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Retraction

Retracted: Visual Communication Design in Print Advertising under New Media Environment

Wireless Communications and Mobile Computing

Wireless Communications and Mobile Computing has retracted the article titled "Visual Communication Design in Print Advertising under New Media Environment" [1] due to concerns that the peer review process has been compromised.

Following an investigation conducted by the Hindawi Research Integrity team [2], significant concerns were identified with the peer reviewers assigned to this article; the investigation has concluded that the peer review process was compromised. We therefore can no longer trust the peer review process and the article is being retracted with the agreement of the Chief Editor.

The authors did not agree to the retraction.

References

[1] Y. Zhang, R. Yu, X. Shi, and K. Hong, "Visual Communication Design in Print Advertising under New Media Environment," *Wireless Communications and Mobile Computing*, vol. 2022, Article ID 7664127, 10 pages, 2022.

[2] L. Ferguson, "Advancing Research Integrity Collaboratively and with Vigour," 2022, https://www.hindawi.com/post/advancing-research-integrity-collaboratively-and-vigour/.

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Research Article

Visual Communication Design in Print Advertising under New Media Environment

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The emergence of too many new media in the information age has also brought about the trouble of complicated information. Every day, people's eyes are exposed to at least hundreds of advertisements. The audience's attention is limited, and the number of advertisements is constantly increasing. The public suffers from severe visual fatigue. New media can be seen everywhere in our daily life. In today's digital world, people cannot leave multimedia technology. This paper is aimed at exploring the visual communication design in print advertising in the new media environment. Aiming at the visual communication technology in print advertisements, this paper describes the stereo vision technology in detail and rationally analyzes the design ideas of visual communication through the stereo vision technology. In addition, this paper conducts on-the-spot investigation and analysis of print advertisements in the media environment, to explore the visual communication design ideas in print advertisements. Experiments show that for different groups of people, the acceptance of print advertisements in the new media environment is not the same. In terms of acquisition methods, television is still the carrier for most people to obtain information, accounting for 40.67%. Secondly, obtaining advertisements through mobile applications is the second, accounting for 33.3%.

1. Introduction

Today, with the advancement of science and technology, two forces have emerged in the economy and society: one is economic globalization; the other is information digitization. Under the influence of these two forces, the related advertising industry has also undergone significant changes. Information is a necessity for our survival, and the media, print media, TV media, Internet media, mobile media, etc. that disseminate information are all trying to attract people's attention, to achieve the best advertising effect. The rise of new media has brought a large impact to the print media, and it has also brought unprecedented challenges to the print media advertising market. Under the pressure of the economic crisis, the living space of the global print media has been continuously compressed. Although the print

media has the incomparable advantages of the new media, it has many limitations due to its static, silent, and flat characteristics, and it is at a negative disadvantage in many advertising media. Information completely surrounds our lives, and we rely on the transmission of information to be closely connected. Therefore, as the carrier of information, the efficiency of the operation of the media, is essential to modern people. In the era of "flooding" of information, visual communication is particularly important. How to make print advertisements stand out and attract people's attention in a limited layout and limited time has become a very serious problem at present.

This paper has the following two innovations: (1) this paper gives a mathematical description of stereo vision technology for visual communication design. In this way, it is necessary to use mathematics to prove the important factors

in visual communication, and it is also different from the previous method of only using words. (2) For visual communication in the new media environment, this paper conducts field surveys through groups of different age groups and finds the data that is closest to the real.

2. Related Work

Print advertisements in the new media environment have begun to use new media for transformation and development. The traditional paper media represented by newspapers and magazines and the new media represented by the Internet and mobile phones have entered a stage of integration and coexistence. It has developed many new forms of print advertising. There is also a lot of research on it; Alt and Saplacan investigated how the multinational bank responded to the 2007 eastward enlargement of the European Union. They aimed to identify the relevant cultural dimensions of the adaptation of bank advertising requests. The study is based on 785 unique print advertisements published between 2006 and 2014 in newspapers in both countries belonging to eight banks operating in both countries [1]. According to Sine, whether it is leaflets, emails, print advertisements, etc., in terms of marketing, there are many factors involved. Deciding what works and what does not can be overwhelming, which is why manufacturers try to make this process easier by offering contractors marketing tools and cobranding opportunities [2]. Rowley argues that recyclers have been dealing with a number of challenges, particularly the increase in contamination due to single-stream recycling collections. To spread the message, they launched a campaign called "Better Recycling" through social media, print ads, and videos [3]. Kim et al. propose and test a comprehensive process explanation for why narrative advertising is often more persuasive than nonnarrative advertising. They confirmed this with a random sample of 25 narrative and 25 nonnarrative TV commercials and 484 nonstudent study participants [4]. Myers and Jung had studied from the perspective of the characteristics of consumers' cultural and personality tendencies when processing visually relevant information. They examined advertising rhetorical techniques—the use of visual metaphors and their persuasive effects. They conducted an experimental study on the manipulation of visual metaphors in print advertising. The results show that the visual metaphor technique significantly enhances the persuasive effect through consumers' evaluation of advertising messages and brands [5]. The aim of Zhou and Li is to study a new way to help rural areas out of poverty by fostering off-farm employment: new media utilization. They contribute to the existing literature with an initial empirical investigation of the economic function of new media in rural China [6]. Yang and Yu conducted research on environmental documentaries based on the application of new media. They also discussed the problems existing in online mobilization of environmental issues and proposed future research directions [7]. However, more designs revolve around product development rather than human psychology and mathematical principles.

