

Research on the Application of Green Design in Takeaway Products Packaging

Fan Wenyu¹, Wang Xin¹, Lu Dayuan²

¹College of Art, Jinling Institute of Technology, Nanjing, Jiangsu China

²Hanseu University, Seosan-Si, Chungcheongnam-do, Republic of Korea

Abstract: In recent years, the takeaway industry has developed rapidly. While allowing people to enjoy delicious food without leaving their homes, it also brings a series of urgent resource and environmental problems that need to be solved. The application of green design in the packaging of takeaway products plays an important role in enhancing people's ecological and environmental awareness, promoting green and sustainable development of the industry, and reducing the carrying pressure on resources and the environment. At present, there are still practical problems in the design of takeaway packaging, such as excessive packaging, environmental performance to be improved, and lack of recyclability. Based on this, the green packaging design of takeaway products can be improved and perfected in the direction of emphasizing lightweight and simplicity, using fully biodegradable packaging, improving packaging recyclability, and strengthening packaging reuse. This can better create a good social living environment for people without visual pollution and environmental pollution.

Keywords: Green Design; Takeaway Products; Package Design

1. Introduction

With the acceleration of modern life pace, takeaway products have become an indispensable part of most people's daily lives due to their convenience. At the same time, the significant resource consumption and ecological pollution caused by the packaging of takeaway products are becoming increasingly prominent.

In the new era, with the proposal of the concept of ecological civilization, the green design concept that focuses on achieving ecological balance between humans and nature, reducing

environmental pollution, reducing energy consumption, and emphasizing recyclability and recycling is becoming increasingly popular. This is also receiving increasing attention from packaging designers.

2. The Necessity of Applying Green Design in the Packaging of Takeaway Products

In the new era, it is necessary to apply green design concepts to takeaway packaging design. This is conducive to the construction of ecological civilization, enhancing people's awareness of ecological protection, promoting the green and sustainable development of the food delivery industry, and reducing the carrying pressure on resources and the environment. [1]

2.1 Enhancing People's Awareness of Ecological and Environmental Protection

In the fast-paced modern society, takeaway products have become an indispensable part of many people's daily lives due to their advantages such as convenience and speed. Therefore, the application of green design in the packaging of takeaway products is conducive to making takeaway product packaging an important entry point to improve the ecological and environmental awareness of businesses and consumers. This in turn enables takeaway merchants to gain economic benefits and consumers to pay attention to ecological environment protection while enjoying the convenience of food delivery, forming green consumption habits. This can promote the concept of green development to become a consensus among the whole society.

2.2 Promoting Green and Sustainable Development in the Industry

The application of green design in takeaway products packaging can promote the takeaway industry and packaging design industry to achieve green, low-carbon, and sustainable

development. [2] In the new era, with the rapid development of the economy and the increasing improvement of living standards, people's attention to the safety and health issues of selling food to the outside world, as well as the issues of ecological environment protection and natural resource conservation, is constantly increasing. This will make more and more takeaway merchants and packaging design enterprises pay attention to green design, thereby promoting the development of the entire takeaway industry and food product packaging design industry towards a green and low-carbon direction. In addition, green design can to some extent reduce the operating costs of businesses and enterprises, thereby promoting their high-quality and sustainable development. In short, the application of green design in takeaway products packaging is an inevitable requirement for achieving comprehensive and coordinated development of economic, ecological, and social benefits.

2.3 Reducing Resource and Environmental Carrying Pressure

Reducing the carrying pressure on natural resources and ecological environment is an urgent task currently facing the world. The application of green design in takeaway product packaging, which is increasingly closely related to people's lives, can to some extent reduce resource waste and environmental pollution. Traditional packaging materials for takeaway products usually consume a large amount of resources and energy, and due to their inability to recycle, they generate a large amount of waste, causing a great burden on the ecological environment; Green design emphasizes the use of renewable, biodegradable, and recyclable materials; This is conducive to reducing the generation of packaging waste, thereby reducing resource waste and mitigating environmental pollution. It can be seen that green design methods can to some extent achieve the rational utilization of natural resources and effective protection of the ecological environment, thereby promoting the construction of a green, harmonious, and sustainable society. This can make the beautiful vision of harmonious coexistence between humans and nature a reality.

3. Problems with Packaging of Takeaway Products

In the new era of rapid economic development and increasingly fierce market competition, the takeaway product packaging design industry often faces problems such as excessive packaging, environmental protection performance and recyclability of packaging materials that need to be improved in order to improve market competitiveness, increase product sales volume, and expand economic benefits. If these issues are not addressed, it will inevitably cause great damage and destruction to natural resources and the ecological environment.

3.1 Excessive Packaging

Currently, in the packaging of takeaway products, it is necessary to first address the issue of excessive packaging. Faced with increasingly fierce competition in the takeaway market, many businesses will spend a lot of costs on takeaway packaging in order to attract consumers' attention and highlight their product advantages. This can lead to layers of cardboard boxes, plastic bags, and various flashy decorations. This phenomenon of excessive packaging not only wastes resources, but also increases the cost of takeaway products, bringing economic burden to consumers to a certain extent. In addition, excessive packaging generates a large amount of waste, which can have a serious impact on the ecological environment.

3.2 Environmental Performance Needs to be Improved

The urgent need to improve environmental performance is also a key issue that needs to be addressed in the packaging design of takeaway products. At present, the packaging materials of takeaway products are mainly plastic, foam, paper products, etc. Although plastic and foam have the advantages of portability and waterproof, their characteristics of long degradation cycle and serious pollution bring great pressure to the protection of ecological environment; Although paper products are relatively environmentally friendly, they have the disadvantages of poor waterproof performance and easy breakage, which to some extent limits their application scope. Therefore, there is still a lot of room for improvement in the packaging design of takeaway products in terms of environmental performance.

