

Research on Purchase Intention of Remanufactured Clothing

Pengxia Gao

Shanghai University, Shanghai, China

Abstract

Clothing industry is the second largest pollution source in the world, second only to oil industry. Compared with general clothing, remanufactured clothing has the characteristics of low cost, less energy consumption and environmental protection, which solves the environmental pollution problem caused by clothing industry to a great extent. On the basis of domestic and foreign scholars' research, this paper combs and summarizes the basic theories of product information, perceived value, perceived risk and consumers' purchase intention. The results show that remanufactured clothing information affects remanufactured clothing purchase intention, while perceived risk and perceived value play an intermediary role between product information and remanufactured clothing purchase intention.

Keywords

Remanufactured Clothing; Product Information; Purchase Intention; Perceived Value.

1. Introduction

The garment industry is the second largest source of pollution in the world, second only to the oil industry. The global fashion industry produces about \$3 trillion annually, but it also produces 20% of the world's wastewater (the world's second-largest water user industry) and 10% of global carbon emissions (more than all international flights and shipping). Although the fashion industry uses only 3% of the world's cultivated area, the agricultural and insecticidal agents used in cotton cultivation account for 11% and 24% of the global total, respectively. Coupled with the development of the fast-moving fashion industry, garment waste has become one of the fastest growing waste. Remanufactured garments refer to garment products made from waste raw materials and processed using special techniques. The entire process of remanufacturing garments reduces the use of chemicals and fossil fuels and reduces water consumption and wastewater compared to general apparel products. Compared with general clothing, remanufactured garments have low cost, low energy consumption and environmental protection characteristics, which largely solve the environmental pollution problem of the garment industry.

Based on the research of scholars at home and abroad, this paper sorts out and summarizes the basic theories of product information, perceived value and perceived risk and consumer purchasing intention, and determine the final theoretical model of consumer remanufacturing apparel purchase intention. The results show that energy saving, material saving and emission reduction dimensions of remanufactured garments are positively affecting perceived value; and the impact of energy saving information, emission reduction information and material information on consumer perceived value is decreasing in turn; energy saving information has no significant impact on perceived risk. The material information and emission reduction information have a negative impact on perceived risk; the consumer perceived value positively affects the purchase intention, and the perceived value plays a mediating role between the product information and the consumer re-manufactured clothing purchase intention; consumption The perceived risk negatively affects the purchase intention, and the perceived risk plays a mediating role between the product information and the purchase

intention of the remanufactured clothing. Finally, based on the empirical research results, the suggestions for improving the purchase intention of consumers' remanufactured clothing are put forward, and the related researches are provided for the future research.

2. Theoretical Framework and Model Development

2.1. Product Information and Perceived Value

Green knowledge and green information of products are one of the important factors affecting consumers' purchase intention (Gong Jihong, 2012) [1]. Jin Xiaotong found through experimental research that knowledge information related to product environment can promote consumers' willingness to purchase environmentally-friendly products, and paying attention to informing consumers of product information will promote consumers' purchase behavior (2017) [2]. Remanufactured clothing has its unique product properties-60% energy saving, 70% material saving and 80% pollutant emission reduction. It has the green attributes of energy saving, material saving and emission reduction, and its environmental benefits are very significant. In this paper, the information of remanufactured clothing products is divided into three green information dimensions: energy saving, material saving and emission reduction, and their influences on consumers' perceived green value are discussed respectively. Research hypothesis are as follows:

H1a: Energy-saving information positively affects the perceived value of consumers' remanufactured clothing.

H1b: Material saving information positively affects the perceived value of consumers' remanufactured clothing.

H1c: Emission reduction information positively affects the perceived value of consumers' remanufactured clothing.

2.2. Product Information and Perceived Risk

Tu Rongting's research found that when consumers know enough about products, their uncertainty about their purchasing decisions will be significantly reduced (2011)[3]. Zhang Zhe's research shows that the perceived risk of consumers depends on their involvement in products. When consumers are more involved, their perceived risk will decrease, and at this time they are more willing to buy products (2014) [4]. Chen Kai (2019)[5] applied structural equation model to test the influence of perceived risk on purchase intention of new energy vehicles, and concluded that perceived risk has a significant negative impact on purchase intention. Based on this, this paper puts forward the following hypothesis:

H2a: The energy-saving information of remanufactured clothing negatively affects consumers' perceived risk.

