

## Impact of Coping Strategy for Indefensible Product-Harm Crisis on Buying Intention

Xin Liu\*, Muzhi Liu

School of management, Jinan University, Guangzhou, China

### \*Corresponding author

Xin Liu

### Article History

Received: 01.04.2017

Accepted: 10.04.2018

Published: 30.04.2018

### DOI:

10.36347/sjebm.2018.v05i04.003



**Abstract:** Based on research findings on product-harm crisis by scholars at home and abroad, this study discussed how coping strategy adopted by corporations facing indefensible product-harm crisis affect consumers' buying intention by choosing relationship quality between consumers and brands as the moderating variable, referring to relevant contents of attribution theory, and adopting the field experiment method. The study results showed that coping strategy adopted by corporations facing indefensible product-harm crisis can impact consumers' responsibility attribution, thus further influencing consumers' buying intention. It is stated that brand relationship quality can to some extent moderate consumers' responsibility attribution of crisis events. This means that when relationship quality between consumers and brands is strong, consumers are more likely to believe that corporations should not take the main responsibility of the crisis.

**Keywords:** indefensible product, harm crisis, coping strategy, brand relationship quality, attribution theory.

### INTRODUCTION

Product-harm crisis refers to sporadic and widely-spread events that a certain product is defective or the product may do harm to consumers [1].

According to criterion that whether product defect or harm violates relevant product laws and regulations or safety standards, product-harm crisis can be classified into defensible product-harm crisis and indefensible product-harm crisis. Defensible product-harm crisis means that corporations are able to clarify and prove the product is harmless and flawless through media or on the court. Indefensible product-harm crisis indicates that corporations are unable to clarify and prove the product is harmless and flawless, so the product should be recalled or withdrawn and corporations may face plentiful civil actions [2]. As to indefensible product-harm crisis, product defect or harm violates current product laws and regulations as well as safety standards. Once indefensible product-harm crisis occurs, they may lead to more serious and widely-spread negative impacts than defensible product-harm crisis [3].

In recent years, problems concerning product quality and safety have appeared frequently in Chinese hotels. For example, a hotel in Fujian Province used unbranded and dateless edible oil from a nameless factory; a hotel restaurant in Sichuan Province used illegal cooking oil; and waiters in express hotels used cleaning towels to wipe glasses after brushing toilets. It is commonly seen that express hotels used bed sheets,

bath towels, towels that failed to reach the standard, violating hotel product safety and operation specification. Home Inn in 2014 and Pod Inn in 2015 were both exposed that their sanitation failed to reach the standard. Such indefensible product-harm crisis frequently occurs in the hotel industry due to product or service defects. Coping strategies that corporations adopted to handle such indefensible product-harm crisis significantly affect consumers' perceived quality of hotel's service, buying intention and brand attitude. Once indefensible product-harm crisis takes place, hotels may resort to different coping strategies. Then what is the impact of these strategies on consumers' buying intention? What is the impact of consumers' different attributions of product-harm crisis on their buying intention? And which strategies should hotels adopt to cope with crisis to further affect consumers' buying intention? Psychological attribution theory has been increasingly introduced to study of product-harm crisis by scholars at home and abroad. Scholars adopted attribution theory to discuss the impact of product-harm crisis on consumers' attitude formation and buying intention. According to the perspective of attribution theory, this study probes into the relationship between coping strategies of indefensible product-harm crisis and consumers' buying intention. It also explores how different attributions moderate the

relationship between coping strategies of indefensible product-harm crisis and consumers' buying intention, and how brand relationship quality regulate the relationship between coping strategies of indefensible product-harm crisis and consumers' buying intention. The aim is to provide reference for hotels when adopting coping strategies for such crisis events.

