

# Research on the Feasibility and Risk Response Measures of the Second-hand Clothing and Apparel Trading Market from the Perspective of Pet Economy

Siyu Qin\*, Wenpeng Xie, Yule Gao

College of Modern, Northwest University, Xi'an, China

\*Corresponding Author: Siyu Qin

## ABSTRACT

With the continuous rise in pet ownership and the vigorous development of the "pet economy," the consumer demand for pet clothing has grown significantly. However, the rapid replacement of pet clothing has increasingly raised concerns about resource waste and environmental issues. This paper focuses on the field of used pet clothing, analyzing its development context, current status, and potential value. Socially, the popularization of environmental protection concepts and the cost-effectiveness needs of young pet-owning groups provide a realistic foundation for the used pet clothing market. Economically, the second-hand trading model not only reduces consumer spending but also unlocks the economic value of idle resources. Industrially, recycling used pet clothing helps alleviate textile waste pollution and promotes the sustainable development of the "pet economy." The study identifies key challenges, including the lack of standardized appraisal systems, hygiene and safety concerns, and fragmented distribution channels. It proposes solutions such as establishing quality certification standards, improving cleaning and disinfection processes, and building specialized trading platforms to enhance the circulation efficiency and consumer trust in used pet clothing, thereby contributing to the construction of a green and low-carbon pet consumption ecosystem.

## KEYWORDS

Pet Economy; Second-Hand Clothing; Recycling; Sustainable Developmen.

## 1. INTRODUCTION

With the rapid development of the global fashion industry and the improvement of human living standards and purchasing power, consumers pursue fashion more, resulting in the increasing problem of second-hand clothes in society. Hundreds of tons of clothes are discarded every year, resulting in a great waste of resources. At the same time, with the improvement of people's living standards, the number of pet owners is increasing year by year, and pets have become more and more important members of families. Driven by social demand, the scale of pet-raising people has expanded, and the number of pets in China has continued to grow. In 2024, the number of urban pet cats and dogs has exceeded 130 million. Young people (such as Generation Z) have become the main force of pet-raising, and their concept of "anthropomorphic pet-raising" has promoted the demand for pet clothing consumption. The proportion of multi-pet families has increased (according to the 2023 White Paper on China's Pet Industry, the proportion of families with 2 or more pets has reached 35%).

The pet market is expanding rapidly, and the demand for pet supplies and services is growing, among which the pet clothing market is particularly concerned. Although there are many pet clothing brands on the market at present, there are relatively few brands that focus on the recycling of old clothes,

and the market potential is huge. In addition, the state encourages the circular economy. The "14th Five-Year Plan" Circular Economic Development Plan clearly supports the circulation of second-hand goods, and the pet field may become a new pilot. The popularization of human environmental protection awareness has made more people pay attention to the disposal and reuse of old clothes to reduce the waste of resources, and greatly explored the important practical significance of using second-hand clothes to make environmentally friendly clothes for small animals.

## **2. INTRODUCTION**

### **2.1. Background of Topic Selection**

With the rapid development of the global fashion industry and the improvement of human living standards and purchasing power, consumers pursue fashion more, resulting in the increasing problem of second-hand clothes in society. Hundreds of tons of clothes are discarded every year, resulting in a great waste of resources. At the same time, with the improvement of people's living standards, the number of pet owners is increasing year by year, and pets have become more and more important members of families. Driven by social demand, the scale of pet-raising people has expanded, and the number of pets in China has continued to grow. In 2024, the number of urban pet cats and dogs has exceeded 130 million. Young people (such as Generation Z) have become the main force of pet-raising, and their concept of "anthropomorphic pet-raising" has promoted the demand for pet clothing consumption. The proportion of multi-pet families has increased (according to the 2025 White Paper on China's Pet Industry, the proportion of families with 2 or more pets has reached 35%)[1].

The pet market is expanding rapidly, and the demand for pet supplies and services is growing, among which the pet clothing market is particularly concerned. Although there are many pet clothing brands on the market at present, there are relatively few brands that focus on the recycling of old clothes, and the market potential is huge. In addition, the state encourages the circular economy. The "14th Five-Year Plan" Circular Economic Development Plan clearly supports the circulation of second-hand goods, and the pet field may become a new pilot. The popularization of human environmental protection awareness has made more people pay attention to the disposal and reuse of old clothes to reduce the waste of resources, and greatly explored the important practical significance of using second-hand clothes to make environmentally friendly clothes for small animals.

### **2.2. The Meaning and Purpose of Topic Selection**

#### **2.2.1. Research Purpose**

Using market-related data analysis, the supply and demand status, user demand characteristics and growth space of the pet second-hand clothing market are used to provide market entry strategy reference for industry participants (such as pet brands, entrepreneurs and investors).

And explore how to combine the second-hand clothing cycle model with the pet economy to promote the practical implementation of "idle resource valuation" and "green consumption". At the same time, we will promote sustainable consumption and industry transformation, verify the practical effect of the second-hand recycling model on reducing pet clothing waste and carbon emissions, and provide data support for the green transformation of the pet industry.

