

On the Innovative Thinking of the Modern Product Digital Prototype Display Design

Han Jie^{1,a,*}, Wu Qiong²

¹Nanjing Vocational Institute of Railway Technology, Nanjing, Jiangsu, 21000, China

²Nanjing Tech University, Nanjing, Jiangsu, 21009, China

^a email: 48457860@qq.com

*corresponding author

Keywords: Modern Products, Digitization, Prototype Presentation, Design, Innovative Thinking

Abstract: Modern product digital prototype display design is an artistic concept, but also the concrete application of science and technology. With the rapid development of modern social science and technology, digitization has become the basic trend of development in various fields, and digital technology is widely used, which effectively breaks the barrier of traditional display design, improves the interactive, interactive, experiential and authenticity of display design, creates a good wide atmosphere for the audience and provides a better viewing feeling. This paper expounds the concept of digital and display design, briefly analyzes the innovative thinking of modern product digital prototype display design, and probes into the innovative thinking practice path of modern product digital prototype display design.

1. Digital and Display Design Concept Analysis

Digital technology is a special form of technology developed from people's civilization to the information age, and it is an important component of the field of human technology and media in modern society. The digital prototype display design of modern products is a unique embodiment form in the mass media of modern society, which is closely related to the development of digital technology and media. To give full play to the advantages of modern product digital prototype display design, we must have good innovative thinking, flexible use of a variety of digital technology and design ideas (figure 1), change the role of display, pay attention to the subjective viewing feelings of customers, integrate rational thinking and artistic thinking, highlight the characteristics of modern products, and improve the overall level of display design.



Figure 1 Digital art design display

With the rapid development of modern social science and technology, our country has gradually entered the information age, and the network resources have been enriched and utilized. In the past ten years, people have not mastered digital media technology, lack of correct cognition of digital technology and product display design, fail to realize its important value, hinder the digital development of product design, and can not fully display the product to customers. Nowadays, our

country has grasped the digital technology initially, should vigorously advocate the digital technology popularization and the application, strengthens the digital technology specialized personnel training dynamics, impels more and more people to master the digital technology, understands the digitization idea, thus realizes the modern product digital display design development. The staff should closely grasp the advantages of digital technology application in the information age, apply digital technology in the process of displaying products, enrich the process of product display, change the traditional way of one-way appreciation, improve the customer's sense of participation in the process of product display and appreciation, and realize the interaction between the two sides [1].

Modern product display design can realize the benign communication between customers and enterprises, strengthen the effect of product propaganda, technicians use space media to show people a variety of information, create a multi-level, multi-angle three-dimensional media space for customers, and attract the attention of customers. The digital display design of modern products has already entered people's cause as early as the period of the Shanghai World Expo, and technicians have used novel display means to attract people's attention and stimulate people's interest in viewing. Since then, more and more people have realized the effectiveness of digital display design for information dissemination.

2. Exploration of Innovative Thinking in the Design of Digital Prototype of Modern Product

On the one hand, in the digital display design innovation of modern products, technicians should adhere to the "people-oriented" design concept, optimize the design process, from the customer's point of view, pay attention to the customer's viewing feelings and psychological needs, take the initiative to communicate with the customer, clearly put forward the design goal, design vision and design key points; also observe the actual situation of the customer, take the initiative to answer the customer's doubts, understand the customer's ideas, learn to place in the perspective of the customer, understand the product design framework that meets the customer's needs, and lay the foundation for design and innovation [2].

On the other hand, the technical staff should focus on the understanding of customer needs and business situation, find out the focus of work, combined with the current situation of customers, development needs and development trends, according to their own design point of view, to form a design goal. After putting forward clear ideas and goals, we can conduct group communication or brainstorming, explore the realization method of design ideas, and combine the principle of diversity and diversity to find the design realization path as much as possible. After defining the basic implementation path, the technician implements methods and ideas such as prototyping in the production process. Under the influence of different factors, the design prototype will take place a variety of changes, such as: role-playing activities, story boards or physical objects, in order to explore as many possibilities as possible, technicians will first make simple prototypes, in the process of continuous improvement and enrichment.

Finally, the technical staff should test the results and prototype of the previous link, such as: let the customer experience, collect customer experience data information, analyze customer experience feedback, further adjust and optimize, so as to get the best product display design.[3].



Figure 2 Exploration process of innovative thinking in modern product digital prototype display design

3. The Innovative Thinking Practice Path of Modern Product Digital Prototype Display Design

(1) Flexible use of dynamic display technology

To realize the innovative thinking of modern product digital prototype display design, technicians should use a variety of display technology flexibly, such as: dynamic display technology. In the traditional product display design process, technicians usually use a more fixed method, lack of change, customer experience is relatively single. In the digital age, technicians can make full use of digital technology to display the diversity of design ideas and methods, and if the display design is only static space, it lacks novelty and interactivity. Therefore, technicians can let customers experience it personally, integrate it into dynamic display design, use the hardware equipment and software system of computer, and use the advantages of technology to promote customers to see products with different angles and directions (Figure 3). The application of this kind of dynamic display technology is a brand new technological innovation path, which eliminates the traditional static display, constructs the display situation through the dynamic method, and strengthens the customer's experience to the maximum extent [4].