3. New Media and Visual Communication Design

3.1. New Media and Traditional Media

3.1.1. Traditional Media. Traditional media is also known as the "fourth media." Traditional media is relative to the network media that has emerged in recent years, as shown in Figure 1. In the traditional way of mass communication, that is, the media that regularly releases information or provides educational and entertainment platforms to the public through some mechanical device, it mainly includes traditional media such as newspapers, outdoor communication, radio, television, and network other than self-media.

Traditional media is shown in Figure 1. As the Internet has entered people's lives, it has brought a lot of convenience to information transmission. At the same time, the modes of information transmission are becoming increasingly diversified. Because traditional media still relies on television, print media, radio, and other means, various factors such as slow information transmission and low speed of timely dissemination were unavoidable at that time. The competitiveness of the traditional media market is also gradually declining, and it is relatively weak in terms of breadth, depth, speed, and accuracy. In today's market economy development, the development space of traditional media has been greatly compressed [8, 9].

3.1.2. New Media

(1) New Media Features. As shown in Figure 2, new media has three characteristics, namely, innovation, interactivity, and technology. For innovation, in today's diversified world, new media is also known as "innovative media." "New media" is also mainly reflected in "new," including "new things," "new experience," "new mode," and "original." It must not only attract the attention of the audience but also closely follow the social development model. In the process of development, it is necessary to explore how to develop innovative ideology and to assist the new software technology to gradually replace. This also provides help for better dissemination of visual works [10]. Interactivity is an attribute unique to new media that distinguishes it from traditional media, for example, the current WeChat public account, barrage, Weibo, web page comments, etc. This property also makes it very convenient for the audience to express their own words. Designers can make appropriate adjustments according to user preferences and can also get effective feedback at the first time and make corresponding rectifications. For technological, in the era of rapid development of new media communication, information technology and digital technology are also particularly important in media communication [11]. A great advantage of vision is not only that it is a highly articulated medium but also that this medium provides an endless wealth of information about various objects and events in the external world [12, 13].

(2) Application of New Media Technology. The development of new media technology is produced with the progress of
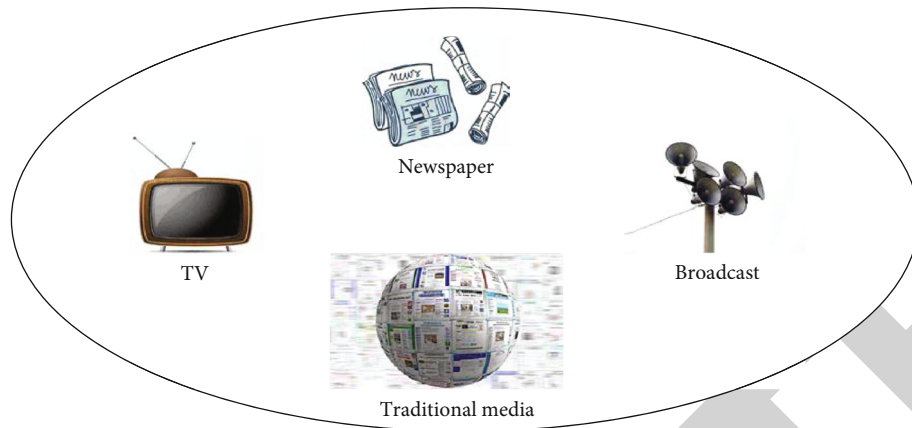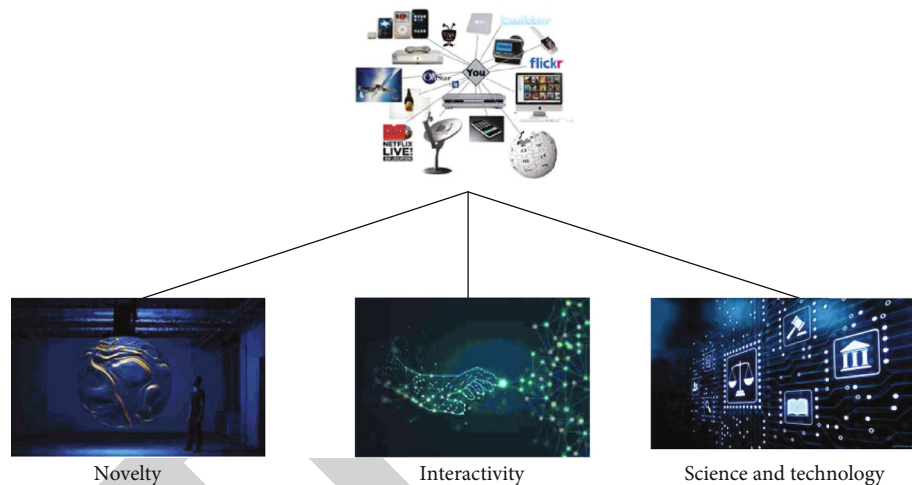
FIGURE 1: Traditional media.

