



Research and Analysis of Outdoor Clothing Brands under the Concept of Sustainability

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Abstract: With the popularity of the concept of environmental protection and the increasing popularity of outdoor sports, outdoor clothing design based on sustainable development has become the focus of the industry. The purpose of this study is to explore the application and impact of sustainable concept in outdoor clothing brands. Through the case analysis of well-known outdoor clothing brands at home and abroad, how these brands reflect the concept of sustainability in product material selection, production process, packaging design and other aspects. It also points out the problems existing in the sustainable development of outdoor brands at home and abroad and analyzes the reasons, puts forward sustainable development strategies, uses scientific and technological means to promote green design, and realizes the green value chain. The results show that the application of sustainable concept in outdoor clothing brands can help enhance brand image, enhance market competitiveness, and meet the trends and challenges of sustainable development industry.

Keywords: sustainable development, outdoor clothing, sustainability, environmental protection material

1. Introduction

With the rapid development of economy and society, the living standard of the Chinese people has been continuously improved, and the material life has gradually enriched. In this process, the major outdoor brands actively respond to the green development concept and policy, how to achieve a win-win situation of economic benefits and environmental benefits. Through in-depth analysis of practical cases of sustainable material selection, production process, packaging design and other aspects, the sustainable development strategy of outdoor clothing brands based on environmental protection materials is proposed, which provides reference and reference for the environmental protection cause and sustainable development of the clothing industry. The significance of sustainable development of outdoor clothing is discussed, and the existing problems and causes of sustainable development are pointed out. How can we meet sustainable industry trends and challenges?

2. Application of sustainable concept in clothing production

2.1 Definition of sustainable development

The concept of sustainable development involves a wide range of fields, which not only refers to the sustainable level of objective basis (such as the recycling of available resources, etc.), but also refers to the sustainable level of subjective spiritual construction (such as the sublimation and upgrading of ideology and culture, etc.). In the field of clothing, the main approach is to alleviate the pollution and waste of the fashion industry by virtue of the design principles in line with the concept, and achieve the balance and sustainability of the ecological environment and available resources, as well as the balance and sustainability of social development and cultural upgrading [1].

2.2 Selection and utilization of sustainable materials

In recognition of the concept of sustainable development, many clothing brands choose sustainable materials for design and production, such as biodegradable materials, recycled fibers, organic cotton and hemp, and green dyes. Biodegradable materials can be completely decomposed under certain conditions without causing pollution to the environment. Recycled polyester fibers, in particular, are made from recycled plastic bottles and waste and reduce carbon emissions in the production process [2]. Organic cotton and hemp are made through organic cultivation methods, which have less impact on the environment. Choosing these materials helps reduce the use of chemical pesticides and fertilizers and protects soil and water resources.

2.3 Energy saving and emission reduction and production technology

For the garment industry, energy conservation and emission reduction not only help to reduce production costs, improve economic efficiency, but also reduce environmental pollution and achieve sustainable development. One of the main meas-

ures for energy conservation and emission reduction is to optimize the production process, such as low-temperature dyeing, wet short-steam dyeing and other energy-saving processes [3]. The second is the use of energy-saving equipment, such as energy-saving sewing machines, energy-saving ironing machines, etc., to reduce the energy consumption of equipment during operation. The third is to strengthen wastewater treatment and establish a strict wastewater treatment system. The fourth is to promote circular economy, recycling and reuse of waste in the production process to reduce environmental pollution.

2.4 Sustainable packaging design

Sustainable packaging design mainly starts with the environmental protection of packaging materials and the simplicity and reutilizability of packaging design. In the selection of environmentally friendly materials, biodegradable materials are mainly selected, such as starch-based plastics, paper materials, etc. Renewable materials can also be used, giving priority to the use of packaging materials made of renewable resources, such as bamboo fiber, hemp fiber, etc. These materials are not only environmentally friendly. And it has a unique texture and beauty.

3. Case study on sustainable practice of outdoor clothing brands

3.1 Introduction of well-known outdoor clothing brands at home and abroad

At home, Pathfinder, as a pioneer in China's outdoor goods industry, Anta and Li Ning, as well-known domestic sporting goods brands, also actively practice the concept of sustainability in the field of outdoor clothing. Camel is a well-known outdoor brand that focuses on the comfort and durability of its products and is loved by outdoor enthusiasts.

Abroad, Patagonia is a well-known brand in the outdoor sector, whose commitment and actions towards sustainability are well recognized by consumers. The North Face is a well-known outdoor brand in the United States, known for its excellent durability and functionality. Columbia is another outdoor brand from the United States whose products are characterized by comfort, durability and fashion. Salomon is a French outdoor sports brand that is committed to continuous innovation to meet the needs of outdoor enthusiasts for clothing functionality and comfort.

3.2 Embodiment of sustainable concept in outdoor brand practice

The concept of sustainability is increasingly reflected in the practice of domestic outdoor brands, from the perspective of domestic brands, such as Anta and environmental protection organizations, the use of environmentally friendly materials for product research and development, such as the use of renewable polyester fiber to make outdoor clothing. In addition, Anta also promotes packaging reduction, using recyclable materials to make packaging and reduce waste generation. Li Ning uses biodegradable materials to produce some outdoor products [4]. As a leader in domestic outdoor brands, Pathfinder pays attention to the application of environmentally friendly materials, using recycled fibers, organic cotton and other environmentally friendly materials to make outdoor clothing and equipment. In addition, Pathfinder has also carried out a series of environmental public welfare activities and actively assumed social responsibilities. Figure 1 shows Carbon neutral hardshell jacket developed by Anta



Figure 1. Carbon neutral hardshell jacket developed by Anta.