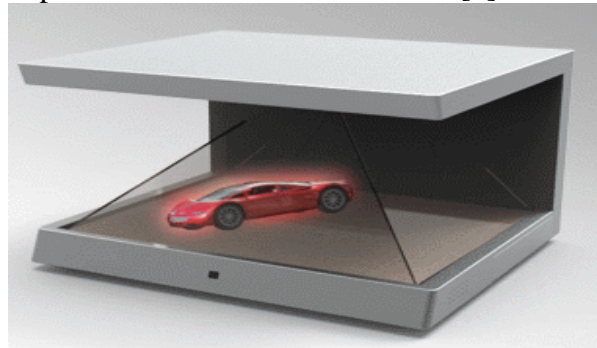


Figure 3 Schematic diagram of the dynamic presentation of the product

(2) Introduction of dynamic image application technology

In order to realize the innovative thinking of modern product digital prototype display design, technicians can also introduce dynamic image technology, use computer hardware equipment and software system to construct virtual simulation environment, and provide customers with richer, fashionable, dazzling and novel sensory experience. Nowadays, virtual dynamic image technology has been widely used in all kinds of large-scale business display, such as: auto show, exhibition hall, clothing display, space display and so on. In general, technicians can use slides, film technology, laser technology, virtual simulation technology, holographic projection technology and so on, through the dynamic image, the strong visual impact and auditory stimulation to the customer, but also can use new media technology to promote the customer to produce olfactory stimulation and tactile stimulation, the original static space dynamic, so as to enrich the display level, innovative product digital prototype display design.

(3) Changing the role of product prototype

In order to realize the innovative thinking of modern product digital prototype display design, technicians should change the role of product prototype display. With the rapid development of modern social network technology, digital technology and intelligent technology have gradually penetrated into people's daily life, and changed people's way of life and work. In the traditional perspective, people's way of receiving information is more passive. Nowadays, more and more technical forms appear in people's life, and people's attention is highly focused and can actively obtain all kinds of information. Based on this, the technicians should give full play to the initiative of the customer to watch the product display, and urge the customer to actively participate in the whole process of the display, through a variety of sensory stimuli, such as: visual stimulation, auditory stimulation, tactile stimulation and olfactory stimulation, to stimulate the customer's participation enthusiasm and participation interest, and to improve the customer's memory height. In addition, the technical staff can combine the customer's demand preference, lets the customer choose the product according to the actual demand, thus completes the experience, transforms the

passive acceptance into the active acquisition, enhances the modern product digital prototype display design application utility [5].

(4) Enriching the design dimensions of the prototype display

In order to realize the innovative thinking of modern product digital prototype display design, we should also enrich the dimension of display design, and promote customers to obtain a new experience on the basis of stimulating customer thinking and perception. In the process of design, technicians should pay attention to the mobility of product display design, infiltrate humanistic ideas in their works, and increase the interaction between the works and the audience. In the process of digital technology application, technicians can effectively break through the space dimension limitation in the traditional display design, realize the three-dimensional and thinking display design, display the product as the same art, combine its virtual image, dynamic image and function area, so that customers can "put themselves in it ", such as: in the auto show, let the customer have the feeling of sitting in the car operation, provide the customer with a more real driving experience [6].

4. Conclusion

In a word, under the background of the rapid development of digital media, the digital development of product display design has become an inevitable trend. Digital technology has strong interactivity and experience, can provide different sensory stimulation for the audience, construct the real experience situation, inject new blood into the development of product display design, and promote the product display design to meet the psychological needs of people in modern society more. In the process of digital display design of modern products, technicians should grasp the characteristics of digital technology application, analyze the characteristics of products and the key points of display design, use dynamic display technology and dynamic image technology flexibly, and provide the audience with all-round and multi-angle product display, so that customers can learn more clearly about the characteristics and advantages of modern products and play the advantage of display design application.

Acknowledgements

- 1) 2019, High-end research project of professional leaders of teachers in Higher Vocational Colleges of Jiangsu Province (2019GRFX074);
- 2) 2018, A key project "Research on product symbol design" of Jiangsu Social Science Foundation (18YSA001).

References

- [1] Liang Zhu. Digital design technology and its application in agricultural machinery design. Internal Combustion Engine and Accessories, no. 06, pp. 221-223, 2019.
- [2]Sun Shaohua. Digital design technology and its application in agricultural machinery design. Use and Maintenance of Agricultural Machinery, no. 10, pp. 17-18, 2018.
- [3] Zeng Hongdong. Discussion on the Application of Digital expression and Prototyping Technology in Residential Design. Building Materials and Decoration, no. 36, pp. 99, 2018.
- [4] Zhang Biao. digitized design of mechanical products and research and application of key technologies. Technological Wind, no. 05, pp. 138-139, 2018.
- [5] Zheng Guoqiang, Liu Lu, Yang Xiaozhu. the great impact of new media technology on advertising. Art and Technology: 15-20+32+127[2020-02-16].
- [6] Wu Ping, Wang Yaming. Analysis and design of intelligent hardware in digital age. Packaging Engineering, vol. 37, no. 08, pp. 24-27, 2016.