H2b: Material saving information of remanufactured clothing negatively affects consumers' perceived risk.

H2c: Emission reduction information of remanufactured clothing negatively affects consumers' perceived risk.

2.3. Perceived Value and Purchase Intention

Perceived value is one of the most important factors affecting consumers' purchasing decisions (Zeithaml, 1988). Perceived value is caused by a series of factors related to products, so he will establish a positive reputation for products and increase the purchase intention of products (Sweeney et al., 1999; shton et al.) [6]. In recent years, with the attention of the whole people on environmental issues, green perceived value has played an increasingly important role. Low perceived value will make consumers lose their desire to buy (Sweeney and Soutar, 2001)[7]. If consumers feel that the value of the product is high, then they are more willing to buy the

product (Chang and Chen,2008) [8]. Today, when the environment is getting more and more attention, green perceived value will positively influence the purchase intention of green products. Therefore, this paper puts forward the following hypothesis:

H3a: Consumers' perceived value of remanufactured clothing positively affects the purchase intention of remanufactured clothing.

H3b: Perceived value plays an intermediary role between product information and purchase intention.

2.4. Perceived Risk and Purchase Intention

Perceived risk has a negative impact on consumers' purchasing decisions (Murphy and Enis, 1986; Harridge-March, 2006) [9]. Perceived risk is the consumer's subjective feeling of loss, which greatly affects the consumer's purchase intention (Engel et al.,1986; Mitchell, 1992; Chaudhuri, 1997; Mitchell, 1999) [10]. If consumers perceive higher risks, they will not be able to buy the product (Mitchell, 1999) [11]. Previous studies have shown that consumers' perceived risk will have a negative impact on purchase intention (Kalafatis and Pollard, 1999) [12]. Therefore, this paper puts forward the following hypothesis:

H4a: Consumers' perceived risk of remanufactured clothing negatively affects the purchase intention of remanufactured clothing.

H4b: Perceived risk plays an intermediary role between product information and purchase intention.

The specific theoretical model is shown in Figure 1:

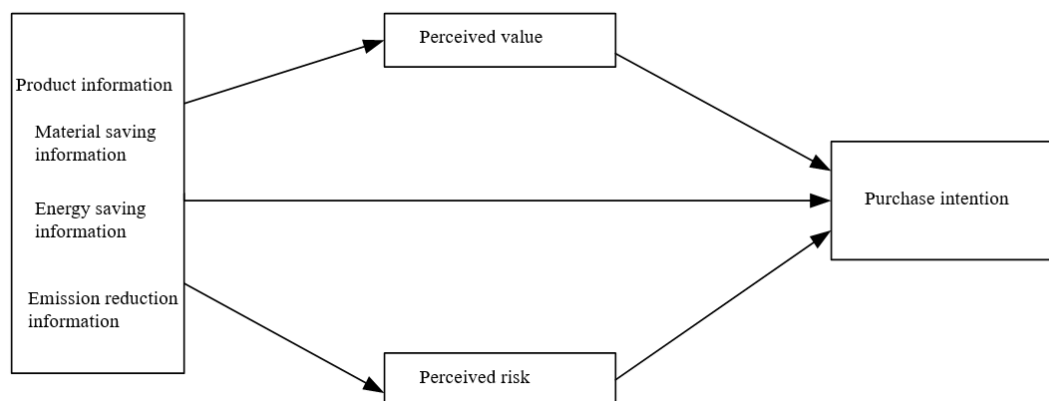


Figure 1. Theoretical model

3. Research Methodology

A questionnaire was developed, in which scale items were included for each of the study constructs. Scale items were adapted from existing literature, as indicated in the Appendix. Five-point Likert-type scales were employed, anchored by strongly agree and strongly disagree. Among the 207 valid questionnaires, 36.23% were male and 63.77% were female. In terms of age distribution, the proportion of 20-29 years old is over 50%. There are few people over 60 years old, and there are few people between 50 and 59 years old. In terms of disposable income every month, the disposable income of most people is between 1,000 and 3,000 yuan, and the disposable income below 1000 yuan is also quite large, accounting for 20.77%. In terms of education level, the highest proportion of undergraduate degree is 67.63%, followed by master's degree or above, accounting for 13.53%, and junior high school or below is the lowest, only 1.45%. Students account for 77.78% at most in occupation. Consumer data statistics are shown in Table 1 below:

Table 1. Statistical Table of Consumer Personal Characteristics

variable	option	Number of samples	Percentage
gender	man	75	36.23%
	woman	132	63.77%
age	Under 20 years old	24	11.59%
	20-29 years old	159	76.81%
	30-39 years old	12	5.8%
	40-49 years old	11	5.31%
	50-59 years old	one	0.48%
	Over 60 years old	0	0
Monthly disposable income.	Under 1000 yuan	43	20.77%
	1001-3000 yuan.	108	52.17%
	Rmb 3001-5000.	27	13.04%
	Rmb 501-7000.	11	5.31%
	Rmb 701-10000	12	5.8%
	More than 10000	six	2.9%
Degree of education	Junior high school and below	three	1.45%
	High school (including vocational high school)	17	8.21%
	universities and colleges	19	9.18%
	undergraduate college	140	67.63%
	Master or above.	28	13.53%
occupation	student	161	77.78%
	service sector	10	4.83%
	agriculture	12	5.8%
	business	16	7.73%
	Public office (including institutions and schools)	five	2.42%
	other	three	1.45%

4. Data Analysis and Result

4.1. Reliability Analysis

As shown in Table 2, the scale has very good reliability and meets the research requirements.

Table 2. Reliability Test Form of Final Questionnaire

Variable name		Number of measurement items	Cronbach'α
Purchase intention		three	0.789
product information	Energy saving information	three	0.788
	Material saving information	three	0.822
	Emission reduction information	three	0.847
Green perceived value		five	0.827
Perceived risk		six	0.833

4.2. Analysis of Validity

4.2.1. Analysis of Aggregation Validity

When the normalized factor load of the measured items is greater than 0.5, the average extraction variance (AVE) is greater than or equal to 0.5, and the combination reliability CR is greater than 0.6, it means that the aggregation effect of each construct is better. The results are shown in the table 3, and the overall scale passed the test of aggregation validity.

Table 3. Convergence validity test of final questionnaire

factor	Topic item	Standardized factor load	Combinatorial reliability (CR)	Average refining variance (AVE)
Purchase intention	PI1	0.663	0.767	0.526
	PI2	0.788		
	PI3	0.645		
Energy saving information	SE1	0.713	0.849	0.585
	SE2	0.813		
	SE3	0.709		
Material saving information	SM1	0.774	0.778	0.539
	SM2	0.796		
	SM3	0.774		
Emission reduction information	RE1	0.826	0.838	0.567
	RE2	0.794		
	RE3	0.805		
Perceived value	PV1	0.741	0.764	0.520
	PV2	0.713		
	PV3	0.671		
	PV4	0.669		
	PV5	0.695		
Perceived risk	PR1	0.677	0.798	0.501
	PR2	0.771		
	PR3	0.645		
	PR4	0.767		
	PR5	0.538		
	PR6	0.645		

4.2.2. Discrimination Validity Test

It can be seen from the table 4 that the square root of AVE of variables is larger than the correlation coefficient between AVE and other variables, which indicates that there is discrimination validity among variables.

5. Structural Equation Analysis

In this section, structural equation model is used to test related assumptions.

5.1. Establishment and Evaluation of Structural Equation Model

According to the previous theoretical model and assumptions, this paper uses Amos21.0 software, and the results of structural equation analysis are shown in the following figure 2:

Table 4. Discriminant Validity Test of Final Questionnaire

	Purchase intention	Energy saving information	Material saving information	Emission reduction information	Green perceived value.	Perceived risk
Purchase intention	0.725					
Energy saving information	0.650	0.921				
Material saving information	0.594	0.857	0.882			
Emission reduction information	0.585	0.893	0.749	0.915		
Green perceived value.	0.691	0.842	0.761	0.775	0.874	
Perceived risk	-0.398	-0.585	-0.651	-0.675	-0.624	0.893

