

# Effects of Agricultural Brand Crisis on Consumers' Brand Attitude

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**Abstract** In this paper, the concept of perceived trust was adopted to investigate the relationship between brand crisis type and brand attitude; what's more, the paper considered the moderating effect of consistency of negative word of mouth on the relationship between the aforementioned two. Empirical study results showed that compared with values-related brand crisis, performance-related brand crisis had a more significant effect on consumers' perceived competence-based trust and there were no significant differences in the negative effects of two types of brand crises on consumers' perceived benevolence-based trust. In addition, consumers' perceived competence-based and benevolence-based trust had a positive effect on brand attitude and consistency of negative word of mouth played a moderating role in the relationship between brand crisis type and brand attitude.

**Key words** Brand crisis, Trust, Brand attitude, Consistency of negative word of mouth

## 1 Introduction

In recent years, information transmission has become unprecedentedly convenient with the popularization of Internet so that food safety events are exposed more broadly and profoundly in the Internet environment as they occur frequently. For example, in April of 2015, thousands of people came together to smash 4 tons of watermelons before a supermarket in Qingdao due to identification of excessive pesticide residues, which caused a stir on the Internet. Nearly 20 media made a report or rebroadcast this incident, which made local watermelon sales drop drastically. The crisis information spread explosively through the platform of network and recipients increase exponentially in a short period of time. However, little attention has been paid to this phenomenon in the domestic circles. Therefore, it's of theoretical and realistic significance to studying the mechanisms of agricultural brand crisis type's effects on brand attitude. Existing researches on brand crisis mainly focus on the antecedent factors of offline effect<sup>[5, 11, 14]</sup>. Few have turned to the study of its mechanisms except anger taken as the mediating role. This paper introduces trust as the mediator and demonstrates the effect of brand crisis on consumers' evaluation of brands. So this article explores the mechanisms of different types of agricultural brand crisis as well as the moderating role of negative online publicity consistency.

## 2 Literature review and hypothesis

**2.1 Brand crisis type and perception of trust** Brand crisis is defined as well-publicized claims of unsubstantiated or false brand propositions, which can harm the trust and confidence that consumers place in brands and endanger the survival of the targeted enterprise. Recently, brand crisis of agricultural products takes

place frequently, such as poisonous rice and old yogurt with industrial gelatin. Those incidents caused serious social and economic problems. Pullig *et al.* divide brand crisis into performance-related crisis and values-related crisis. Performance-related crises are defined as events about specific brand attributes that primarily call into question a brand's ability to provide functional benefits (e. g. the failure of an automobile part that prompts the recall of that model). Values-related crises refer to social or ethical issues that affect a brand's ability to deliver symbolic benefits, such as the revelation of sexual harassment or racial discrimination by members of an organization. Different types of brand crisis have different effects on brand association, perception of risk and trust. Take yogurt for instance, when it's falsely advertised or produced with gelatine for industrial purposes, they bring divergent harm and perception to human beings. The most conspicuous effect is that those crises will impair people's trust placed in the brand, products or enterprise. Domestic scholar Zheng believes that trust is a kind of attitude, surrounding order or the behavior of others with their own wishes. Sako identified three types of trust: contract-based trust, competence-based trust and benevolence-based trust. Competence-based trust derives from brand's or enterprise's competence to satisfy consumers' interests and need; while benevolence-based trust derives from enterprise's fulfillment of its social responsibility. When suffering from product flaws or ethical marketing event, a brand's trust is threatened<sup>[15]</sup>. Since performance-related crises tend to involve quality problems, its functionality is easy to be doubted and the products do not meet the realistic interests and needs of the constituents, thus their perception of competence-based trust is lower; the values-related crisis usually refers to the fact that the focused company does not abide by the mainstream norms and cultural systems by challenging the moral bottom line of constituents, which will lower their perception of social values. According to the above deduction, the following hypotheses are put forward.

**H<sub>1a</sub>** Compared with values-related crises, when performance-related crises take place, consumers' perception of compe-

tence-based trust is lower;

**H<sub>1b</sub>** Compared with performance-related crises, when values-related crises take place, consumers' perception of benevolence-based trust is lower.

