

The Interactive Packaging Design Study Based On User Experience

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Abstract: In today's prosperous economic development, people's demand for product packaging has not only been completed in functionality, but the integrated experience of users on packaging is the key. This paper analyzes the experience design of instinct level, behavior level, and reflection level in modern product packaging design. The interactive product packaging design based on user experience will make the more reasonable and humanized product packaging with more enjoyable mood and good memories, while promoting the added value of the product.

1. Introduction

Nowadays society has entered the era of experience economy. People's consumption concept has the trend of emotion, individualization, initiative, leisure, public welfare, and feeling. A good user experience is an important requirement for consumption in modern society and is a design goal. Packaging, as a product of commodity circulation, is closely related to people's daily life and is an integral part of life [1]. Today's packaging industry also shows different development trends. In the era of experience economy, research on packaging design from the perspective of user experience will play a key turning role in the future development of packaging design.

Although interaction design was formally proposed as early as the 1990s, the interaction design of product packaging and interaction design of product packaging based on user experience have only developed in recent years. Due to the short development time, there are few studies on interaction design of product packaging, especially the interaction design research of product packaging based on user experience [1]. There are few representative research results that have made achievements. In order to fill the above gaps, it is necessary to strengthen the research on interactive design of product packaging based on user experience.

2. Overview of User Experience in Packaging

2.1 Experience and user experience

Experience is an emotional or emotional experience of a person at a specific time, place, and environment. It is related to specific situations, varies from person to person, and is related to emotions.

Chekov's definition of "Experiential Design" is: experience design is the integration of consumer's participation into the design. It is the enterprise's service as the "stage", the product as the "prop", the environment as the "set", and the consumer in the business. During the event, I experienced a wonderful experience. Designer Robert Brunner once elaborated in his book: "The product communicates with the user through the design language. This includes many factors, from modeling, material, surface treatment, color, and detail to performance [2]. It also includes what the product has. What the product can do and how it is done. How it operates, its style and how it sounds, etc. These are all part of the user experience." The ISO 9241-210 standard defines the user experience as "People are for use or expectation. Therefore, user experience design includes three aspects of form, content, and behavior.

2.2 Level of user experience

Maslow's hierarchy of needs, from low to high, is in turn: physiological needs, security needs, needs for feelings and belongings, respect for needs, and self-fulfilling needs. According to this theory, the user's demand for products can be divided into five levels, namely: functionality, stability, ease of use, intelligence and creativity, shown as Fig.1. And our focus on user experience is focused on ease of use, intelligence and creativity [2].