FIGURE 2: Features of new media.

the times and the needs of society, marking the development process of this era. Through analysis, research, and summary, compared with traditional media, new media has undergone more or less changes in its nature, communication methods, and communication benefits. It is more time-sensitive and functional in its dissemination characteristics [14]. From the media printing era to the current digital product era, every change can be said to be a new media compared to the previous media form. The emergence of new media is subtly affecting people's way of life, and the form of communication will also highlight the characteristics of this era. Due to the different stages of social development, communication methods will have certain drawbacks and certain limitations. From the occurrence and evolution of media forms, it is not difficult to see that the emergence of a new media form is accompanied by the continuous changes of the old media form. And it has been continuously improved and perfected in the process, so we can say that radio, television, and the Internet are all new media relative to each other. It changes with the development and changes with the times. In fact, new media is only a relative concept, which symbolizes that the mainstream communication

media and the characteristics of each era are the new media of this era [15, 16].

In the 2008 Beijing Olympic Games, new media was used to the extreme, and the stunning stage effects conquered people all over the world. The 2008 Beijing Olympic Games attracted the attention of people all over the world. The dazzling opening ceremony brought a visual feast to people all over the world. Under the guidance of the director, traditional techniques were abandoned. For the first time, new media technologies such as LEDS are used, which makes the opening ceremony scene of the whole Olympic Games more shocking and three-dimensional. At the same time, the broadcast form of the Olympic Games is also very different from the past. It is the first time that Internet technology and new media forms such as mobile phones are used as independent communication agencies and media, and together, they have become the broadcast media for the premiere of the Olympic Games. The President of the International Olympic Committee also congratulated CCTV on the successful use of new media technology to broadcast the Beijing Olympic Games. He mentioned that the

application of digital new media not only attracted increasingly audiences to watch the Olympic events but also played an important role in promoting and carrying forward the Olympic spirit [17, 18]. From this, it is not difficult to see that the development of new media technology is so fast that it is constantly changing and integrating into people's lives, as shown in Figure 3.

(3) Development of New Media. At present, new media print advertisements have gradually been generally accepted by the audience in the Internet economy and have become an important part of the Internet economy. Its communication devices are mainly two types of Internet devices, PC and mobile, with various manifestations, such as banners and mobile windows. And it has the characteristics of precise customization, diversion, and personalization. In recent years, the recognition of new media print advertisements by Internet users and enterprises has gradually increased. In 2015, the Internet Data Center shows that, as shown in Figure 4, in the past three years, advertisers' budget for Internet advertising and marketing has increased year by year, accounting for more than 60% of the total budget, and the mobile terminal and the PC terminal are basically the same.

At present, with the new changes in the development of the network, the mobile Internet is sweeping many traditional industries. The industry is facing integration and reshaping. At this time, mobile Internet advertising conforms to the development trend of the times and becomes the mainstream of current Internet advertising with the support of big data. According to the latest Internet statistics report released by CNNIC, as of 2017, China Mobile boasted 1,131.52 million users, and only 348.54 million fixed broadband users, as shown in Figure 5:

The popularity of mobile terminals has greatly boosted the growth of netizens, which is inseparable from the improvement of the performance of mobile devices, the expansion of the screen, and the convenient and fast user experience. The offline scene is transferred to the mobile online. It has changed people's way of life and constantly promotes the concentration of netizens' social, consumption, entertainment, payment, and transaction habits on the mobile terminal. As shown in Figures 4 and 5, the development of new media is very rapid, and such development is reflected not only in the scale of the online advertising market but also in the use of network equipment. With the popularization of new media mobile devices, new media print advertisements are promising.