## **LITERATURE REVIEW AND HYPOTHESIS PROPOSITION**

### **Literature Review**

When crisis events take place, different corporations tend to adopt different coping strategies to prevent the crisis from deterioration so as to reduce loss. However, not all corporations can choose proper coping strategies. Faced with crisis, most corporations at most take an ambiguous attitude [4]. To solve this problem, scholars at home and abroad put forward different coping strategies. Coombs [5] classified coping strategies for crisis into four attitudes. First is refusal, trying best to eliminate the relationship between any organizations and crisis events. Second is relief, attempting to reduce attribution controlled by organizations and relieving negative impacts of the crisis. Third is rebuilding, trying to improve organizations' reputation by taking some responsibilities. Fourth is support, establishing positive relationship between organizations and the public by showing organizations' support for stakeholders. Siomkos and Kurzbard [1] put forward concept of response continuum, subdividing organizations' coping strategies for product-harm crisis into four categories from negative to positive. First is firm denying; that is, corporations in crisis firmly deny any responsibilities of the defective products. Second is compelling recall; that is, corporations in crisis recall products according to the government's requirements. Third is initiative recall; that is, corporations in crisis recall products before the government's claim. Fourth is positively taking responsibilities; that is, corporations in crisis positively declare to take responsibilities and give out real information to show their concern about consumers' interests. According to Niraj Dawar and Madan M. Pillutla [6], classification of corporations' coping strategies for product-harm crisis from firm denying to positively taking responsibilities can be seen as continuous function from definitely denying responsibilities to definitely taking responsibilities. Some scholars found that when corporations are more positive to cope with product-harm crisis, they are more likely to gain consumers' sympathy. In the response set sequence when corporations cope with product-harm crisis, coping strategies are actually the number axis from negative to positive. Corporations may adopt any coping strategies along this number axis.

When corporations are deciding the specific coping strategies to prevent or reduce loss from crisis, it should be in line with consumers' responsibility

attribution of indefensible product-harm crisis to work out suitable coping strategies so as to better solve crisis and comfort consumers.

From the perspective of popular psychology, Heider [7] firstly proposed that attribution theory explains and analyzes causal relation of human activities. This can be used to explain the relationship between situation and selection of communication mode of crisis [8]. Responsibility attribution refers to the process in which individuals explain and speculate themselves' and others' behaviors. This reflects individuals' cognition of the reason of causing some events. Reason gained from attribution is actually individuals' subjective explanation, not necessarily the real reason of causing some events. However, such an explanation is more likely to influence individuals' emotions and behaviors than the real reason [9]. Based on Heider's study, Weiner put forward three-dimensional attribution theory model, that is, factor source, stability and controllability. Factor source divides factors of corporations' product-harm crisis into external attribution and internal attribution. External attribution means that the source of crisis is outside the corporation while internal attribution refers that the source of crisis lies in the corporation itself. As to stability, the type of corporations' product-harm crisis events is classified into sporadic events and recurrent events. Concerning controllability, factor that influences corporations' product-harm crisis events is viewed as controllable and uncontrollable [10]. Through scholars' study and verification, three-dimensional attribution theory model has been a relatively complete and systematic theoretical framework. According to this model, unpredictability and negative impact of the judged events are two important preconditions to apply attribution theory. Indefensible product-harm crisis events possess the two characteristics of unpredictability and negativity.

In order to quantify corporations' coping strategies, this article simplifies corporations' coping strategies for product-harm crisis into firm denying, passive rectification, active rectification and positively taking responsibilities. Then situation hypothesis was conducted based on these four strategies in the following empirical research. In addition, this study ensured research mentality and framework by referring to the attribution theory model of Weiner. Factor source states that the behavioral source of causing crisis events is from the behaviors' interior or exterior. In this study, source of indefensible product-harm crisis events is not from hotels' interior. Therefore, this article studies the roles of stability and controllability in indefensible product-harm crisis.

## Research Hypothesis

### Relationship between Coping Strategy and Consumers' Buying Intention

Buying intention refers to consumers' subjective inclination for some products so that consumers' behavioral index can be predicted [11]. Effective coping strategies for crisis can improve the relationship between corporations and consumers, eliminate and weaken the negative impacts of the crisis [12] so as to reduce, maintain or even strengthen consumers' buying intention to a maximum limit [13]. Unreasonable coping strategies can easily lead to loss of consumers compared with the failed product and service [12]. Corporations' passive attitude will impel consumers' contradicted attitudes towards corporations, affecting cooperation between consumers and corporations. Corporations' active attitude, however, will promote consumers to accept the measures taken by corporations to cope with the crisis. In this case, consumers are willing to give corporations opportunities, thus creating strong basis for the long-term cooperation between consumers and corporations [14]. According to the degree of the negative impacts of indefensible product-harm crisis, crisis events can be classified into serious crisis, medium crisis and light crisis. Concerning serious crisis and medium crisis, corporations' coping strategies and reflecting time most significantly affect consumers' re-buying intention while corporations' social responsibilities and external environment most significantly affect consumers' re-buying intention in light crisis [15]. Corporations' high reputation and positive external environment can reduce consumers' perceptive risks, thus weakening negative impacts of light crisis on consumers' buying intention [1]. Crisis events of recalling products produce negative impacts to a certain extent on consumers' buying intention. However, if corporations actively adopt improvement strategies, the negative impacts of crisis events on consumers' buying intention can be weakened [16]. Therefore, the following hypothesis is proposed.