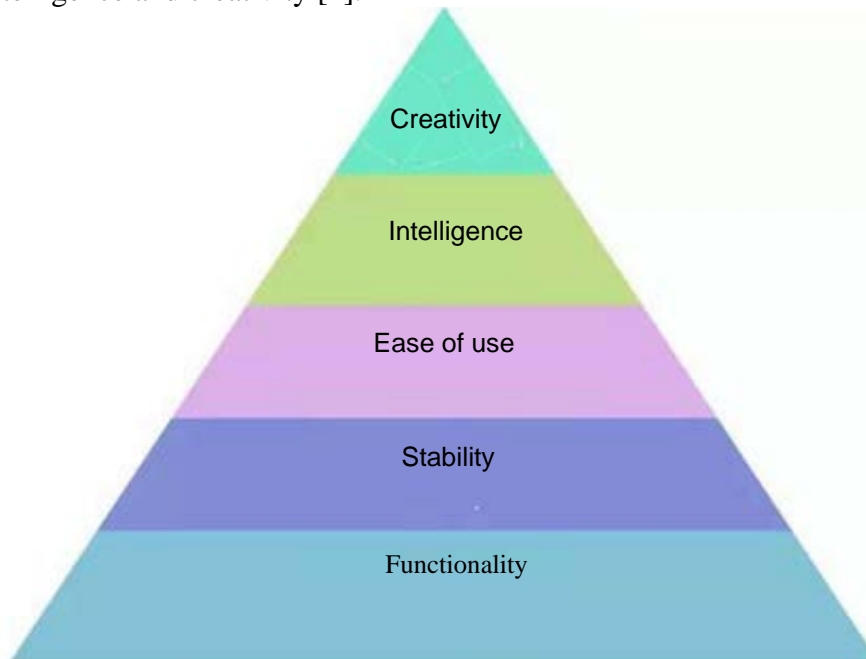


Fig. 1 Level of user experience

- 1) Product ease of use. The ease of use of the product refers to the degree to which the product is easy to use, which is to make it easy for the user to access the product. Learning to use the product effectively is an important indicator of product design. The ease of use of the product mainly addresses how to allow the user to accept the product physiologically and psychologically, and to achieve the function of the product correctly and effectively. The principles of ease of use include:
 - a. Easy to understand means that the user can easily understand the function of the product;
 - b. Ease of learning means that the user can easily and effectively use the product;
 - c. Memo ability means that the user does not need to learn when he is using the product again at different times;
 - d. Ease of sex means reducing the error rate of users using the product.
- 2) Product intelligence. The intelligence of a product means that the product itself “thinks” and will make correct judgments and perform tasks. With the development of social economy, science and technology have also developed rapidly. Humans have entered the "bit" era from the "atom" era and entered the "information era" from the "industrial era." The development of information technology has made the products informatized, intelligentized and networked. At the same time, the manufacturing system of products has become more intelligent and networked. More and more smart products bring convenience to people. For example, a smart phone is no longer just a communication function. It integrates functions such as music, pictures, photography, and Internet access. It has become an indispensable part of people's lives.
- 3) User enjoyment and creativity. In the user experience, the most important thing is how to make users feel satisfied and happy when using the product and give full play to their creativity. This is not only the ultimate goal of product design but also an important means to test the success of the product and promote product sales.

3. Product Packaging Design Bases on User Experience

3.1 User-based product packaging design

In today's business world, "user experience" has become a sign of the quality of a product or service, and the criteria for good product packaging design is a good user experience. Product packaging design is a complex process that involves knowledge in the field of product design and graphic design. Not only is the function of the original protection product satisfied, it gives a unique visual experience, and more importantly, the value created by the user behind use [3]. Based on the user experience of product packaging design, not only the packaging as the shell of the package product, is more focused on the packaging as the product itself, the focus of attention is the comprehensive experience of the user and packaging interaction, is a more comprehensive the concept of. This is precisely the important factor that most packaging designers do not consider.

Apple is the company most concerned with users in the world today. Although Apple's products are more expensive than similar products, they do not affect consumers' desire to purchase. The reason is that they have a good user experience. Only from the iPod, iPad, iPhone packaging, you can see Apple's design philosophy of "user experience" first.

Take the iPad's packaging design as an example. There are no extra symbols on the packaging: a simple white box with a picture of the product, with logos and iCloud icons on the front and back, and iPad text on the left and right. There is a plastic protective film like polyester film on the outside of the open box product [3]. A small piece of plastic tab protrudes above the Home key to ensure that the device can be easily removed from the box, as shown in Figure 3. The bottom of the power supply and the use of small ears manual design is also just right, so that the user experience product fully feel the charm brought about by the packaging.

3.2 Product packaging design based on user experience

The greatest feature of product packaging design based on user experience is to create a unique sensory experience, create a comfortable use experience, and create emotional experiences that shape the self-image, personal satisfaction, and memory.

Creating a unique sensory experience is the most intuitive and direct experience that packaging provides to the user. It is a sensory impression that precedes consciousness. In the visual, tactile, auditory and other aspects of the product to feel the difference in order to stimulate consumer desire for purchase [4]. The process of creating a comfortable experience focuses on the ease of use, pleasure, and utility of the product. The design begins with an understanding of user needs and is user-centered design that solves practical problems in life. Creating a packaged design that shapes the self-image, personal satisfaction, and emotions that evoke memories is the highest level of experience. This kind of experience is related to the product's culture and brand value. It can make the product and the consumer establish a long-term consumer relationship, which is irreplaceable. Excellent product packaging is a combination of these features, and even more [4].

1) Instinctive experience. The instinctive level experience is the primary level of user experience, and it is related to people's first reaction to product packaging, emphasizing the initial impression when people contact the product. It is the starting point of emotional processing, and a good instinctive level of experience design is a design that can quickly attract consumers and make emotional judgments quickly. The beautiful composition, clean appearance and beauty are all important factors here.

2) Behavioral level experience. The behavioral level is an experience that is higher than instinct level, and is a function-centric level - whether it is easy to understand, easy to use, and whether to bring pleasure to users. The behavior level experience and the instinctive level are all subconscious. If the instinctive level of experience focuses on people's feelings when they come into contact with product packaging, then the behavioral level focuses on people's feelings when they use packaging. This is the process by which the product enters product information into the user's brain, allowing the customer to easily understand the product's brand features, functional information, etc. in a relatively short period of time. Usability is the key to the behavioral level of experience. A good behavioral level design should be user-centric and focus on understanding and satisfying users. When users feel

puzzled and puzzled when using the product, it leads to a bad behavioral level experience. If you feel relaxed and happy, you will get a good behavioral level experience. These needs are found in everyday life but are not easily discovered, but this is precisely the important factor that concerns packaging design.