3.2. Visual Communication Design. Visual communication is no longer a new vocabulary these days. Frankly speaking, everything we can see with our eyes is called visual communication. Designers communicate with the public through media. Images are ubiquitous in our lives. Movies, videos, web interfaces, magazine publications, packaging design, midyear reports, indoor and outdoor billboards, and movie posters are all mediums for information transmission. The concept of visual communication is actually very easy to

FIGURE 3: Application of new media technology.

generalize. It is a design with "vision" as the form of expression. As long as it is any design behavior that can be seen by the human eye, it can be called visual communication design [19, 20]. Visual communication is a practical design that has been impregnated by the business, and the products designed through visual communication are the bridge between merchants and customers. Visual communication design mainly consists of three visual elements, namely, graphics, text, and color. After these three main visual elements are arranged and integrated according to the designer's ideas, the purpose of attracting public attention and conveying ideas is achieved.

Stereo vision systems are able to obtain information from incoming camera images. It calculates information such as the three-dimensional shape and coordinates of objects in the scene and recognizes objects in the environment on this basis. The positional relationship between the object point in space and its projection on the image is determined by the camera imaging model. The parameters of these imaging models are also called camera parameters. Because the camera parameters may change with the environment, the accuracy of these parameters directly affects the accuracy of stereo matching. Therefore, the camera parameters must be determined by measurement and experiment before the camera is used. This process of solving camera parameters is called camera calibration, and it is an indispensable step in stereo vision systems.

In the 1980s, when both computers and software developed significantly, there were some advances in computers and some simple design software that could support some simple design content. The development of computers and software has transformed the previously disjointed design process into an integrated process. The traditional calibration method uses a stereocalibration object as shown in Figure 6.

Linear camera model calibration is shown in the following.

The camera linear model is represented as follows:

$$\begin{bmatrix} u \\ v \\ 1 \end{bmatrix} = \begin{bmatrix} m_{11} & m_{12} & m_{13} & m_{14} \\ m_{21} & m_{22} & m_{23} & m_{24} \\ m_{31} & m_{32} & m_{33} & m_{34} \end{bmatrix} \begin{bmatrix} x_w \\ y_w \\ z_w \\ 1 \end{bmatrix}. \tag{1}$$

In formula (1), $(x_w, y_w, z_w, 1)$ is the coordinate of the feature point, $(u, v, 1)$ is the pixel coordinate, and m_{ij} represents the coordinate element of the ith row and the jth
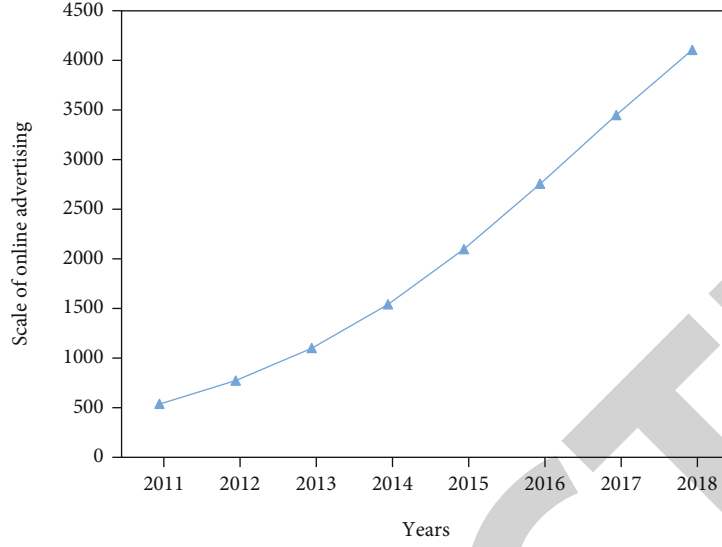
Figure 4: Scale of China's online advertising market from 2011 to 2018.

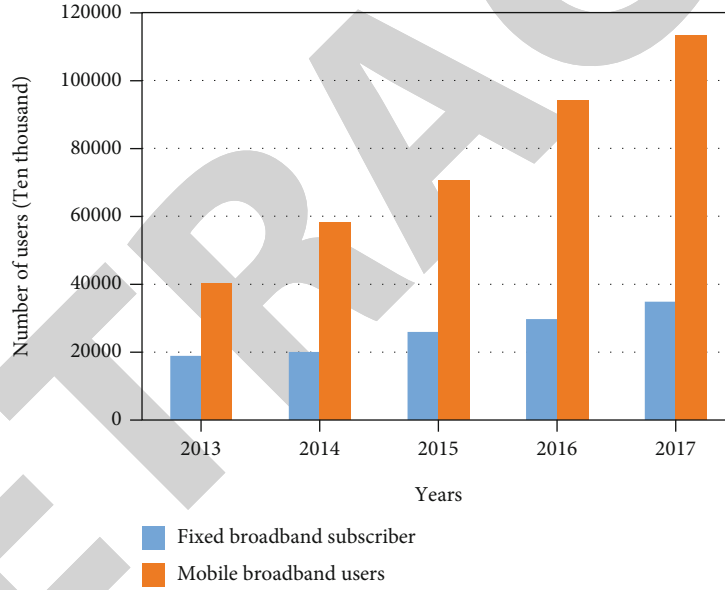Fixed broadband subscriber

Mobile broadband users

Figure 5: 2013-2017 Internet access equipment usage.