Advocating the concept of "low-carbon pet raising", guiding consumers to form a closed-loop consumption habit of "buying-using-second-hand circulation-recycling and recycling", and helping to achieve the "dual carbon" goal. And it provides the significance of research economy for the field of pet economy, expands the research boundaries of pet economy, fills the theoretical gap in the subdivision of second-hand clothing, provides a basic framework for subsequent academic research, and provides reference for second-hand transactions of other pet idle categories (such as toys and supplies).

## **2.3. Research Significance**

### **2.3.1. Theoretical Significance**

This article adopts case analysis and uses multi-data analysis to derive the development trend of the pet second-hand clothes market. The combination of multiple methods can analyze the relevant content more scientifically, rigorously, accurately and effectively, analyze its causes and provide corresponding preventive measures, expand the research boundaries of pet economy, and provide a basic framework for relevant theoretical academic research. Promote the continuous research of its industry.

### **2.3.2. Practical Significance**

The research in this article can provide pet families with channels for monetizing idle clothes. It is estimated that the average annual value of idle clothing for a single multi-pet family can reach 200-500 yuan, which can be converted into actual income through second-hand transactions, while reducing the cost of new purchases. At the same time, it generates new business opportunities, attracts entrepreneurs to build a vertical platform for pet second-hand clothing, relieves environmental pressure, practices green pets, realizes the benefits of social love, supports the expansion of public welfare scenes, cooperates with public welfare organizations to carry out "pet old clothes donation" activities, and donates idle clothes to stray animal rescue stations after disinfection, and also It has social effects and brand communication value.

## **3. LITERATURE REVIEW**

### **3.1. Current Situation of Domestic Research**

In recent years, with the rapid development of the pet economy, the pet clothing market has continued to expand. According to the 2025 White Paper on China's Pet Industry, the market size of Chinese urban pets (dogs and cats) has exceeded 300 billion yuan in 2024, and the demand of pet owners for personalized and environmentally friendly pet clothing has increased significantly. Against this background, emerging industries such as pet old clothing recycling workshops have emerged. By recycling waste pet clothing and transforming and designing, it not only satisfies consumers' pursuit of uniqueness, but also fits the concept of environmental protection. For example, the national circular economy standardization pilot project for the recycling of waste textiles in Wangli Town, Wenzhou, has incorporated pet supplies into the recycling system and explored the establishment of a relevant standard system. Pet owners have a high frequency of updating pet clothing. The old clothing remanufacture workshop meets the dual needs of consumers for uniqueness and environmental protection through personalized customization services (such as combining the Forbidden City pattern, Dunhuang Feitian and other cultural IP design). In addition, regarding the exploration of business models, some enterprises adopt the "online and offline integration" model to promote it through e-commerce platforms and social media. At the same time, they cooperate with pet stores and pet hospitals to establish recycling channels to form a closed loop from recycling, transformation to sales. For example, the "Re-pet Life" team has achieved the combination of environmental protection and public welfare by recycling old clothes and corporate corner materials to make pet clothes, and cooperates with disadvantaged women's groups. Regarding environmental protection, the state's attention to the circular economy and environmental protection industry has provided policy support for the recycling and production of pet second-hand clothes. For example, the Circular Economy Promotion Law clearly encourages the recycling of waste items such as textiles. GB/T43839-2024 "Technical Requirements for the Safety of Companion Animal (Pet) Supplies" implemented in 2024 put forward specific standards for raw materials, chemical safety, etc. of pet textiles, providing a basis for the standardized development of the industry.

In general, the domestic pet second-hand clothing recycling production start-up project is still in its infancy. The market demand is clear, but it faces challenges such as imperfect recycling system, high technical costs, and insufficient consumer awareness. Future research needs to focus on recycling network optimization, technological innovation, business model design and policy adaptation, and promote the standardized and large-scale development of the industry through interdisciplinary cooperation and empirical research. At the same time, combining environmental protection concepts and social values to create a brand with differentiated competitiveness is expected to open up new market space in the intersection of pet economy and circular economy.

### **3.2. Current Situation of Foreign Research**

The recycling and production of foreign pet second-hand clothes has formed a relatively mature industrial chain, especially in Europe, the United States, Japan and other areas with developed pet economies. According to the data of APPA (American Pet Products Association), the size of the U.S. pet clothing market reached \$8.7 billion in 2024, of which second-hand and modified products accounted for about 15%. Among them, high-end and personalization go hand in hand. The Japanese brand Alphaicon creates the "ancestral bird" of the pet clothing industry through limited design and functional fabrics (such as windproof and waterproof materials). Its second-hand market premium is as high as 10 times, and the price of a single piece exceeds 3,000 yuan. POD (Print-On-Demand) mode is popular in European and American markets. Consumers can customize patterns, colors, and even add text through online design tools to meet personalized needs. Technology-driven recycling system. For material innovation, Australia's Samsara Eco cooperated with Lululemon to use enzyme decomposition technology to reduce waste nylon and polyester fiber to molecular-level raw materials to achieve "unlimited recycling", which has been applied to pet clothing production. The recycled fiber technology developed by the Finnish National Technical Research Center can recycle textiles 6-7 times without affecting the quality. For digital tools, 3D printing technology is used to quickly verify design prototypes. Aurora 3D, an American company, uses this technology to shorten the printing cycle of pet clothing from 3 weeks to 24 hours, reducing the cost by 40%. AI measurement technology (such as PawSize, a French start-up company) scans the pet's body shape through mobile phones to generate accurate size data with an error of less than 3 mm.

