

## The Influence Mechanism of Bleaching and Product Crisis on Purchase Intention-- Adjustment based on Brand Rationality

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**Keywords:** Product Crisis; Greenwashing Crisis; Brand Trust; Brand Legitimacy; Purchase Intention

**Abstract:** Greenwashing behavior has a great impact on the sustainable development of consumers. By integrating the theory of brand trust and brand rationality, this research intended to explore the relationship among crisis (product and greenwashing), brand trust and behavioral intention to consume green brand in Chinese. The data was collected from 200 consumers using structured questionnaires. The results show that: brand legitimacy plays a significant negative adjustment role in the influence of two crises on brand trust, and the regulation is more effective for the greenwashing; the product and the greenwashing crisis influence consumers' purchase intention through mediating effect of brand trust, thus better explained the "abnormal" phenomenon. Also, this study has significant implications for the development of the green brand producers that seek to develop intervention strategies aimed at increasing green brand in Chinese.

### 1. Introduction

The consumers tend to the products which have good performance, high safety factor and green environmental protection. At present, the market saturation is relatively stable. The industry division of labor has been refined and the core competitiveness of the industry to maintain a balance. Under the condition, companies choose to reduce production costs firstly, in order to offset the price competition loss and obtain more profits. Then, product quality and safety will be changed. If it lack strong innovation initiatives or technical support, product crisis will arise.

In general, once the enterprise brand appears crisis, it will tend to lower the consumer brand trust and purchase intention. However, sometimes the consumers behavior will appear "abnormal" phenomenon, that is, a well-known brand occurs product has a product crisis and greenwashing crisis, consumers still favor this brand. According to "abnormal" phenomenon, this paper combined with the case to make the following.

Case 1: Volkswagen Group firstly settled in China's auto market and have a good reputation in the country. But in recent years, a series of scandals--Automotive gearbox (DGS) failure, Sagittarius car broken shaft problem, Volkswagen diesel vehicles installed embedded software to escape exhaust emissions check (Greenwashing Behavior). The method that Volkswagen Group deal with these problem vehicle just was recalled and repaired[1].

Case 2: Apple Inc. as a company who is long standing on the top of IT industry. Each product has relatively fixed audience. The leakage rate control is unstable due to the replacement of the chip. New products appear flash quality problems caused crash, Caton, crash, "Diaoqi door", "dyeing door", "curved door" and environmental Colonization in China [2] (Greenwashing Behavior).

From the above two cases, we can see that the two brands have occurred product crisis and greenwashing crisis. However, according to the statistics of car sales network, Volkswagen sales is stable and some models sales have increased. Apple Inc. still occupy the top of the brand without any affect. In fact, there are similar problems with similar brand company. After being exposed by the media, their brand products are still popular and consumer purchase intention will not change obviously.

## **2. Theory and Literature Review**

In order to analyze the mechanism of influence among product crisis, greenwashing crisis, brand trust, brand rationality and willingness to buy, this study will review and explore relevant theories and previous studies.

### **2.1 Product Crisis.**

Siomkos & Kurzbard [3] summarize the product crisis as an occasional and widely publicized event, the product is defective or dangerous to the consumer. Most of the research on product crises focuses the measures enterprises take to resolve the crisis and the relationship between the crisis and the consumer after the occurrence of the problem. Wang Laufer, Silvera and Meyer [4] explored the differences between young and old consumers in attribution of product injury crises.

### **2.2 Greenwashing Crisis.**

"Greenwashing" means that enterprises often can not really implement the green commitment, under the banner of a green brand claiming to be a green brand, but in fact did not put the corresponding action to protect the environment [5]. Lyon (2008) [6] argues that an enterprise, a government, or an organization promotes itself as a means of protecting the environment and is actually doing something that destroys the environment, is "greenwashing". Bazillier [7] believes that the company's actions even if there is no damage to the environment, but the protection of the environment "actually do less than propaganda," is "greenwashing". Hartmann [8] argues that a brand that gives "green" will win a win-win result, on the one hand, can achieve sustainable development; the other hand, the characteristics of these green brands to consumers of their brand's positive emotions have a greater attraction, increase the purchase intention.

### **2.3 Brand Trust.**

There are many relevant research of brand trust. some scholars like Bhattacharya (1998) [9] defines "trust" as the expectations of positive results which an individual can obtains, and this kind of expectation is based on the desired action produced by the other side of transaction under the uncertain conditions. Hiscock [10] believes that the ultimate goal of marketing is to establish strong ties between consumers and brands, and this relationship's main content is trust. Elliot, Wattanasuwan and others [11] adopts the view of sociological, and they consider that the emotional relationship between consumers and brands is reflected by brand trust when they cared about the emotional aspects of brand loyalty.