column in the stereo vision matrix. Among them, $(u, v, 1)$ can be expressed as 3 simultaneous formulas:

$$\begin{cases} u = m_{11}x_w + m_{12}y_w + m_{13}z_w + m_{14}, \\ v = m_{21}x_w + m_{22}y_w + m_{23}z_w + m_{24}, \\ 1 = m_{31}x_w + m_{32}y_w + m_{33}z_w + m_{34}. \end{cases} \quad (2)$$

Dividing u and v in formula (2) by 1, we can get

$$\begin{cases} m_{11}x_w + m_{12}y_w + m_{13}z_w + m_{14} - um_{31}x_w - um_{32}y_w - um_{33}z_w = um_{34}, \\ m_{21}x_w + m_{22}y_w + m_{23}z_w + m_{24} - vm_{31}x_w - vm_{32}y_w - vm_{33}z_w = vm_{34}. \end{cases} \quad (3)$$

As in formula (3), let $m_{34} = 1$; the formula can be abbreviated as

$$Km = U. \quad (4)$$

In formula (4), K is represented as a V simultaneous matrix, m is a m_{ij} simultaneous matrix, and U is 2-dimensional. In the calculation, K and U are known. When $2n > 11$, formula (3) can be solved by the least square method.

$$m = \left(K^T K\right)^{-1} K^T U. \quad (5)$$

After the M matrix is obtained, all internal and external parameters of the camera can be further solved according to
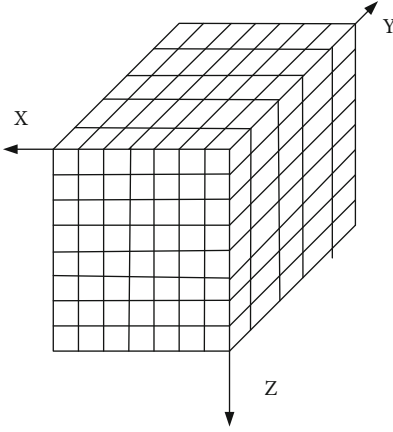
FIGURE 6: Stereocalibrator.

the M matrix [21]. The relationship between the M matrix and the internal and external parameters is as follows:

$$m_{34} \begin{bmatrix} m_1^T & m_{14} \\ m_2^T & m_{24} \\ m_3^T & 1 \end{bmatrix} = \begin{bmatrix} f_x & 0 & c_x & 0 \\ 0 & f_y & c_y & 0 \\ 0 & 0 & 1 & 0 \end{bmatrix} \begin{bmatrix} r_1^T & t_x \\ r_2^T & t_y \\ r_3^T & t_z \\ \bar{0}^T & 1 \end{bmatrix}. \quad (6)$$

Among them, $m_i^T = (m_{i1}, m_{i2}, m_{i3})^T$ and $r_i^T = (r_{i1}, r_{i2}, r_{i3})^T$, $i = 1, 2, 3$, according to the following formula:

$$m_{34} \begin{bmatrix} m_1^T & m_{14} \\ m_2^T & m_{24} \\ m_3^T & 1 \end{bmatrix} = \begin{bmatrix} f_x r_1^T + c_x r_3^T & f_x t_x + c_x t_z \\ f_y r_y^T + c_y r_3^T & f_x t_y + c_x t_z \\ r_3^T & t_z \end{bmatrix}. \quad (7)$$

It can be solved by the formula

$$r_3 = m_{34} m_3, \quad (8)$$

$$c_x = m_{34}^2 m_1^T m_3, \quad (9)$$

$$c_y = m_{34}^2 m_1^T m_3, \quad (10)$$

$$f_x = m_{34}^2 |m_1 \times m_3|, \quad (11)$$

$$f_y = m_{34}^2 |m_2 \times m_3|, \quad (12)$$

$$r_1 = \frac{m_{34}}{f_x} (m_1 - c_x m_3), \quad (13)$$

$$r_2 = \frac{m_{34}}{f_y} (m_2 - c_y m_3), \quad (14)$$

$$t_z = m_{34}, \quad (15)$$

$$t_x = \frac{m_{34}}{f_x} (m_{14} - c_x), \quad (16)$$

$$t_y = \frac{m_{34}}{f_y} (m_{24} - c_y). \quad (17)$$

Therefore far, all internal and external parameters of the camera can be solved from formula (8) to formula (17).