In general, the recycling of foreign pet second-hand clothes has entered a new stage of technology-driven and policy coordination. Its core is to build a closed-loop ecology through material innovation, digital tools and global networks. Future research needs to focus on breaking through the three bottlenecks of the unification of transnational recycling standards, the establishment of consumer trust and the optimization of large-scale production processes. It is recommended to adopt the three-dimensional linkage strategy of "technology-policy-market", design differentiated business models in combination with the characteristics of the regional market, and strengthen cooperation with scientific research institutions and environmental protection organizations to promote the development of the industry in the direction of low-carbon and transparency.

### **3.3. Research Ideas and Research Methods**

#### **3.3.1. Research Ideas**

This article analyzes and researches according to the conventional research idea of "asking questions - analyzing problems - solving problems".

#### **3.3.2. Research Methods**

(1) Literature review method: collect literature, monographs and other relevant information, read and analyze the pet market and the second-hand clothing market, and then establish the research framework of this article.

(2) Case analysis method: This article discusses many cases such as the Japanese brand Alphaicon, POD (Print-On-Demand) model, and Niu Yijie, a girl in Taiyuan, Shanxi. First of all, briefly introduce the prospects and economic benefits of the second-hand clothing market, pet market and pet second-hand clothing market. Then the feasibility and production process to further express the necessity of the pet second-hand clothing market, and then deeply analyze its risk causes. Finally, put forward scientific and rigorous preventive countermeasures to deal with the risks.

## **4. OVERVIEW OF THE SECOND-HAND CLOTHING MARKET**

### **4.1. Second-hand Clothing Market**

Globally, the recycling and reuse of second-hand clothes has become an increasingly important topic.[2] China's second-hand clothing recycling market is huge and has great growth potential. With the continuous improvement of people's awareness of environmental protection and the change of consumption concepts, a large number of second-hand clothes have been thrown away. According to statistics, the global second-hand clothing market has exceeded \$96 billion in 2022, and is expected to grow to nearly \$150 billion by 2026. For example, Guo Song, a young man from Guangdong, founded a second-hand clothing recycling and sales company. At first, his business was concentrated in China, and then he found that the African market had great potential. Africa's productivity is low, clothing manufacturing cannot meet demand, and imported clothes are expensive. China's second-hand clothes are affordable and diverse in style, which is popular. Through research, Guo Song's team cooperated with local agents and distributors to successfully open up the African market, and sales increased year by year. From this point of view, the recycling market of second-hand clothes has a broad prospect.

### **4.2. The Market Prospects of Second-hand Clothes**

(1) Rapid growth in the market: The global second-hand clothing market will reach 254.412 billion yuan in 2023, and is expected to reach 588.587 billion yuan by 2029. The second-hand clothing market in the United States achieved strong growth in 2024, with a growth rate of five times that of the overall retail clothing market. The market value of online second-hand clothing reached 22 billion US dollars, and it is expected to reach about 40 billion US dollars by 2029. The Chinese market also has great potential, producing about 50 million tons of used clothes every year. In 2025, the size of the used clothing recycling market has exceeded 10 billion yuan, with an annual growth rate of more than 15%.

(2) Consumer demand continues to expand: Under the global climate change and environmental crisis, consumers' environmental protection concepts are deeply rooted in people's hearts, consumers' demand for environmental protection products is increasing, and the acceptance of second-hand goods is increasing. The young generation has a strong awareness of environmental protection and is active. For example, the proportion of millennial consumers who tend to choose second-hand clothing is as high as 69%. At the same time, economic factors also prompt consumers to consider second-hand clothing. 59% of consumers said that if tariffs and trade policies make new clothing more expensive, they will choose second-hand clothing.

(3) Increase policy support: The National Development and Reform Commission and other three departments jointly issued the "Implementation Opinions on Accelerating the Recycling of Waste Textiles", which proposed that the recycling rate of waste textiles will reach 25% by 2025 and 30% by 2030, and make sure from production, recycling, comprehensive utilization and other aspects. Nine specific measures have been set to provide policy guarantees for the development of the second-hand clothing market.

(4) The business model is increasingly diverse: the "Internet + recycling" model promotes online and offline integration, and the online recycling platform and community recycling box have become the "main force of digestion". In addition to traditional second-hand trading platforms, some e-commerce giants have also laid out the second-hand clothing market. For example, eBay and the Fashion Association held a second-hand fashion public show, and Rakuma and eBay expanded their cooperation to open cross-border second-hand transactions. In addition, the recycling of old clothes is also combined with recycling. Enterprises use technical means to transform waste clothes into new products such as building materials and automobile interior and exterior decoration.

(5) Strong export demand: Africa, Southeast Asia and other regions have a large demand for second-hand clothing. China's second-hand clothing exports continue to rise, and the export value may reach 100 billion in 2025, providing a broad international market space for the second-hand clothing market.

