interface navigation, and make it easier for users to enter the immersive experience. In addition to providing interactive commands for users and conveying advertising information to users, interface design can also enable users to have different sensory interaction experiences in the game. The visual element design of advertising interface needs to plan the interactive function between users and interactive advertising. It mainly includes two aspects: visual symbol expression and interactive design. The key to the success of interface design lies in people's subjective cognition of physiology and psychology in interactive advertising experience. Advertising theme, presentation and emotional expression are the first step to let users understand the brand. The audio-visual element design of advertising interface directly acts on the five senses and plays a role of perception. The lively or calm and comfortable picture, the cheerful, bright or dark and melancholy color will have different psychological hints for users, so that users can obtain value from interface design, make more use of screen resources and make their emotional attention more sustainable. These need to be considered in specific interface design.

The H5 advertisement created by Jingdong team using cartoon scenes is "Jingdong School: students, don't talk about money." Switching between different cartoon scenes tells the embarrassing situation of borrowing money from classmates, college roommates and girlfriends. Finally, it points out that Jingdong Baitiao trusts you more than they do, receives Baitiao coupons and 0 yuan gift activities, and the interactive interface is directly connected to Jingdong Mall. Visually, with students as the main characters, it shows the psychology of some students, which is easy to resonate. Compared with bright yellow and black, it shows the embarrassment of the protagonist. Technically, the touch and slide mode is adopted to let users participate in the interactive plot. The scene processing is very ingenious and has a sense of substitution to enhance the user's sense of participation. The interactive plug-in is simple and interesting. Jingdong accurately grasped the borrowing dilemma faced by modern college students and gave Jingdong white note business, which felt like giving carbon in the snow. In the process of viewing the interface display or participating in the interaction, users can resonate emotionally, have a deeper impression on the brand and products, and even generate thinking and purchase motivation, so as to make the best use of this hot platform.

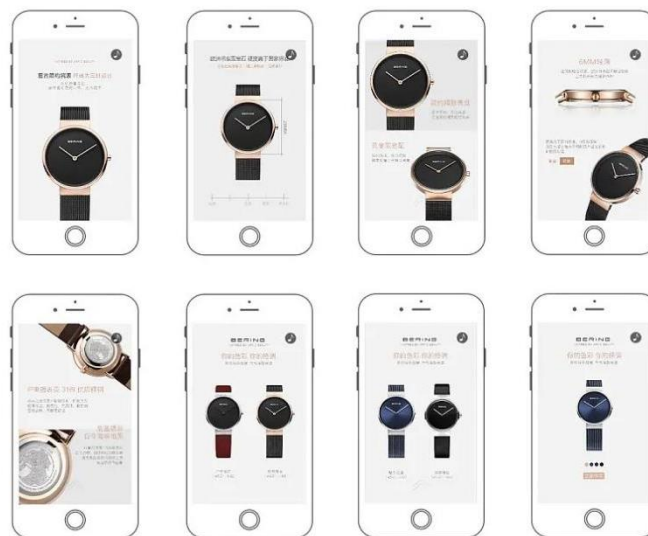


Figure 2: Interaction design of H5 advertisement

The traditional communication mode of design is mostly static pictures and words. The form of visual communication is single and lack of interactivity. The perception deviation accepted by the audience tends to be passive for visual works and does not enter the psychology of the audience. In the context of the emergence of new media, through the intervention of scientific and technological means, add dynamic pictures, interactive areas, sounds and other ways to set off the design works, give the audience multi sensory visual effects, enhance the audience's curiosity, and lead the audience into the immersive design experience through multi-dimensional three-dimensional design experience.

Entertainment is a necessary condition for the rapid development of the Internet. Audiences can use fragmented time to watch art, and their aesthetic and visual requirements are gradually improved. With the progress of new media, the way of expression of visual design is constantly changing. With the increase of social pressure, the psychological state of the audience gradually becomes depressed. According to the entertainment of this psychological state, visual dynamics will often attract the attention of the audience. The interest of dynamic pictures can not only bring short-term happiness to the audience, but also deepen the emotional intention of the designer. Through the interaction of dynamic pictures and the speed of Internet communication, the audience also speeds up the dissemination of information. In the digital media with the development of new media, the relationship between entertainment and visual development has become particularly close, and the development trend of expression forms in entertainment guided visual communication has become increasingly clear. This is the addition of a concept and the change of expression forms of the nature of visual entertainment, paying more attention to the development trend of human text. The emergence of digital dynamic pictures with entertainment and interactive forms has added new impetus to the development of new media.