**2.2 Perception of trust and brand attitude** Because of the high-speed development of network, the Internet is becoming a main approach exerting influence on product evaluation and information transmission<sup>[22]</sup>. Negative information will be conveyed following a brand crisis whose transmission can be prompt. Consumers' evaluation on brands will be affected by online external information to a large extent. Trust occupies a large part in brand image and attitude. When a brand suffers from a crisis, the event will not only threaten the trust of the focused brand but also affect other brands, even the whole industry<sup>[8]</sup>, and the related problems will long exist and be widespread in the enterprises of this industry<sup>[15]</sup>. Therefore, the crisis will lower consumers' evaluation on focused brands. Sako<sup>[12]</sup> proposed that institutionalized behavior and marketing behavior would promote consumers' support through the mediating role of trust, that is to say, the higher the consumers' perception of trust in institutionalized and marketing behavior, the more the consumers' support. In a similar way, this paper proposes that consumers' perception of trust in focused brand will lower their support and evaluation for the focused brands regardless of performance-related crises or values-related crises. Therefore, the following hypotheses are put forward.

**H<sub>2</sub>** The lower the consumers' perception of trust in the focused brand, the lower the consumers' evaluation for focused brands;

**H<sub>2a</sub>** The lower the consumers' perception of competence-based trust for the focused brand, the lower the consumers' evaluation for focused brands;

**H<sub>2b</sub>** The lower the consumers' perception of benevolence-based trust for the focused brand, the lower the consumers' evaluation for focused brands.

**2.3 The moderating role of negative online publicity consistency** The rapid development of Internet enables people to have more access to information. Consumers can acquire the latest information through not only the traditional channels like radio, newspapers and television but also the new platforms including news portal, Weibo, BBS, WEChat. Zhao, Hoeffler and Zauberma<sup>[20]</sup> find that people usually use two different information processing systems, namely cognition-based and emotion-based processing system. Cognition-based processing system is responsible for complex processing, analysis and thinking with a slower speed; while emotion-based processing system is responsible for processing of intuitive information, automatic emotional responses with a quicker speed<sup>[9]</sup>, which has an independent effect on persuasion<sup>[4, 21]</sup>. A number of studies have proved the effects of cognition-based and emotion-based processing system on consumers' attitudes<sup>[20, 6]</sup>. When receiving different information, people will start different information processing modes. When facing relatively complex information, people tend to allocate more cognitive re-

sources to analyze and process<sup>[17]</sup>. The higher the complexity of information, the more the cognitive resources, so the cognition-based processing mode is started<sup>[16]</sup>. This study argues that once brand crisis of agricultural products occurs, information about the focused brand will be produced and spread. As an essential channel of information transmission, the Internet plays an important role in spreading crisis information to the consumer through a variety of network platforms, among which network word of mouth serves as an effective way. Compared to network word of mouth, identical word of mouth will cause a bigger drop in the focused brand when values-related crisis takes place. The reason is that consumers will adopt emotion-based processing system to address values-related crisis according to intuition, social values and norms so as to lower people's evaluation on the focused brand. Compared with consistent network word of mouth, different network word of mouth of the crisis is more likely to cause a bigger drop in the focused brand when performance-related crises occur because different network word of mouth may indicate that the main responsibility should be taken by different subjects. As for this type of complex, fuzzy information, consumers will use a cognition-based processing system. The more the information that customers analyze and process, the lower the evaluation on the focused brand. To sum up, this paper puts forward the following hypothesis.

**H<sub>3</sub>** Consistency of online negative publicity moderates the relationship between brand crisis type and brand attitude, namely, in the case of values-related crisis, online negative publicity consistency causes lower brand attitude than inconsistency; in the case of performance-related crises, online negative publicity inconsistency causes lower brand attitude than consistency.

### 3 Empirical analysis

This research adopts the situational simulation method to test the above hypotheses through two steps; firstly, testing the influence of different types of negative brand crisis on consumers' perception of trust and whether consumers' lower perception of trust exerts impact on evaluation for focused brands; secondly, testing whether negative word of mouth consistency plays a role in the relationship between brand crisis type and brand attitude.