### **4.3. Economic Benefits of the Second-hand Clothing Market**

(1) Create direct economic value: In 2023, global second-hand clothing sales reached 211 billion US dollars, an increase of 19% year-on-year. In 2023, the European second-hand clothing industry made a total contribution of 7 billion euros (about 7.7 billion US dollars) to the gross domestic product (GDP) of 27 countries in the European Union, of which 3 billion euros came from the direct impact (employee remuneration and profits).

(2) Drive the development of related industries: The development of the second-hand clothing market has driven the development of recycling, sorting, cleaning, disinfection, packaging, logistics and other related industries. For example, in the recycling link, a complete chain has been formed from individual recyclers to large recycling enterprises; in terms of logistics, with the increase in online transactions of second-hand clothes, the logistics business volume has also increased accordingly.

(3) Increase employment opportunities: In 2023, the European second-hand clothing industry created 150,000 jobs, of which 73% were green jobs. The average remuneration provided was 12% higher than the minimum wage in relevant countries, and promoted female employment. Women accounted for about 79% of the total number of employees in the industry. In Kenya, Africa, the second-hand clothing industry supports the employment of nearly 10% of the country's working population.

(4) Save resources and costs: For consumers, buying second-hand clothes can save money and meet their clothing needs at a lower price. For society, the recycling of second-hand clothes reduces the consumption of raw materials, energy and other resources required for the production of new clothing, and reduces production costs and environmental costs.

(5) Promote international trade: The exports of second-hand clothing in some countries continue to grow. For example, China's second-hand clothing exports to Africa reached 624 million US dollars in 2021, and the export value may reach 100 billion in 2025, occupying an important position in the global second-hand clothing trade and promoting the economic and trade development between countries.

## **5. OVERVIEW OF THE PET CLOTHING MARKET**

### **5.1. Pet Market**

Pet clothing refers to the wear specially designed and made for pets, which aims to meet the diversified needs of pets such as warmth, protection and decoration. With the improvement of the status of pets in the family, pet clothing has gradually evolved from a simple functional product to a fashionable consumer product with both practical and emotional value. Its design concept combines the physiological characteristics of pets, the aesthetic preferences of the owner and popular cultural

elements. Through personalized and differentiated style design, it shows the unique personality of the pet and enhances the emotional connection between the pet and the owner.

The size of China's pet market is expected to continue to grow strongly in 2025. According to data, the consumption scale of domestic urban cats and dogs in 2024 has exceeded 300.2 billion, and the overall pet economy is expected to be larger, and it is expected to exceed 500 billion yuan in 2025. China's pet clothing market continues to expand, and more and more pet owners have higher requirements for pet clothing and are willing to buy all kinds of pet clothing, which has promoted the development of the pet market to this extent.

## **5.2. Classification of the Pet Market**

(1) Functional clothing: designed according to different seasons and usage scenarios. For example, winter winter winter clothes are made of wool, fleece and other warm materials to resist the cold for pets; in summer, breathable and cool clothes are mainly made of light cotton and ice silk fabrics to help pets dissipate heat; waterproof raincoats used on rainy days are equipped with reflective strips and other safety facilities. Plan to ensure the safety of pets; there are also special functional clothing such as postoperative care clothes and mosquito-proof clothes to meet the specific health needs of pets.

(2) Fashion clothing: keep up with the human fashion trend, launch stylized clothing such as pet Hanfu, JK uniform, sports suit, etc.; combine the theme of festivals and celebrations, design Christmas clothes, Spring Festival Tang clothes, wedding dresses and other suitable clothes to meet the display needs of pet owners in social scenes, and promote pet clothing to fashion. Development in the direction of trendization.

(3) Customized clothing: provide exclusive design services based on the pet's unique body shape, hair characteristics and the owner's personalized needs. Through 3D scanning, personalized pattern customization and other technologies, we can realize the customized production of "one pet and one clothes" and meet the pursuit of high-end consumer groups for the quality and uniqueness of pet clothing.

## **5.3. The Prospect of the Pet Market**

(1) Huge market potential: The global pet economy is booming. The scale of China's pet economy industry has reached 592.8 billion yuan in 2023, and it is expected to exceed 811.4 billion yuan in 2025. The huge market scale provides a broad development space for the pet clothing industry. As the "other economy" continues to heat up, pet clothing is an important subdivision of pet consumption, and its market demand will be further released with the rejuvenation of pet owners, the upgrading of consumption concepts and the trend of pet anthropomorphization.

(2) Driven by technological innovation: The application of new materials and new technologies will inject new vitality into the pet clothing industry. The integration of biological-based materials and intelligent wearable technology makes pet clothing have health monitoring (such as body temperature, sports data monitoring), environmental sensing and other functions, and promotes the development of products in the direction of intelligence; the popularization of 3D modeling, virtual fitting and other technologies will optimize consumers' shopping experience and improve the efficiency of customized services.

(3) Sustainable development trend: Under the background of the improvement of global environmental protection awareness, environmentally friendly pet clothing with the recycling of second-hand clothes as the core is in line with the concept of green consumption and is expected to become a new growth point in the industry. Through the circular economy model, it can not only reduce production costs and waste of resources, but also meet consumers' needs for sustainable

products, achieve a win-win situation of economic and environmental benefits, and promote the development of the pet clothing industry in a greener and low-carbon direction.