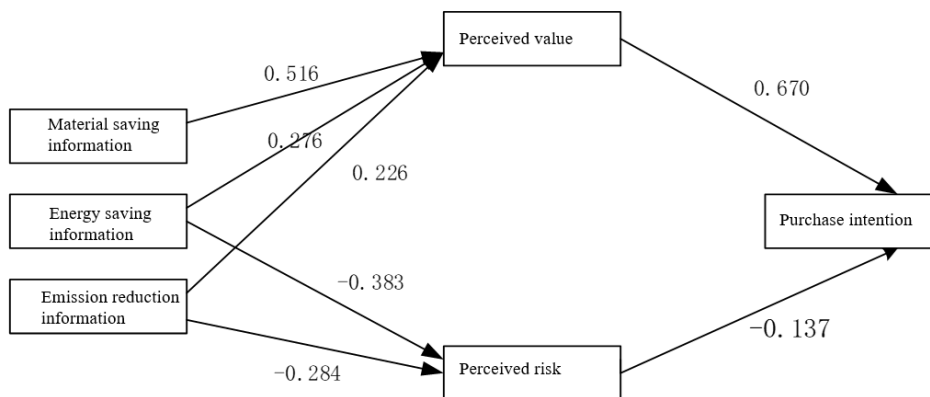


Figure 2. Structural equation analysis results

Table 5. Model fitting

Fit index	Chi-square \ freedom	GFI	RMSEA	RMR	NFI	CFI	TLI	AGFI
critical value	<3	>0.9	<0.05	<0.08	>0.9	>0.9	>0.9	>0.9
Actual value	1.168	0.919	0.029	0.031	0.921	0.987	0.983	0.878

As can be seen from Table 5, the fitness indexes of the models are basically all qualified, only AGFI is slightly lower than the critical value, but there is no perfect model, and the current model can meet the demand.

It can be seen from the results that all three dimensions of product information positively influence the establishment of "Hypothesis 1a, Hypothesis 1b, Hypothesis 1c". Material saving and emission reduction dimensions of information negatively affect perceived risk, "Hypothesis 2b, Hypothesis 2c" holds, energy saving information has no significant impact on perceived risk, and "Hypothesis 2a" does not hold. Perceived value positively affects purchase intention, and "Hypothesis 3a" holds. Perceived risk has a significant impact on purchase intention, and "Hypothesis 4a" holds. Specific results are shown in Table 6 below:

Table 6. Path Results of Structural Equation Analysis

			Estimate	S.E.	C.R.	P
Perceived value	<---	Energy saving information	.516	.075	6.873	***
Perceived risk	<---	Energy saving information	-.096	.066	-1.449	.147
Perceived value	<---	Material saving information	.226	.057	3.962	***
Perceived risk	<---	Material saving information	-.284	.071	-3.971	***
Perceived value	<---	Emission reduction information	.276	.057	4.813	***
Perceived risk	<---	Emission reduction information	-.383	.074	-5.158	***
Purchase intention	<---	Perceived value	.670	.121	5.535	***
Purchase intention	<---	Perceived risk	-.137	.079	.463	***

Table 7. Results of Hypothesis Test

hypothesis	Is hypothesis supported?
Hypothesis 1a: Energy Saving Information → Perceived Value.	YES
Hypothesis 1b: material saving information → perceived value.	YES
Hypothesis 1c: information of emission reduction → perceived value.	YES
Hypothesis 2a: energy saving information → perceived risk.	NO
Hypothesis 2b: material saving information → perceived risk.	YES
Hypothesis 2c: information on emission reduction → perceived risk.	YES
Hypothesis 3a: perceived value → purchase intention.	YES
Hypothesis 3b: Perceived value plays an intermediary role between product information and purchase intention.	YES
Hypothesis 4a: perceived risk → purchase intention.	YES
Hypothesis 4b: perceived risk plays an intermediary role between product information and purchase intention.	YES

6. Discussion and Implications

(1) Because the product information of remanufactured garments will affect consumers' perceived value and purchase intention, the garment manufacturing industry should strive to create a positive image for remanufactured garments. On the one hand, clothing brands should strengthen the concept of remanufactured clothing in the public mind, for example, let consumers know that remanufactured clothing is a new product, which is as secure as new products, and its quality and performance are not much different from those of new products, or even better than those of new products.