**3.1 Experiment design** This paper chooses rice as the experiment stimulus material based on the following consideration; firstly, rice is a necessity of people's life, which is familiar to common people since they often purchase rice; secondly, rice industry has undergone safety events in recent years, such as the "golden rice" event taking place in Hunan Province in 2011 and later "cadmium rice" events, attracting people's close attention. Therefore, rice industry can provide a truthful experimental material to effectively stimulate participants and achieve the target of experiment. We referred to China Business Journal and other food websites for information of rice industry crisis. According to the searching results, performance-related crisis and values-related crisis materials are designed. After the discussion of 1 doctor student and 4 postgradu-

ates from College of Economics and Management, the final stimulus material came into being. This research employed Tao scale to measure perception of trust with two items and three items respectively to measure benevolence-based trust and competence-based trust. The first two go like "I don't think brand M is a socially responsible enterprise" and "I think the practice of brand M is not in conformity with the social code of ethics". The items to measure competence-based trust are "I think the practice of brand M is not competent", "I think the products of brand M are not up to consumers' expectation" and "I think brand M is trustworthy in its functionality". The measurement of dependent variable is based on the scale of Cheng<sup>[17]</sup>. Negative word of mouth in this article is divided into consistency and inconsistency. Based on information of major social networking sites, stimulus material about negative word of mouth was formed and also adaptation was made from Wang<sup>[19]</sup>, with two items including "I think word of mouth negativity is high, and "I think negative word of mouth consistency is high". All items were measured on a seven-point scale (7 = "strongly agree", 1 = "strongly disagree").

**3.2 Pre-test** The purpose of pre-test is to examine the effectiveness of stimuli of agricultural brand crisis and whether negative word-of-mouth material is up to the expectation. We randomly gave out 60 questionnaires through the questionnaire web and each participant received payment of 5 yuan. The pre-test questionnaire includes two types of experiment materials; one is about brand crisis, and the other is about negative word-of-mouth. Performance-related crises are codes as "1", values-related crises as "2". Negative word-of-mouth consistency is coded as "0", negative word-of-mouth inconsistency as "1". The results showed that the four stimuli materials were all significant.

**3.3 Experiment I** The purpose of Experiment I is to verify  $H_1$  and  $H_2$ . Using situational simulation method to simulate performance-related crises and values-related crises, subjects were ran-

**Table 1 Variance analysis of brand crisis type's effect on perception of trust**

Dependent variable	Brand crisis type		F	Sig.
	Values-related crisis	Performance-related crisis		
Benevolence-based trust	1.2759	1.2411	0.030	0.862
Competence-based trust	1.8276	1.1429	11.053	0.001

**Table 2 Regression analysis of perceived trust's effect on consumers' attitude toward focused brands**

Attitude towards focused brands	Non-standardized regression equation		Standard regression coefficient	T	Sig.
	B	Standard error	Beta		
Benevolence-based trust	0.313	0.109	0.301	2.868	0.005
Competence-based trust	-0.210	0.101	-0.218	-2.078	0.040

**3.4 Experiment II** Experiment II was designed to test  $H_3$  by 2 (brand crisis type; values-related crisis and performance-related crisis)  $\times$  2 (negative word of mouth; consistency and inconsistency). The measurement of variables in Experiment II is the same as Experiment I. As for negative word of mouth, consistency is defined as "0", and "inconsistency" is defined as "1". Subjects were randomly assigned to four groups, a total of 120 questionnaires, among which 115 were effective. 47% were about men,