#### **5.4. Economic Benefits of the Pet Market**

(1) Direct economic benefits: The global pet clothing market continues to grow rapidly. In 2023, the global pet clothing will reach 5.98 billion US dollars, and it is expected to climb to 8.7 billion US dollars by 2030, with an annual growth rate of about 4.7%. The performance of the Chinese market is particularly bright. The market size has exceeded 3.5 billion yuan, and it is expanding rapidly at a compound growth rate of more than 20% per year. With the increase in the number of pet families and the willingness to consume pets, the market penetration rate and customer unit price of pet clothing are expected to be further increased, directly driving the growth of industrial economic benefits.

(2) Synergistic benefits of the industrial chain: The development of the pet clothing industry has driven the coordinated development of upstream and downstream related industries. Upstream textile fabric and auxiliary material manufacturing enterprises have gained new market space due to the growth of pet clothing demand; midstream clothing processing and manufacturing links have created a large number of jobs; downstream e-commerce platforms, pet supplies physical stores and other sales channels have also increased revenue through pet clothing sales. In addition, the linkage of pet clothing with pet beauty, pet photography and other industries has further expanded the consumption scene and formed diversified economic benefit growth points.

## **6. OVERVIEW OF THE PET SECOND-HAND CLOTHING MARKET**

### **6.1. The Prospect of the Pet Second-hand Clothing Market**

(1) Market demand growth: The global pet clothing market will exceed 8.7 billion US dollars in 2030, and China's average annual consumption growth rate will exceed 19%. Pet owners' care and attention to pets are deepening, and they are willing to invest more in the quality of life and appearance of pets, and the demand for pet clothing continues to increase. Some high-end pet clothing brands are popular in the second-hand market, such as the Japanese brand Alphaicon, whose products are speculated to nearly 10 times premium in Xianyu, reflecting that there is a certain consumer demand in the pet second-hand clothing market.

(2) Promotion of environmental protection concept: [3]With the improvement of environmental protection awareness, the transformation of old things and green consumption are welcomed by young people. Transforming idle human clothes or pet clothes into pet clothes can not only protect the environment but also meet the personalized needs of pet owners. Niu Yijie, a girl in Taiyuan, Shanxi, started a business. She loves sewing and small animals. Outside of work, at first, she used her old clothes and other accessories to sew exclusive clothes for her pets. Subsequently, she gradually expanded to carry out personalized clothing production and processing for pets. She can create personalization for hundreds of small animals a year. The clothes of. In addition, Zang Shuo, a post-90s girl, customized pet clothing with luxury clothing materials, and the monthly orders easily exceeded 100. This model provides new development ideas for the pet second-hand clothing market.

(3) Social attributes are highlighted: Pet clothing has become a "social currency" for the identity of pet owners. In social occasions such as pet parties, pets wearing unique clothing can give the owner face. Some limited editions or high-end brands

## **6.2. Target Customer Groups in the Pet Second-hand Clothing Market**

(1) Pet lovers: They have deep feelings for pets, pay attention to the personalized maintenance of pets, and are willing to provide unique and high-quality life experiences for pets. Such people usually have a certain consumption capacity, are active on social media, pay attention to pet fashion and trends, and pursue the fashion and comfort of pet wear.

(2) Consumers with strong environmental awareness: they care about resource recycling, support sustainable development, and are willing to choose environmentally friendly products and services. Pet second-hand clothes are in line with their environmental protection concept and can meet their need to reduce resource waste.

(3) Consumers who pursue creativity and personalization: They want to create a unique image for their pets, show their pet personality, are willing to try new products and services, pay attention to quality and details, and second-hand clothes can be modified or matched to provide pets with a unique wearing experience.

(4) Pet industry practitioners and designers: They have a deep understanding of the pet industry and have high requirements for the design and production of pet clothing. Second-hand clothes can be used as design materials to provide creativity and inspiration. They may also recommend relevant products and services to customers and partners to expand their market share.

(5) Pet owners with limited economic strength: This part of the population may have insufficient pet experience or low income, but they also want their pets to have good clothes. The price of second-hand pet clothes is relatively low, which can meet their needs.

## **6.3. Economic Benefits of the Pet Second-hand Clothing Market**

(1) Profits for both parties to the transaction: For sellers, idle pet clothes that can be realized, especially some high-end or limited-edition pet clothes, may have a high premium in the second-hand market. Some of the products of the Japanese brand Alphaicon mentioned above can be nearly ten times more expensive on Xianyu. For buyers, the clothing needs of pets can be met at a lower price, and the price is usually only 30%-70% of the new product, which reduces consumption costs.

(2) Drive the development of related industries: The development of the pet second-hand clothing market will stimulate upstream and downstream related industries. For example, upstream industries such as old clothing recycling, cleaning and disinfection equipment and environmental protection detergents will increase sales due to the disposal demand for pet second-hand clothes. Downstream pet photography, pet social activities and other industries will also promote related consumption and improve the income of scenario-based services because pets participate in activities in second-hand clothes.