4. Print Advertising in the New Media Environment

4.1. Traditional Print Advertising. Print advertising can be understood in this way, that is, to combine different basic graphics and elements on the plane graphics according to certain rules, so that the picture shows a three-dimensional sense of space, that is, to use visual language to spread information and express opinions. In fact, the concept of print advertising can also be summed up in this way. As far as the object and scope of its design are concerned, the design scope contains both the design performance of two-dimensional space and a lot of multidimensional design performance extended on the basis of three-dimensional space. With the introduction of new media technologies, print advertising has broken through the boundaries of traditional advertising and has continued to develop into multidimensional space design. It can be seen that all new media advertising designs are based on the information dissemination and visual expression of two-dimensional space advertising design and continue to extend and develop media forms, as shown in Figure 7:

Typography and ad copy are two important components of text-in-print ads. Font design is to select or design a matching font according to the content and spiritual characteristics of the object to be expressed, so that the picture of the advertisement is more prominent and the artistic conception is expressed more appropriately. Font design in graphic design requires strong readability, which can be quickly recognized by people and can be remembered. If the font design is too complicated and the deformation is too exaggerated, it will cause ambiguity in the consumer's understanding of the font. Not only does it fail to achieve the effect of dissemination, but it puts the cart before the horse, affecting the effective transmission in the first place, and the information feedback is also very unsatisfactory.

Consumers see whether it is a good advertising design mainly from its visual impact and the expressiveness of graphics in the picture. Creative graphic design in advertising will guide consumers' desire to buy, so graphic creativity plays an important role in graphic design. Because it directly affects whether consumers' attention can be attracted and whether consumers will be interested in advertising. Therefore, only a reasonable creative analysis of graphics is possible to create brand advertisements that can attract and be popular to everyone. Especially in the creative design of magazines, the time and cost of the graphic ideas on it are no less than those of some film and television advertisements. With the continuous development of science and technology in modern society and the continuous updating of digital products, photo processing technology has also been improved. In many print advertisement designs, especially in graphic processing, graphics are processed through
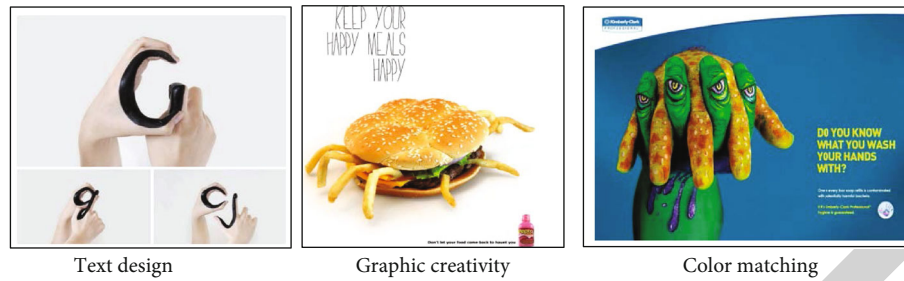
Text design   Graphic creativity   Color matching

FIGURE 7: Basic elements that make up print advertising.

H5 advertisement

Button advertising

FIGURE 8: New media advertising.

special software processing technology, which highlights the importance of graphic design in advertisements.

There is an old saying: "Look at the color from a distance and see the flower close-up," color is an essential part of the creativity of print advertising. At the same time, it plays an important role in expressing the visual impact of information and attracting consumers' attention. If the color of the picture is too harmonious and the color of the content information is not prominent enough, it will not attract the attention of consumers. Therefore, it is rarely used in graphic design, and the pictures produced by doing so cannot achieve the effect of visual communication and are even ignored by many people. Giving consumers enough visual expression, attracting people's attention, and grasping the audience's curiosity to make them look further down are the ultimate purpose of the use of color in print advertising. Therefore, in the design of print advertisements, bright colors that match the spiritual outlook and creative intention of the object are often selected.

4.2. Impact of New Media on Print Advertising. The birth of new media represented by interactivity not only breaks the one-way communication mode of traditional print advertisements but also is based on the two-way interaction of mass communication. It summarizes the information function of symbols, distinguishes the content requirements of information, promotes the advantages of interactive or quasi-interactive two-way communication, and transmits to users according to their needs. The propagation path of new media is no longer linear as in traditional print media, but nonlinear, and the carriers of propagation are also diverse. Traditional print media such as newspapers, magazines, and direct mail advertisements unilaterally transmit information to the audience by publishing and publishing

advertisements. And new media can send information not only to multiple audiences but also to specific audiences. The Internet and mobile phones can provide individuals with exclusive service terminals, so that everyone can receive personalized information services, as shown in Figure 8:

4.2.1. The Impact of New Media on the Mode of Communication. New media technology has changed people's way of life. Increasingly, people have become accustomed to online shopping, social networking, and other lifestyles and can obtain the information they need and meet their needs without leaving home. In the information society, people produce, disseminate, and acquire information at a high speed, with a large amount of content and from a wide range of sources. New media technology has led to changes in the way of dissemination of graphic design. Under this Internet lifestyle, the communication mode of advertising has undergone a great change, which is difficult to understand in traditional advertising. By using multimedia technology to implant advertising information into games or movies, the audience is more comfortable to accept advertising. This mode of communication is no longer difficult for the audience to accept and has a subtle influence on the audience. The new communication mode places more emphasis on interactivity and precise communication. Compared with the traditional communication mode, which is directional, centralized, and one-way, it is more accurate, and its communication effect is significantly improved. In addition, the Internet's "hot" type of advertising is more immediate, often making a product or service or even a person popular within an hour or a day. This is also the innovation of traditional media. New media print advertisements also rely on big data analysis technology to analyze data such as clicks and visits to help make decisions about the design and placement of advertisements.