domly divided into two groups to test consumers' perception of trust in different contexts. This experiment was conducted online. 120 questionnaires were randomly distributed. The recovery rate was 100%, among which 114 were valid, 58 samples belonging to values-related crisis, 56 performance-related crises. Males constitute 52.6%, females 47.4%. SPSS17.0 was adopted to examine the reliability and validity of trust and brand attitudes. The results showed that consumers' perception of benevolence-based trust, competence-based trust and brand attitude was all reliable (Cronbach's = 0.85, 0.84, 0.85). Two factors are extracted from principal component factor analysis of trust, the factor load of both is above 0.74, and the cumulative variance contribution rate is 81.48%. So the data in this experiment is credible and effective.  $H_1$  was tested by analysis of variance. The results show that brand crisis type's influence on consumers' perception of trust is significant. Compared with the values-related crisis, performance-related crisis can lead to a drop in consumers' perception of competence-based trust ( $M_{\text{performance-related crisis-competence-based trust}} = 1.14 > M_{\text{value-related crisis-competence-based trust}} = 1.83, P = 0.001$ ). So  $H_{1a}$  was confirmed. But there is no significant difference in consumers' perception of trust between values-related crisis and performance-related crisis ( $M_{\text{performance-related crisis-benevolence-based trust}} = 1.24 \approx M_{\text{value-related crisis-benevolence-based trust}} = 1.27, P = 0.862$ ). Therefore,  $H_{1b}$  was not confirmed.  $H_2$  was tested by linear regression analysis. The results showed that consumers' perceived benevolence-based trust and competence-based trust on consumers' evaluation of focused brands was significant ( $p_{\text{benevolence-based trust}} = 0.005 < 0.05$ ,  $p_{\text{competence-based trust}} = 0.040 < 0.05$ ), and regression coefficients of benevolence-based trust and competence-based trust were 0.313, -0.210, indicating that the greater the perceived consumer trust, the higher the network externality to focused brands. So  $H_2$  was confirmed.

53% women. The reliability and validity of the variables were checked. The results showed that the coefficient of each variable alpha was greater than 0.70 ( $\alpha_{\text{benevolence-based trust}} = 0.847$ ,  $\alpha_{\text{competence-based trust}} = 0.838$ ,  $\alpha_{\text{brand attitude}} = 0.91$ ), and two factors are extracted from consumers' perception of trust. The cumulative variance contribution rate is 81.29%. Therefore, the experimental data have good reliability and validity.  $H_3$  was tested by using ANOVA. The results showed that there was an interaction effect

between brand crisis type and negative word of mouth and the interaction had significant effect on consumers' evaluation of focused

brands ( $F = 4.335, P < 0.05$ ).

**Table 3 ANOVA of the moderating role of negative word of mouth**

Dependent variable; brand attitude						
Source	III sum of square	Df	Means square	F	Sig.	
Calibration model	5.813a	3	1.938 0	1.610	0.019	
Intercept	28.101 0	1	28.101 0	23.347	0.000	
Crisis type	0.046 0	1	0.046 0	0.038	0.846	
Consistency	0.418 0	1	0.418 0	0.347	0.557	
Crisis type * consistency	5.218 0	1	5.218 0	4.335	0.040	
Error	133.598 0	111	1.204 0			
Total	167.333 0	115				
Corrected total	139.411 0	114				

## 4 Conclusions

This study shows that performance-related crises are more likely to result in a loss of consumers' perceived competence-based trust compared with values-related crisis and consumers' perceived benevolence-based trust and competence-based trust significantly influence consumers' evaluation of focused brands. Negative online word of mouth consistency can moderate the relationship between brand crisis type and evaluation on focused brands. When values-related crisis occurs, negative online word of mouth consistency will lead to lower evaluation of the focused brand compared with inconsistency; when performance-related crisis occurs, negative online word of mouth inconsistency leads to lower evaluation of the focused brand compared with consistency.  $H_{1b}$  is not verified, that is, performance-related crisis and value-related crisis exert no significant effects on perceived benevolence-based trust. Previous studies have indicated that an enterprise in a certain community or region will be considered legitimate only by abiding by the values and ethics in the given context. Values-related brand crisis will cause consumers to lower the benevolence-based trust of focused brands and the perception of benevolence-based trust is much lower; but whether it is values-related crisis or performance-related crisis, they both lower consumers' perceived trust, and there is no significant effect between the two. The reason is that performance-related crisis lowers consumer perception of benevolence-based trust through competence-based trust. Although the focused enterprise will explain the crisis, consumers tend to think that breaking benevolence-based trust is the fundamental cause behind performance-related crisis. Therefore, no significant impact on the perception of benevolence-based trust from crisis type is found.

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