3.3 Insufficient Recyclability

The lack of recyclability is also one of the problems that cannot be ignored in the packaging design of takeaway products. At present, the packaging of most takeaway products is disposable and can be discarded immediately after use; And with the increasing popularity and popularity of online ordering, this non recyclable and non recyclable consumption model not only seriously exacerbates resource waste, but also increases the difficulty and pressure of garbage disposal. Therefore, how to improve the recyclability of takeaway products packaging, design recyclable takeout product packaging, reduce resource waste, reduce environmental pollution, and achieve sustainable development is an important issue that urgently needs to be considered and solved.

4. Advanced Direction of Green Packaging Design for Takeaway Products

The packaging design of takeaway products should not blindly pursue economic benefits, but should consider the long-term development of the industry and society. Guided by the concept of green design, the packaging design of takeaway products can be improved towards emphasizing lightweight and simplicity, using fully biodegradable packaging, improving packaging recyclability, and strengthening packaging reuse. [3] This can better promote the green and sustainable development of the takeaway industry and society.

4.1 To Emphasize Lightweight and Minimalism

At present, in order to save natural resources, reduce the cost of takeout products, and alleviate environmental carrying pressure, green design should be applied in takeaway product packaging, and attention should be paid to the lightweighting and simplification of takeout product packaging. Specifically, lightweight packaging materials for takeout products such as thin eco-friendly paper or biodegradable plastics should be used, reducing the number of layers of takeout product packaging, reducing the volume and weight of takeout product packaging, and reducing unnecessary packaging to avoid excessive packaging. This can reduce the waste of packaging materials for takeaway products, thereby reducing the amount of packaging

waste for takeaway products, and ultimately promoting green, low-carbon and sustainable development in society.

4.2 To Use Fully Biodegradable Packaging

In order to effectively reduce the pollution caused by plastic waste to the ecological environment, using packaging materials that can achieve full biodegradation under certain conditions to design takeaway product packaging is an important idea to apply green design to takeaway product packaging. Fully biodegradable packaging materials are made from biodegradable materials. It can be decomposed by microorganisms in natural environments, ultimately generating harmless substances such as water and carbon dioxide. Therefore, applying it to the packaging design of takeaway products can utilize its characteristics to reduce the impact of waste generated from takeaway products packaging on the ecological environment. For example, in the packaging of takeaway products, meal boxes made from corn starch can be naturally decomposed in a short period of time; In addition, pulp molded tableware is also a biodegradable green packaging. The application of these fully biodegradable materials in takeaway product packaging can help reduce the environmental pollution caused by takeaway product packaging.

4.3 To Improve the Recyclability of Packaging

In the process of applying green design to takeaway products packaging, using a single material or packaging that is easy to separate from different materials can improve the recyclability of takeaway product packaging, and is also an important way to reduce resource waste and environmental pollution. Firstly, designers can choose materials that are easy to recycle, such as paper, cardboard, and certain plastics, to apply to green design; Secondly, attention should also be paid to avoiding the use of difficult to recycle composite materials and simplifying packaging design, thereby reducing the difficulty of packaging recycling processing; Thirdly, the government, enterprises, and the whole society should work together to promote garbage classification and recycling, in order to further improve the recycling rate of takeaway packaging.

4.4 To Strengthen the Reuse of Packaging

Strengthening the reuse of packaging for takeaway products is also an effective means of applying green design to takeaway products packaging. Firstly, designers can consider designing takeout product packaging that is easy to clean and durable, so that consumers can recycle and reuse it, thereby reducing resource waste to a certain extent and reducing waste disposal volume; Secondly, food delivery merchants and enterprises can introduce preferential policies to encourage consumers to return the packaging of used takeaway products for cleaning and reuse. This not only reduces resource waste, but also cultivates consumer awareness of environmental protection; Thirdly, in scenarios where reuse can be achieved, the use of paper bags, non-woven bags, or recyclable lunch boxes should be promoted.

5. Conclusion

In summary, green design has become an important development trend in takeaway product packaging design. The application of green design in takeaway product packaging not only enhances the ecological and environmental awareness of businesses and consumers, but also promotes the green and sustainable development of the takeaway and packaging design industries, ultimately helping to reduce the carrying pressure on natural resources and the environment. In order to implement the ecological civilization concept of the new era and address the problems of

excessive packaging, environmental performance needs to be improved, and lack of recyclability in takeaway product packaging, strategies such as emphasizing lightweight and simplicity, using fully biodegradable packaging, improving packaging recyclability, and strengthening packaging reuse can be adopted to improve. This aims to contribute to promoting sustainable human development and promoting harmonious coexistence between humans and nature.

Acknowledgments

This paper is supported by General Project of Philosophy and Social Sciences Research in Jiangsu Province Universities: Research on Green Packaging Design for Sustainable Development (Project Number: 2023SJYB0598)

References:

- [1] Yang Ying. Research on Improvement Design of Fast Food Delivery Packaging Based on Green and Sustainable Development Concept [D]. Beijing: Beijing Forestry University, 2021
- [2] Hou Hwei. Research on Innovative Design of Takeout Food Packaging Based on Sustainable Concept [D]. Wuxi: Jiangnan University, 2019
- [3] Liu Yuqing. Packaging Design of Takeout Beverages Based on Green Concept [D]. Tianjin University of Technology and Education, 2022