4.2.2. The Impact of New Media on Consumer Behavior. New media technologies have greatly changed the way consumers live. People have become accustomed to and rely on various convenient services brought by new media technologies. All aspects of products and services can be realized through new media technology and are not limited by time and space. Therefore, new media technology has brought about a shift in consumption patterns. Due to the continuous improvement of living standards, the continuous enrichment of materials, and the convenient services of Internet shopping platforms, contemporary consumers are constantly

TABLE 1: Questionnaire design indicators.

Primary index	Secondary index	Opinion rating
Teenagers	(1) Media for obtaining print advertisements	A TV, B newspaper, C merchandise, D mobile app
	(2) Acquisition period of print advertisement	A morning, B afternoon, C evening, D no fixed time
	(3) What content are you interested in print ads?	A anime character, B exaggerated design, C colorful, D star character
Middle age	(1) Media for obtaining print advertisements	A TV, B newspaper, C merchandise, D mobile app
	(2) Acquisition period of print advertisement	A morning, B afternoon, C evening, D no fixed time
	(3) Think that print advertising should pay the most attention	A duration of time, B compliance with the advertisement, C design image, D is it clear
Old age	(1) Media for obtaining print advertisements	A TV, B newspaper, C merchandise, D mobile app
	(2) Acquisition period of print advertisement	A morning, B afternoon, C evening, D no fixed time
	(3) What kind of print advertisement do you want to see the most?	A health care, B daily necessities, C technology news, D do not want to watch

TABLE 2: Youth group data.

	Question 1	Question 2	Question 3
A	19	6	24
B	0	5	6
C	6	38	5
D	25	1	15

TABLE 3: Middle-aged group data.

	Question 1	Question 2	Question 3
A	16	13	6
B	4	5	20
C	10	26	14
D	20	6	10

TABLE 4: Data of the elderly group.

	Question 1	Question 2	Question 3
A	26	14	16
B	13	10	18
C	6	10	10
D	5	16	6

stimulated to consume desires and generate a new consumer culture. Advertising plays an essential role in this. Advertising media links brands and consumers, establishes a brand image, and stimulates consumer desire. This enables consumers to take consumption behaviors more quickly by resonating or agreeing with the brand after their desire to buy is stimulated. New media print advertisements enrich the forms and visual effects of print advertisements, convey more accurate advertising information, better present products or services, and establish a broader brand image for brands. Therefore, it stimulates consumers' purchasing desires and consumption behavior and promotes the growth of consumer consumption behavior.

4.2.3. The Impact of New Media on Communication Media. With the continuous development of new media and digital technology, the form of new media is also constantly changing, breaking through the traditional one-to-many mode of communication and creating a many-to-many mode of communication, which increases the breadth of information dissemination. In the new media, individuals can be free from the constraints of time and space and release information freely, and the information is more diverse. Individuals can choose and control the exchange of information, and interactivity is its main feature. New media realizes two-way communication. This way of dissemination is more convenient and effective, and everyone holding new media terminal equipment can communicate information, which greatly enhances the depth of information dissemination.

5. Investigation and Analysis of Visual Communication Design in Print Advertising in the New Media Environment

5.1. Questionnaire Design and Statistics. To understand the influence of traditional print advertisements and new media print advertisements in social life, this paper deliberately selects multiple communities in a city as the survey objects. According to the age group, it is divided into three groups: teenagers, middle-aged, and elderly. Each group selected 50 people from multiple communities for investigation.

The selection of indicators is shown in Table 1.

The paper questionnaires were distributed in each community, and some elderly people were asked interview-style questions. The data obtained are shown in Tables 2, 3, and 4:

5.2. Data Analysis. Different age groups have different data for the question "getting the medium of print advertising," as shown in Figure 9.