**H1.** Coping strategies for indefensible product-harm crisis adopted by hotels affect consumers' buying intention of hotel products.

### Moderating Effect of Responsibility Attribution Relationship between Coping Strategy and Responsibility Attribution

If coping strategies that corporations adopt and media's reflection are positive, consumers are likely to reduce corporations' responsibility attribution [1]. Consumers tend to connect responsibility attribution with the action that corporations adopt to cope with the crisis, thus finally judging whether corporations have successfully handled the crisis. When corporations adopt coping strategies of initiative recalling and actively taking responsibilities, consumers will think that corporations should bear less responsibility. When corporations' coping strategies

are more active, consumers are more inclined to believe that occurrence of crisis events is uncontrollable for corporations [1, 17]. Thus, put forward the following hypotheses.

**H2.** In indefensible product-harm crisis, corporations' coping strategies directly affect consumers' responsibility attribution.

**H2a.** In indefensible product-harm crisis, when corporations' coping strategies are more active, consumers are more inclined to believe that crisis events are sporadic rather than existent all the time.

**H2b.** In indefensible product-harm crisis, when corporations' coping strategies are more active, consumers are more inclined to believe that crisis events are uncontrollable.

### Relationship between Responsibility Attribution and Consumers' Buying Intention

When consumers attribute corporations' responsibility of product crisis as uncontrollable, external and sporadic, they will reduce criticism and condemn of corporations and keep high buying intention of future products [7, 10]. There exists chain reaction between consumers' attribution and consumers' attitudes and behaviors. If consumers attribute corporations' responsibility to external factors, it will be helpful in eliminating consumers' blame for corporations, changing consumers' attitude and evaluation of corporations and even strengthening consumers' buying intention of the corporations' products [19]. Attribution result of indefensible product-harm crisis will affect consumers' cognition of crisis, distinguishing of responsibility and perception of danger, further affecting their buying behaviors [20]. Since indefensible product-harm crisis happened, when corporations' product strategies are more active, consumers are more likely to attribute crisis to external factors rather than internal ones and their buying intention will be stronger [21].

**H3.** In indefensible product-harm crisis, consumers' responsibility attribution of crisis events has mediating effects on the process in which coping strategies affect buying intention.

**H3a.** Stability dimensionality of responsibility attribution has moderating effects on the process in which coping strategies for indefensible product-harm crisis affect consumers' buying intention.

**H3b.** Controllability dimensionality of responsibility attribution has moderating effects on the process in which coping strategies for indefensible product-harm crisis affect consumers' buying intention.

### **Moderating Effect of Brand Relationship Quality**

Brand relationship quality refers to consumers' voluntarily and long-term held idea which is oriented by relationship, derived from interaction between consumers and brands. It is positive with strong emotional coloring. It is also measurement of brand equity based on consumers, reflecting continuous intensity and development capability between consumers and brands [17]. Huang Jing [22] held that brand relationship quality indicates relationship's intensity. Initial relationship's quality directly affects consumers' cognition. Therefore, brand relationship quality can be viewed as an important factor to test its impact on continuing brand relationship. When consumers have favorable relationship with brands and have low expectations for remedy, they tend to believe that crisis events are sporadic rather than existent all the time [23]. When studying indefensible product-harm crisis, Jin Xiaotong [24] found that existing brand relationship quality can positively regulate effects of coping strategies on consumers' buying intention. The core dimension of brand relationship quality is consumers' brand trust which further positively affect brand commitment. Then brand commitment positively affects consumers' attitudes towards temporarily defective products [25].