4. Interactive Design Components in Experiential Product Packaging

According to relevant surveys and relevant data of interactive product packaging users in the product packaging experience, the interactive design elements of experiential product packaging mainly include four types: brand, usability, functionality and content. These four elements are indispensable to the user's complete experience. They are integrated into the interaction design of product packaging [5]. Through a good design, not only can the user experience be effectively improved, but also it can be used as an evaluation indicator for interactive product packaging user experience. The product packaging user experience is effectively evaluated and provides the user with a reference for product packaging interaction design.

The market share and competitive weight that a manufacturing company and its product packaging can occupy in the market depends to a large extent on its brand, good brand effect, brand image and brand influence, and a wide range of brand awareness. An important intangible asset for product packaging sales and industry value-added is an important medium for the dissemination of corporate culture [5]. The description of the quality of the enterprise product packaging brand is mainly through the degree of product packaging experience value in the interaction design process, to provide users with attractive experience and product packaging to achieve the degree of brand communication to achieve.

Functionality is the point of most concern when people purchase product packaging. The functionality of a product packaging is mainly reflected in the two major aspects of interactive interface functions and background program running capabilities based on production technology, and is a direct carrier for providing users with experience. Usability generally refers to the function, practicality, and characteristics of product packaging. It refers to the user's use of the product packaging to specify the completion of tasks and complete efficiency. It is an important indicator to measure user satisfaction with product packaging and measure product packaging competitiveness. The content element mainly refers to the structure of the product packaging and the rationality of the output information, which depends on the technology, design, and user needs.

5. Interaction Design in Product Packaging

Interaction design is the study of the behavior of artifacts, environments, and systems, as well as the design and definition of the appearance elements that convey this behavior. Interactive packaging design is a brand-new concept that appears in the packaging field after China's science and technology have developed steadily [4]. Its main meaning is to make a close connection between products and consumers through the implementation of packaging materials and packaging means. The emergence of this concept further explains the relationship between packaging and products, and emphasizes that packaging is part of the product, even the product itself. In the current market, the role of packaging has far exceeded the definition of traditional packaging. Now consumers are paying attention to the product itself, but also appreciate the function of the packaging itself.

5.1 Strengthen user understanding

Prior to the production of product packaging, enterprises will first clear the object of product packaging, apply to the crowd, that is, the market positioning of the product packaging. It is an important project to strengthen the understanding of users and users on the basis of clarifying the object of product packaging [6]. Based on the user experience, interactive design is used to experience the experiential design and interactive design of the product packaging. Through surveys, we can understand the real needs of the users, and understand the requirements and preferences of the users for various aspects of the appearance, functionality, and adaptability of the product packaging.

Focusing on the user and developing a new product packaging, designers, developers, and all related personnel of the company cannot regard their own needs and ideas for product packaging as the needs of the user, but should adopt multiple studies [6]. Methods, such as qualitative research, comparative research, etc., carry out the largest amount of research on users, analyze and solve various problems that users use in product packaging, and understand the emotional needs of users, so as to better meet the interactive experience of user product packaging.

5.2 Build interactive experience model in product packaging

Based on a clear understanding of the target user and the user's emotional, psychological, cognitive, and behavioral characteristics, R&D and design of product packaging began. Using information from research and investigation, combining product packaging attributes to conceive product packaging design, product packaging function planning, determine product packaging software and hardware configuration program [6]. During the analysis of product packaging design tasks, designers and all R&D personnel should always regard interaction design as the core of product packaging design, rationally design the product packaging interaction design process, and make reasonable choices of design methods and required interaction technologies. Build product packaging interactive experience model.

6. Summary

In today's society with diversified product packaging types and diversified design methods, product packaging interaction design with user experience has become the mainstream trend of product packaging design in the current era, and it also plays a role in further satisfying users' emotional experience, product packaging experience, and meeting user needs. In short, based on the user experience, product packaging interaction design, with the continuous development of interactive technology, it should improve the user's understanding, emphasis on the user experience, based on user needs, and constantly optimize product packaging interaction design, bring people Brand new product packaging experience.

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