It can be found from Figure 9 that, for different groups of people, the number of people who obtain print advertisements through TV is the largest. There is no doubt that as far as today is concerned, TV is still the carrier for most people to obtain information, accounting for 40.67%. Therefore,
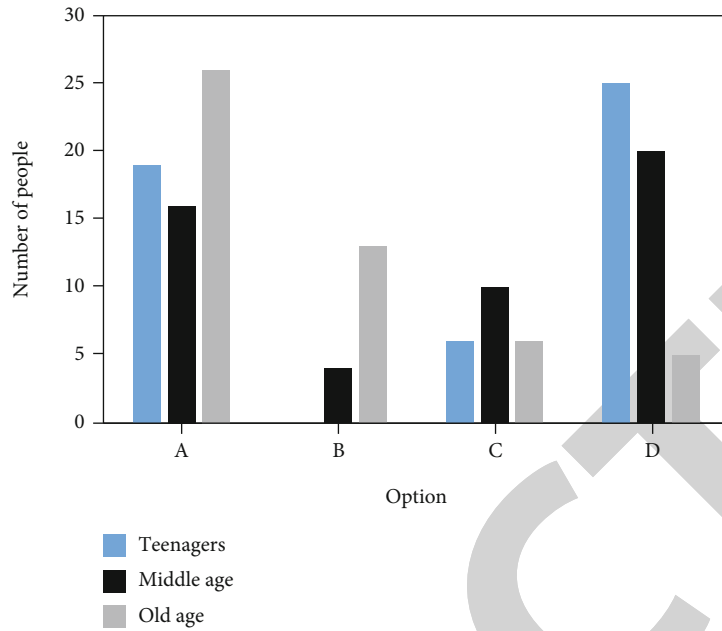
FIGURE 9: Perceptions of different age groups on access to print advertising.
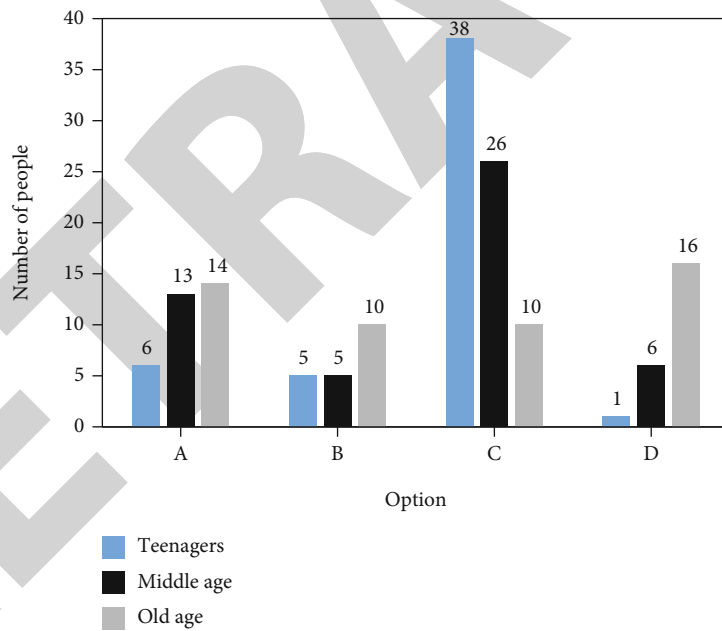

FIGURE 10: Time period for obtaining print advertisements.

the number of people who see print ads on TV is the most. Secondly, obtaining advertisements through mobile applications is the second, accounting for 33.3%, and the number of teenagers and middle-aged people is very large. Therefore, new media such as mobile phones have now been accepted by many people as the media for print advertising. More importantly, with the help of new media such as mobile phones, the design of print advertisements is more diverse and more interactive, so more people are willing to accept them. And newspapers are a traditional medium, and most

people now have no habit of reading newspapers. It can see the Azi youth group, and the number of people who read newspapers is 0.

For the answer to the question "acquisition period of print advertisements," the data is shown in Figure 10.

The penetration of print advertisements in life is very deep, and advertisements can be seen almost anywhere and at any time. As shown in Figure 10, for the period when the advertisement is seen, more people are at night, accounting for 49.3%, and with no fixed time, it can reach 64.7%. It

can be seen that the period when most people get advertisements is at night, which is also easy to understand. Because the evening is everyone's rest time, it would like to say that people receive more advertisements. At noon and in the morning, the advertisements should be obtained while eating.

Finally, for question three, the question settings for different age groups are also different. For teenagers, the appeal of new media print ads is focused on the design of the ads. Therefore, it is very meaningful to investigate this article for the content that he is just interested in. It can be found from the table that, for teenagers, the most important points are in anime images and star characters. This is because idols for teenagers have more meaning, and it is easier to attract their attention through idols.

6. Conclusion

For the print advertisement design in the new media environment, this paper believes that different image designs should be carried out for different groups of people. For teenagers, they are more like anime characters, so it can be combined with the current multimedia technology. By modeling cartoon characters and adding interactive content, voices, etc., it deepens the influence of new media on print advertising design. In this article, the background of print advertisement design is introduced first, and then, the visual communication design of traditional print advertisement and new media print advertisement is described in detail. Although this paper has made an in-depth analysis of the advertising design in the new media environment, the number of questionnaires is not enough and will be expanded in the follow-up research.

Data Availability

Data sharing is not applicable to this article as no datasets were generated or analysed during the current study.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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