(3) Create employment opportunities: from the collection, arrangement, cleaning and disinfection of clothes, to the operation and promotion of online platforms, to the transformation of old clothes, customized services and other links, manpower investment is required, thus creating more jobs for the society, including sellers, renovation designers, cleaning personnel, platform operations, etc., especially It is beneficial to small and medium-sized entrepreneurs and flexible employment groups.

(4) Promote market expansion: The global pet clothing market continues to expand, and it is expected to reach 8.7 billion US dollars by 2030, with an annual growth rate of about 4.7%. As a part of the pet second-hand clothing market, with the improvement of consumers' awareness of environmental protection and the pursuit of pet fashion, its market share is expected to gradually increase, thus promoting the development of the entire pet economy.

## **7. THE MARKET FEASIBILITY OF PET SECOND-HAND CLOTHES**

### **7.1. Feasibility of Material Application**

Second-hand clothes cover a variety of materials, which can meet the needs of pets in different regions and different hair types. The south is hot and humid, and cotton second-hand clothing can be used to make short-haired pet clothing, which is sweat-absorbing and breathable; polyester fiber old clothing with insect-proof function can be modified to resist mosquitoes. Old clothes made of silk and hemp can meet the needs of long-haired pets; old clothes made of chiffon and bamboo fiber are suitable for hairless pets. In the cold in the north, wool and artificial plush second-hand clothes can be used to make short-haired pet winter clothes; thick cotton and nylon old clothes can resist the cold for long-haired pets; down and spandex blended old clothes are suitable for double-fur pets. In a word, second-hand clothes are rich in materials. After classification and transformation, they can meet the needs of all kinds of pets in the north and south for clothing materials.

### **7.2. Cost Feasibility**

(1) Raw material cost: The cost of obtaining second-hand clothes is low, and it can be collected in large quantities through recycling, donation and other ways. Compared with buying new fabrics, the cost of raw materials procurement is greatly reduced.

(2) Production cost: The process of making pet clothing is relatively simple, no need for complex equipment and superb technology, and the manpower cost is controllable. And most of the second-hand clothes have been cut and molded. They only need to be simply modified and stitched to reduce the production process and reduce the production cost.

### **7.3. Feasibility of Creative Space**

(1) Style design: You can design special styles according to different pet breeds, genders and ages, such as designing cute princess dresses for small dogs and handsome cloaks for large dogs; using the original patterns and colors of second-hand clothes to create unique fashion styles.

(2) Functional innovation: combine the living habits and needs of pets, add special functions, such as installing reflective strips to improve the safety of night travel; design built-in pockets to place insect repellents, snacks, etc.

### **7.4. Feasibility of Quality Operation**

(1) Quality control: Strictly screen when recycling second-hand clothes, and remove seriously damaged clothes with poor material; strengthen quality inspection during the production process to ensure that the size fits and the sewing is firm.

(2) Difficulty of operation: Pet clothing is small in size, simple in structure, and easy to master the production process. After simple training, workers can operate it skillfully to ensure production efficiency and quality.

### **7.5. Market Feasibility**

(1) Market scale and growth trend: The scale of China's pet economy and industry continues to expand, reaching 592.8 billion yuan in 2023, and is expected to reach 811.4 billion yuan in 2025. The number of pets is also rising. As a subdivision field, the pet clothing market has good development prospects, providing a broad market space for second-hand clothes to make pet clothing. For example, the successful transformation of a clothing store in Wuhan in 15 years, due to the lack of broad market prospects for ordinary clothing stores, the owner, Master Li and his aunt seized the diversified needs

of the market.[4] On the basis of the traditional clothing change business, they expanded sewing teaching, mainly using old clothes for pet clothing production and teaching. From September 2023, the store opened. After setting up the course, it has attracted students from all over the world to learn, and has accepted more than 100 students, making it stand out in the fierce market and further develop. It can be seen that the second-hand clothing market has a broad future.

(2) Target market and customer needs: The target market includes pet owners and animal rescue centers. Pet owners pay attention to quality and personalization, and some are interested in environmentally friendly pet clothing; animal rescue centers need low-priced and reliable clothing. Pet clothing made of second-hand clothes can not only satisfy pet owners' pursuit of environmental protection and personality, but also provide low-cost materials for animal rescue centers.

(3) Market competition analysis: There are few brands that focus on the recycling of old clothes to make pet clothing, and the market competition is small and the gap is large. The project features the recycling of old clothes, which can form a differentiated competition with ordinary pet clothing brands.

## **7.6. Operation Feasibility**

### **(1) Production or operation mode**

The project adopts a precise and detailed production or operation mode. Each recycled second-hand clothing is strictly examined to ensure its safety, and the clothes and design patterns are customized only after approval. In the process of making clothes, we always follow the principle of putting customers first, discuss with customers to design satisfactory patterns, and help customers who design their own patterns. In the product delivery link, there are three levels of health inspection, pattern inspection, and quality inspection and control to strictly screen and inspect to ensure that each product is of high quality.