### **2.4 Brand Legitimacy.**

Brand Legitimacy refers to a common perception or assumption that the behavior or brand strategy in social construction which norms, beliefs, and definition is legitimate, appropriate and proper system [12]. Greer [13] thinks when organizations or enterprises can adapt to long-term institutional environment, and the behavior is reasonable in this environment, and consumer is willing to do the repetitive purchase behavior, thus the organization or enterprise has gained the legitimacy. Besides, when the organization or brand obtain the social culture agreement, it can be considered reasonable.

### **2.5 Purchase Intention.**

Purchase intention is used to measure the possibility of consumers to buy the product, so it can be used as one of the most important factors to predict consumer behavior, which means the higher purchase intention, the greater possibility of buying the product. Zeithaml [14] and Sinha and De Sarbo [15] defines purchase intention as the possibility for a consumer to buy a product or service. Zhu Zhixian [16] defines the purchase intention as the psychological tendency of consumers to buy the products they need, which is the emergence of consumer psychology and the prelude of purchasing behavior. Based on the theory of multiple mathematicians, this paper argues that the purchase intention comes from brand trust, and only when consumers trust a brand, will the purchase intention be produced.

### 3. Research Assumptions

Through the analysis, this paper propose some hypothesis puts as follows:

H1: Product crisis and greenwashing crisis will have a negative impact on consumer brand trust.

H2: Brand legitimacy is a negative direction between the product crisis and brand trust. That is, brand legitimacy weakened the degree that product crisis reduces brand trust.

H3: Brand legitimacy is a negative direction between the greenwashing crisis and brand trust. That is, brand legitimacy weakened the degree that greenwashing crisis reduce brand trust.

Survey shows that in product crisis and greenwashing crisis, the consumer's attitude to the green crisis is not stronger than product crisis. This is caused by information asymmetry. But for the product crisis, the consumer can directly see the quality of the problem with your eyes to combat consumer brand confidence; The seriousness of the product crisis is an important aspect of the nature of the crisis and also an important factor in the crisis negative consequences, that will affect the consumer concerns and inference other information in the crisis situation [17]. Therefore, putting forward the hypothesis:

H4: After greenwashing crisis, brand legitimacy can reduce the negative impact on brand trust more than after product crisis.

If there have brand product crisis, after brand legitimacy adjusting. Consumer brand trust has become an important basis for its choosing brand selection. If consumers have a higher brand trust, they will be willing to buy the brand products[18]. So, putting forward the hypothesis once again:

H5: Product crisis and greenwashing crisis affect the consumer purchase intention and the brand trust plays a significant intermediary role during the process.

### 4. Research Methods and Hypothesis Validation

This paper design the experiment with questionnaire. First of all, through reviewing literature to design the initial questionnaire, and make pre-test. And then, according to the pre-test data analysis to modify the questionnaire.

The questionnaire includes two scenarios: One is an internationally renowned brand mobile phone is very popular and has a larger brand equity. But its products have a quality problem that affecting consumers interests seriously. Second, an internationally renowned brand mobile phone has good reputation and has a strong brand equity. But its products do not meet the "green" they publicized. Subjects fill the questionnaire according to the scenarios. In this paper, 240 questionnaires were distributed and 200 valid questionnaires were obtained.

#### 4.1 Reliability and Validity Test.

In this paper, we use the collected pre-test data for reliability and validity test analysis, using SPSS18.0 and AMOS20.0 statistical analysis. First, testing questionnaire reliability, and the Cronbach's  $\alpha$  coefficient is above 0.7, which indicates that all the variables in the model have good reliability. Second testing validity, using exploratory factor analysis, we could find KMO value is 0.730 greater than 0.7. The data is suitable to do factor analysis. And the five principal component eigenvalues which be extracted are more than 1. Each principal component corresponds to a variable in the model; The  $\lambda$  value of each question is greater than 0.5, the AVE value is greater than 0.5, CR is greater than 0.8. This indicates that the factors have a good validity. The data will be regression analysis.

#### 4.2 Data Analysis and Hypothesis Validation.

This article examines whether product crisis and greenwashing crisis affect consumer brand trust. Let product crisis and greenwashing crisis as independent variables, each of them do regression analysis. As shown in Table 1, the results show that product crisis has a significant negative impact on brand trust (The regression coefficient is -0.254,  $p=0.000<0.05$ ); Greenwashing crisis has a significant negative impact on brand trust too (The regression coefficient is -0.220,  $p=0.002<0.05$ ). Therefore, product crisis and greenwashing crisis can reduce brand trust.

H1 is verified.

**Table 1** The Impact of Crisis on Brand Trust Analysis

Variable		
Product crisis	-.254**	
Greenwashing crisis		-0.220**
R2	0.064	0.048
P (F)	0.000	0.002

Note: \*\* indicates that the coefficient is significant at the 5% level.