For foreign brands, Patagonia is an outdoor sports brand from California, which has adhered to the environmental protection cause for a long time and stopped using plastic bags from the 1980s. In 1985, 1%For The Planet was launched, pledging to spend 1% of sales on protecting the Earth's natural environment. In 1993, Patagonia began to use recycled polyester fiber. In 1994, recycled plastic bottles were used to make fleece fabrics, reducing the burden of 28 million plastic bottles for the earth. In 1996, organic cotton was used to reduce agricultural pollution. On Black Friday 2011, the "Don't Buy this Jacket" advertisement was launched, urging people not to blindly consume and create garbage. Launched in 2013, the Worn Wear program offers a lifetime warranty, free repair of products, and used clothing buyback, reengineering and online resale services. In 2014, the recycling fabric program was launched. In September 2022, the company announced that it would donate the company to the Earth and use the company's income for environmental protection [5].

In the choice of materials, Patagonia uses a large number of recyclable or biodegradable materials. For example, some of their product ranges use recycled polyester, a material derived from discarded plastic bottles that is specially treated and converted into high-performance fibers for clothing and equipment. Figure 2 shows Patagonia Responsibili-Tee Blend T series developed by Patagonia.



Figure 2. Patagonia Responsibili-Tee Blend T series developed by Patagonia.

4. Analysis of existing problems and causes of sustainable development

4.1 The application of sustainable materials is still limited

Many outdoor brands have started experimenting with sustainable, recyclable or biodegradable materials, but the application of these materials in the market is still relatively limited. This is partly due to the higher production cost of sustainable materials, which leads to higher product prices and affects consumers' willingness to buy. In addition, the supply chain of sustainable materials is not yet complete and the supply is not stable, which also limits its widespread application in outdoor products.

4.2 Poor implementation of environmental standards in the production process

Many outdoor brands claim to pay attention to environmental protection, but in the actual production process, there are still some brands that fail to strictly implement environmental standards. This may be due to the lack of supervision in the production process or the brand's own environmental awareness is not strong. It is precisely due to the limitations of technology and supply chain that the current maturity of sustainable technology is not enough, and the supply chain of sustainable materials is not yet perfect, which also limits the practice of brands in sustainable development [6].

4.3 Consumers have insufficient understanding of the concept of sustainability

The concept of sustainability has received more and more attention in the practice of outdoor brands, but there are still some consumers who lack sufficient awareness of this concept. This leads them to pay more attention to the function and price of the product when buying outdoor products, rather than its environmental protection. The reason for this phenomenon is also determined by the market and consumer cognition.

5. Development strategies of outdoor clothing brands under the concept of sustainability

Under the concept of sustainability, the development strategy of outdoor clothing brands should be built around environmental protection, social responsibility and long-term value creation. The most important thing is to use environmentally friendly materials, giving priority to renewable, recyclable or biodegradable materials to reduce environmental pollution. The second is to optimize the production process and reduce environmental pollution in the production process through cleaner production, energy conservation and emission reduction measures [7]. At the same time, we need to pay attention to the sustainability of the supply chain and ensure that the sources of raw materials are legal and environmentally friendly. Enterprises should pay attention to the product itself, which is both environmentally friendly and beautiful. Designers should pay attention to the combination of functionality and environmental protection in product design, innovate design and reduce resource consumption.

6. Trends and challenges of sustainable development

6.1 Sustainable development faces multiple challenges

For textile and garment enterprises, there are mainly four challenges in the development of sustainable, first, cost pressure, brands need to maintain product quality at the same time, to find ways to reduce costs. The second is the technical bottleneck, although environmental protection technology has made certain progress, but in some areas there are still technical bottlenecks. Third, consumer education, some people lack a deep understanding of the concept of sustainability [8]. Fourth, market competition, with the popularity of the concept of sustainable development, more and more outdoor clothing brands began to join this ranks.

6.2 Trends of sustainable development of clothing in the future

Consumer demand is changing, in addition to paying attention to the basic functions of clothing, environmental protection, sustainable development and other aspects of attention is also gradually improving. In the future, the sustainable development of clothing is mainly towards the following three aspects, one is the wide application of environmentally friendly materials and technologies, such as organic cotton, recycled polyester fiber and so on. To reduce environmental pollution. Second, the optimization of sustainable production processes, outdoor clothing brands in the production process gradually introduce clean production, energy saving and emission reduction and other environmental protection measures. The third is the recognition of sustainable brands by consumers, which will further promote the transformation of outdoor clothing brands to sustainable development.

7. Conclusion and prospect

This paper aims to explore the significance of sustainable development. Based on the cases of sustainable development of outdoor clothing brands at home and abroad, this paper analyzes the material use of outdoor clothing brands and conducts research on sustainable development. Furthermore, combined with the current trend of social sustainable development, this paper points out the existing problems of sustainable development and analyzes the causes. More and more brands begin to pay attention to the choice of environmentally friendly materials, the optimization of production processes and the strengthening of consumer education, these efforts not only help to enhance the brand image, but also promote the entire industry to a more environmentally friendly and sustainable direction. Sustainable design of textile waste is therefore an area of knowledge to be developed. In addition, training on knowledge, technology and services of sustainable development and environmental protection can be increased in clothing enterprises, and training and publicity on knowledge of green supply chain management, circular economy and low-carbon technology can be strengthened. In short, with the continuous progress of environmental protection technology and the continuous improvement of consumer environmental awareness, brands will have more opportunities and possibilities to achieve sustainable development. In this process, outdoor clothing brands need to continue to innovate and explore, to find a sustainable development model suitable for their own development. By optimizing product design, improving production efficiency, and strengthening market promotion, brands can continuously improve their competitiveness and influence, and achieve win-win economic and social benefits.

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