### **(2) Quality assurance measures:**

In order to achieve the goal of excellent product quality, a series of schedules and audit measures are taken, from recycling second-hand clothes, designing patterns, sewing and adding patterns to clothes, cleaning finished products to handing over to customers, each link has relevant systems and standards to guide the person in charge of audit. Establish a perfect quality inspection system, strictly test raw materials, semi-finished products and finished products to ensure that the product quality meets the standards. At the same time, we should strengthen the supervision and management of the production process, find and solve quality problems in time, and constantly improve product quality.

### **(3) Feasibility of social value**

**Environmental value:** By recycling old clothes to make pet clothes, it reduces the waste of old clothes and pollution to the environment, and realizes the recycling of resources, which is in line with the concept of environmental protection and sustainable development.

**Public welfare value:** You can donate the finished clothes to stray animals, provide material support to animal rescue centers, help stray animals improve living conditions, call on more people to pay attention to stray animals, and enhance the love and cohesion of society, such as The Humane Society's old clothing renovation project in the United States. , the largest animal protection organization in the United States, launched the "Fashion for Paws" program in 2018. It cooperates with H&M to recycle old clothes, and a large number of designers personalize pet clothing; and hold charity auctions for finished products offline, raising up to \$230,000 for a single event. This level allows it to cover 32 states in 3 years, increase the utilization rate of used clothing by 40%, and increase the adoption rate by 25%. Realize the social value of public welfare.

Economic value: It has created employment opportunities and driven the development of related industries, such as clothing processing, design, publicity, etc., and has played a positive role in promoting the development of the local economy.

## **8. THE MEANS AND PROCESS OF MAKING SECOND-HAND CLOTHES FOR PETS**

### **8.1. The Beginning of Clothing Production**

We can learn "How to make clothes for puppies with old pants\_How to make clothes for puppies with old clothes\_clothing clothes and hat net". Before making clothes for puppies with old clothes, we should first measure the dog's length, bust and collar, and give detailed cutting and production steps, such as finding suitable old clothes, making plates, cutting excess parts according to size, dealing with corners, etc., which is helpful for understanding the basic process of making pet clothes.[5]We tend to choose second-hand materials such as pure cotton, delicate knitwear and soft flannel, which are skin-friendly, while resolutely abandoning chemical fibers that are easy to cause static electricity or fabrics containing chemical coatings. In addition, we will also carefully classify and store according to the differences in size of pets, such as small dogs, cats and large dogs, so that we can quickly and accurately find the matching option when customers put forward their needs. On the basis of strict screening of fabrics, we also use high-temperature steam sterilization at a temperature of up to 120°C or above, or use environmental protection enzymes for soaking treatment to decompose stains with the help of natural plant enzymes, so as to ensure that each material is far away from the invasion of pathogenic bacteria. After full drying, we will carefully remove buttons, zippers and other hard accessories to ensure the skin-friendliness and softness of the fabric, and give small animals meticulous care.

### **8.2. The Beginning of the Production Process**

We rely on manual measurement to accurately grasp the body characteristics of pets, but this method inevitably has deviations. With the increasing expansion of the business scale, we plan to introduce dynamic measurement technology, that is, using 3D scanning technology to accurately capture the pet's bust, neck circumference, back length and other key data, and combine its joint movement trajectory to formulate a three-dimensional cutting scheme (such as adding elastic fabric to the back leg activity area). In this way, it can not only greatly improve the accuracy of measurement, but also ensure the comfort of pets when wearing, and realize personalized design to provide the highest quality services and products for each small animal.

### **8.3. Make Innovative Models**

We will also introduce 3D modeling technology, allowing pet owners to freely customize their clothing styles and convey their unique feelings to us, and we will do our best to reflect this feelings in the pet's clothing. In addition, in the sewing and cutting process of clothing, we adopt the French edge wrapping technique to carefully wrap the edges, and at the same time use corn fiber thread for double reinforcement to ensure that the clothes are not easy to come off even if they are bitten by pets. In order to enhance the safety of night travel, we also cleverly implanted reflective strips in the key parts of clothing. It is worth mentioning that the abdominal design is even more ingenious. It adopts the composite structure of Velcro and telescopic tape, which can flexibly adapt to the weight changes of 5 to 15 kilograms, and carefully reserves the access space of medical monitoring equipment, such as the fixed position of the insulin pump. When making pet clothing, we not only pursue the ultimate perfection of technology, but also adopt strict standards for quality control. We use the simulation test platform to test the tensile strength of the clothes to ensure that it can withstand the continuous tensile force of 20 Newtons. At the same time, we evaluate the smoothness of the

surface of the fabric by setting the hair winding index, and establish an odor residue evaluation system to bring a perfect experience to pets and their owners.

## **9. RISKS AND COUNTERMEASURES IN THE PET SECOND-HAND CLOTHING MARKET**

### **9.1. Risks of the Pet Second-hand Clothing Market**

#### **(1) Risks of raw material supply**

**Question:** There is uncertainty in the quantity and quality of recycled second-hand clothes. There may be a situation where the recycling volume is insufficient to meet the production needs; at the same time, there may be stains that are difficult to handle, serious damage or safety hazards (such as sharp metal residue) in the recycled second-hand clothes, which will affect the subsequent production and product quality.

**Unstable source:** The recycling of second-hand clothes depends on residents' donations, recycling site collection and other channels. These channels are affected by seasonality, regional culture, resident participation and other factors, and the recycling volume is difficult to be stable and guaranteed.