In order to better understand the regulatory role of brand rationality, adding well-known brand product brand rationality of the scene, and test subjects on the product crisis, greenwashing crisis, brand trust and brand rationality of the control effect. In the rational regulation of the role of the brand, product crisis has a significant impact on brand trust ( $p < 0.05$ ), greenwashing crisis also has a significant impact on brand trust ( $p < 0.05$ ). Product crisis and brand rationality cross-term estimation coefficient ( $0.236, p = 0.002 < 0.05$ ) and the greening crisis and brand rationality cross-term estimation coefficient ( $0.269, p = 0.001 < 0.05$ ) are very significant, Indicating that the brand rationality play a good regulatory role. Thus, H2 and H3 are verified (as shown in Table 2). In the impact of the product crisis and green crisis on brand trust, the effect of brand rationality on the regulation of the greenwashing crisis (0.269) is more effective than on the regulation of the product crisis (0.236). That is, the rationality of the regulatory role of the greenwashing crisis than the product crisis can reduce the negative impact of the crisis on the brand. So, H4 is supported.

**Table 2.** Analysis of the regulatory role of brand rationality

Variable	(1)		(2)	
Product crisis	-.238**	-.294**		
Greenwashing crisis			-.211**	-.290**
Brand rationality	.177**	.267**	.188**	.297**
Product crisis*Brand rationality		.236**		
Greenwashing crisis*Brand rationality				.269**
R-squared	0.095	0.139	0.083	0.137
P value (F statistic)	0.000	0.002	0.000	0.001

Note: \*\* indicates that the coefficient is significant at the 5% level.

Get the result of the crisis on the brand trust test, then look at mediating role of brand trust, in the regulation of the rationality of the role of the brand, to show the mechanism of the decline in the willingness of consumers to buy after the crisis. First, in the linear regression model with brand trust as the dependent variable, product crises and greenwashing crises have a significant effect on brand trust. Then, in the linear regression model with the brand trust as the independent variable and the purchase intention as the dependent variable, brand trust has a significant impact on consumer purchasing intent. Finally, in the linear regression model with the purchase intention as the dependent variable and the two crises as independent variables. the significant effect before becomes no longer significant. In this way, the mediating role of brand trust is validated and fully mediated (as shown in Table 3). Therefore, H5 is supported.

**Table 3.** Effect of Crisis on Brand Trust under Brand Regulation

Variable		
Effect of Crisis on Brand Trust under Brand	Product crisis*Brand rationality	-0.406**
	Greenwashing crisis*Brand rationality	-0.346**

Regulation	R-squared	0.165	0.120
	P value (F statistic )	0.000	0.000
Impact of brand trust on purchase intention	Brand trust*Brand rationality	0.216**	
	R-squared	0.047	
	P value (F statistic )	0.002	
Impact of the crisis on the purchase intention	Product crisis*Brand rationality	-0.047	
	Greenwashing crisis*Brand rationality		-0.048
	R-squared	0.002	0.002
	P value (F statistic )	0.509	0.503

Note: \*\* indicates that the coefficient is significant at the 5% level.

In conclusion, five research hypotheses are presented. After the data of the experimental results are verified, the hypothesis is obtained. Therefore, the five hypotheses have been verified.

## 5. Research Summary and Discussion

In recent years, some well-known brands continue to have problems, to bring impact on consumers. There is an "abnormal" phenomenon that some well-known brands have a crisis which sales are still relatively stable or even increased. This research focuses on this "anomaly" phenomenon, add the brand rationality theory to the construction model, collect valid data for analysis by questionnaires, study the regulatory role of the brand rationality, and achieved certain results.

First, this article examines consumer perceived product crises and the impact of the greenwashing crisis on brand trust, found that the product crisis and the greenwashing crisis have a significant impact on brand trust, indicating that the product crisis and the greenwashing crisis can reduce the consumer's brand trust. Second, in the case of brand rationality, linear regression analysis shows that the regulation of brand rationality is significant, indicating that it has played a very good negative regulation between product crisis, greenwashing crisis and brand trust, weaken the crisis brought about by the degree of brand trust reduction. Therefore, the brand rationality lets consumers regain brand trust. Again, through the regulatory role of the rationality of the brand, found that the regulatory role of the brand rationality after the greenwashing crisis is more significant than the product crisis. That is, to reduce the negative impact of the crisis on brand trust. In addition, the product crisis and the impact of the green crisis on the purchase of consumers, the brand trust has played a significant intermediary effect. Finally, the "abnormal" phenomenon mentioned will also be explained by other theories, and looking for other factors that have an impact on this phenomenon, thus put forward more ways to benefit the national brand development, let our own national brand more convenient to the international well-known brands.

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