(2) When consumers don't know about remanufactured clothing, they won't buy remanufactured clothing. Therefore, remanufactured clothing can indicate its own energy-saving property, material-saving property and environmental benefits on the label to increase consumers' desire to buy.

(3) Many consumers can't distinguish remanufactured clothing from second-hand clothing. In fact, remanufactured clothing has its own specific labels, which consumers often can't find. This requires the relevant regulatory authorities to force remanufactured clothing manufacturers to attach environmental certification labels to remanufactured clothing, which will distinguish remanufactured clothing from other products and increase the exposure of remanufactured clothing.

(4) Remanufactured clothing brands can also implement green marketing strategies to publicize the environment-friendly attributes of remanufactured clothing. Green labels also

remind consumers that the purchase of remanufactured clothing will bring about environmental benefits. Remanufactured clothing can also be priced lower than new products, so as to attract potential consumers who can't afford the price of new products. Remanufacturing clothing manufacturers should also open more specialized stores to sell remanufactured products, because many consumers who want to buy remanufactured clothing do not know where to buy remanufactured clothing.

(5) Because consumers can't determine the quality of remanufactured clothing before they buy it, and they will perceive higher risks, the government and remanufactured clothing industry should make joint efforts to guarantee that "remanufactured clothing is like a new product". For the whole industry, they should also set high-level and high-standard requirements for remanufactured clothing. The government should also speed up the quality certification of remanufactured products, such as quality control and core technology.

References

- [1] Gong Jihong, An Empirical Study on the Effect of Green Information in Green Purchase Behavior in Jian Sun --Based on 538 questionnaires from Wuhan, Jinan and Chengdu, *Journal of Huazhong Agricultural University (Social Science Edition)* .2012 (4): 11-16.
- [2] Jin Xiaotong, Zhao Taiyang, Li Yang. How does marketing information affect the purchase intention of environment-friendly products --Analysis of moderating effect based on the presence of others [J]. *Management Review*, 2017,29(01):166-174.
- [3] Tu rongting, Lu tangrong, Wei Xia. seeking advantages or avoiding disadvantages: the influence of information content on perceived risks of new products [J]. *economic management*, 2011, 33 (08): 134-148.
- [4] Zhang Zhe, Hu Bingyan. The influence of perceived risk on information search of innovative products-the moderating effect of consumer innovation [J]. *Management Review*, 2014,26(08):145-157.
- [5] Chen kai, gu Rong, Hu Jing. study on the purchase intention of new energy vehicles based on the perceived benefit-perceived risk framework [J]. *journal of Nanjing university of technology (social science edition)*, 2019,18(02):61-70+112.
- [6] Sweeney, J.C., Soutar, G.N. and Johnson, L.W. (1999), The role of perceived risk in the quality-value relationship: a study in a retail environment [J], *Journal of Retailing*, Vol. 75 No. 1, pp. 77-105.
- [7] Sweeney, J.C. and Soutar, G.N. (2001), Consumer perceived value: the development of a multiple item scale [J], *Journal of Retailing*, Vol. 77 No. 2, pp. 203-20.
- [8] Chang, H.H. and Chen, S.W. (2008), The impact of online store environment cues on purchase intention: trust and perceived risk as a mediator [J], *OnlineInformation Review*, Vol. 32 No.6,pp. 818-41.
- [9] Murphy, P.E. and Enis, B.M. (1986), Classifying products strategically [J], *Journal of Marketing*, Vol. 50, July, pp. 24-42.
- [10] Mitchell, V.W. (1992), Understanding consumers' behavior: can perceived risk theory help? [J], *Management Decision*, Vol. 30 No. 3, pp. 26-31.
- [11] Mitchell, V.W. (1999), Consumer perceived risk: conceptualizations and models [J], *European Journal of Marketing*, Vol. 33 No. 1, pp. 163-95.
- [12] Kalafatis, S.P. and Pollard, M. (1999), Green marketing and Ajzen's theory of planned behaviour: a cross-market examination [J], *Journal of Consumer Marketing*, Vol. 16 Nos 4/5, pp. 441-60.