## 5. Conclusion

The key to implement the interactive application of new media in advertising design is to integrate the design basis of vision and hearing from the perspective of the audience. Extending from ordinary advertising design to paying attention to the sense of experience, interactive design will be more vivid and interesting, and advertising will be more easily recognized by the audience. We can see the interaction between designers, audiences and advertising. As it is an important advertising design mode in new media, interactive advertising design still has room for development in the future. People in relevant industries need to constantly improve their design and conceptual skills. Let the audience see better interactive advertising design. The unique advantage of new media over traditional media lies in its high relevance and rich interactive ability. Therefore, although the growth of new media advertising has had a certain impact on the traditional advertising industry, traditional advertising and new media advertising do not necessarily need a battle of life and death. Learning from each other will better benefit the economy, society and people's life of the whole industry. Designers need to focus on long-term development, focus on the overall industry and macro society, completely change the concept of information and promote the integration of new and old media. Therefore, it is very necessary to seek a new development mode and realize the effective optimization and dissemination of information. Finally, to realize the thorough transformation and modernization of traditional media and promote the new development of advertising industry will be the development direction of new media advertising. This process can only be realized through innovation. The innovative development of new media advertising communication is conducive to the formation of new media advertising, driving the development of a virtuous circle in all fields of the whole society, improving the cultural industrial structure and accelerating the transformation of the mode of economic development.

## References

- [1] Guo Xiaoyan, Gao Ruitao, Wang Jun. *Exploration on interactive design method in new media display design. Packaging engineering*, 2016, 37 (8): 4
- [2] Xu Yucheng. *Research on interactive design in new media. Think tank era*, 2017 (16): 2
- [3] Liang Hua. *Interactive design method of new media display design. Popular literature and Art: Academic Edition*, 2017 (12): 1
- [4] Ning Gang. *Research on interaction design in new media display design. Art and technology*, 2017, 30 (3): 1
- [5] Huang Kai. *Analysis on the application of new media interaction design in modern exhibition space. Science and informatization*, 2021 (11): 1

- [6] Luo Ziyu. *Research on interaction design in new media display design*. Science and technology information, 2021, 19 (11): 3
- [7] Kang Yueyue. *Application of new media interaction design in modern exhibition space*. Industrial design, 2020
- [8] Zhang Jing. *On the application of new media interaction design in modern exhibition space*. Heilongjiang Science and technology information, 2018
- [9] Di Cheng. *Interactive digital public art design and practice based on new media public platform -- Taking Chinese painting as an example*. Television technology, 2018, 42 (9): 4
- [10] Wang Yanqing, Li Cheng. *Design and implementation of new media interactive platform for large-scale TV events [C]. Proceedings of 2017 academic annual meeting of China Federation of journalists and technicians (Academic Papers) two thousand and seventeen*.
- [11] Rudolph Arnheim. *Visual thinking*. Translated by Teng Shouyao Chengdu: Sichuan people's Art Publishing House, 1998:49
- [12] Ding Yuehua, Li Bo, Zhu Jinxiu. *Visual art psychology*. Southwest Normal University Press, 2012: (21)
- [13] Wang Yue. *Research on the cosmopolitanism and nationality of graphic design under the guidance of Esso system*. Journal of Suzhou arts and Crafts Vocational and technical college, 2013 (01): 43-46
- [14] Rudolf Arnheim. *Design thinking*. Translated by Teng Shouyao Sichuan people's publishing house, 1998
- [15] Chen Hong, Liu Yanping. *User experience and interaction design of industrial design*. Shang, 2013 (25): 103
- [16] Shi Yefei. *Research on web interface design and application based on user visual characteristics*. Xi'an University of technology, 2015