#### **(2) Market risk**

**Demand fluctuations:** Although the pet clothing market is growing rapidly, consumer demand may fluctuate due to fashion trends, economic situation and other factors. If the market trend is not accurately grasped, it may lead to product sales lagging.

**Intensification of competition:** With the development of the project, it may attract more enterprises or individuals to enter the field of second-hand clothing and pet clothing. The market competition intensifies, which may compress the profit margin.

#### **(3) Quality and safety risks**

**Hygiene problems:** Even if high-temperature steam disinfection or environmental protection enzyme immersion are used, there may still be a risk of incomplete disinfection, resulting in skin allergies and other health problems after pets wear.

**Insufficient durability:** The material and structure of the second-hand clothes themselves may have been worn out to a certain extent. The modified pet clothing may not be as durable as the clothing made of new fabrics, causing consumer complaints and trust crises.

#### **(4) Operational management risks**

**Production efficiency:** Although the production process of pet clothing is relatively simple, if the proportion of manual measurement and handmade is high, when the business scale expands, it may face the problem of low production efficiency and the inability to deliver orders in time.

**Talent shortage:** The project requires talents with multi-faceted skills such as clothing design, tailoring and second-hand clothing handling. If there is a lack of professional and skilled workers, it may affect product quality and production progress.

#### **(5) Risks of policies and regulations**

At present, the relevant standards for the production of pet supplies from recycled textiles may not be perfect. If policies and regulations change in the future and put forward stricter requirements for the environmental protection and safety of second-hand clothing recycling and pet clothing production, the project may need to invest a lot of costs to meet the compliance requirements.

## 9.2. Countermeasures

### (1) Risk response to raw material supply

Expand recycling channels: establish long-term cooperative relations with communities, schools, enterprises, etc., and regularly organize second-hand clothing recycling activities; cooperate with second-hand clothing recycling enterprises to stabilize the supply of raw materials.

Strict screening standards: formulate detailed quality standards for the recycling of second-hand clothes, and strictly classify and inspect the recycled clothes to ensure that they meet the production requirements; for poor quality clothes, they can be considered for other purposes, such as making pet toy fillers.

### (2) Market risk response

Market research and trend analysis: regularly carry out market research to understand the latest trends in the pet clothing market, consumer demand changes and competitor dynamics; set up a data analysis team to analyze consumer preferences through big data, and lay out product research and development and production in advance.

Differentiated competition: continuously innovate product design and functions, highlighting environmentally friendly and personalized brand characteristics; strengthen brand building and marketing, improve brand awareness and reputation, and enhance consumer loyalty.

### (3) Quality and safety risk response

Improve the quality inspection system: add multiple quality inspection processes after disinfection treatment, during production and in the finished product stage; introduce third-party testing institutions to carry out professional testing of product hygiene indicators, durability, etc.

Selection of high-quality materials and processes: In the process of transformation, high-quality auxiliary materials and sewing threads are selected to enhance the durability of clothing; the production process is optimized and standardized to ensure that each product meets the quality requirements.

### (4) Operation management risk response

Introduce automation equipment: gradually introduce automated measurement and cutting equipment to improve production efficiency; conduct regular training for workers to improve their operating skills and production efficiency.

Talent training and introduction: cooperate with vocational colleges and training institutions to cultivate relevant professional talents in a targeted manner; provide competitive remuneration and development space, and attract outstanding talents in the industry to join.

### (5) Risk response of policies and regulations

Pay attention to policy dynamics: arrange special personnel to pay attention to changes in policies and regulations, and keep abreast of relevant industry standards and regulations; maintain close contact with industry associations and participate in the formulation and revision of industry standards.

Compliance operation: In the process of project operation, strictly abide by the existing policies and regulations, prepare for policy changes in advance, and ensure the sustainable development of the project.

## 10. SUMMARY

Summary: This study deeply explores the feasibility of using second-hand clothes to make environmentally friendly clothing for small animals. It analyzes from multiple dimensions such as

second-hand clothing recycling market, pet clothing market, material, cost, creative space, quality operation, market, operation, etc., and confirms that the project has a high level in theory and practice. Feasibility. By recycling second-hand clothes to make pet clothing, it not only realizes the recycling of resources and reduces environmental pollution, but also meets the needs of pet owners for environmental protection and personalized pet clothing, which has significant environmental protection value, public welfare value and economic value. At the same time, the successful experience of the model in practical application is shown through case analysis, which provides a reference for the development of the project.

Outlook: In the future, with the continuous development of bio-based materials and intelligent wearable technology, pet clothing is expected to be upgraded to intelligent equipment, integrating health monitoring and environmental interaction functions to provide more convenience and services for pet owners. It is recommended that the industry formulate relevant standards for recycled textile pet supplies as soon as possible to standardize market development; promote shared tailoring workshops and other models to reduce production costs, improve the efficiency of resource utilization, and make the concept of sustainable pet raising more popular. Through continuous innovation and improvement, the project of making pet clothing using second-hand clothes will play a greater role in promoting sustainable development and circular economic development, and make positive contributions to the harmonious coexistence of humans and animals.

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