**H4.** In indefensible product-harm crisis, brand relationship quality positively moderates the relationship between coping strategies and consumers' buying intention.

When brand relationship quality between consumers and brands is strong, consumers have low expectations for loss remedy of crisis events. They think that crisis events are sporadic rather than existent all the time [26]. Therefore, consumers' responsibility attribution of corporations can be effectively reduced [23, 27, 28]. When brand relationship quality is strong, consumers tend to believe that cause of crisis events wouldn't lie in corporations' external factors and they are sporadic events [29, 30]. When discussing impacts of relationship between brands and consumers after product-harm crisis, Holladay found that worse relationship between brands and consumers affect corporations' reputation, choice of coping strategies and consumers' perception of danger. .

**H5.** In indefensible product-harm crisis, brand relationship quality moderates the relationship between corporations' coping strategies and consumers' responsibility attribution.

**H5a.** In indefensible product-harm crisis, brand relationship quality negatively moderates the relationship between coping strategies and stability of responsibility attribution.

**H5b.** In indefensible product-harm crisis, brand relationship quality negatively moderates the relationship between coping strategies and controllability of responsibility attribution.

### **Study Design**

#### **Test Design**

Notices were posted up in campus to invite students for a study and they were provided with gifts. In pretest stage, 600 questionnaires were randomly distributed and 589 were returned (93.67 percent effective return rate). There were 276 questionnaires of answer "YES" for the question whether you had consumed in Holiday Inn. Then the 276 subjects were invited to attend a second formal test. Through pretest that confirmed whether they had consumed in hotels, finally 240 students attended the formal test. All subjects are students of Jinan University in Guangzhou. The average age of the 240 subjects is 33 years old with age distribution between 25 to 54 years old. As to gender, male occupied 46.7 percent while more female 53.3 percent. According to age distribution, those under 20 accounted for 11.3 percent, 21 to 25 69.6 percent, 26 to 30 17.9 percent and those over 31 accounted for 1.2 percent. Concerning educational level, those who attended university occupied 51.9 percent, postgraduate school 44.2 percent and doctoral school 9.1 percent.

As students' living environment and consuming experience is similar, it ensured high interior validity, consistency and stability. Brand relationship quality, the main variable of this study, can't be built during the short time of the test. Meanwhile, to ensure the exterior validity of the test, this study used real name of the hotel as test stimulation. Formal test was conducted in a quiet classroom on the same floor at the same time. Four test groups were set up, each group with 60 samples. Trained researcher used standard language and procedure to arrange participants for test. To verify whether hypotheses in the theory model are supported, test stimulation is the key information source of gaining consumers' relevant perception and buying intention. This study chose the towel event of Holiday Inn as the test stimulation. Test situation was set up and improved based on description of this event from Baidu, Wikipedia and official website of Holiday Inn. On April, 2012, the Holiday Inn in Qingdao, Shandong Province was exposed problem of unqualified sanitation and hygiene. Reports pointed out that waiters used cleaning towels to wipe glasses and washbasins after brushing toilets. And they didn't change black towels which were originally white. Description of test stimulation referred to reports on domestic mainstream media like Sina. com and PhoenixNet. Coping strategies were classified into firm denying, passive rectification, active rectification and positively taking responsibilities for operation of test stimulation. When conducting situation test, subjects

were firstly introduced relevant background information of hotel product-harm crisis and then they were provided with relevant information of hotels` coping strategies. Apart from background information, four test groups gained totally different information of test stimulation.

**Variable Control and Measurement**

This study, combining interviews and research findings of Simokos, classified hotels` indefensible product-harm crisis into four categories. First is firm denying with hotels uncompromising and unwilling to take any responsibility. Second is passive rectification with several organizations enforcing hotels to make rectification. Third is active rectification in which hotels positively make rectification to prevent occurrence of such events again. Fourth is positively taking responsibilities, apologizing to consumers, making compensation and taking all the responsibilities. Situation descriptions of test stimulation of four test groups are presented in Table-1.

Aimed at different test stimulation situations, consumers` responsibility attribution of crisis was measured. Questions concerning consumers` responsibility attribution was gained by modifying questions in the study of Klein and Dawar [42] which studied corporations` social responsibilities and consumers` responsibility attribution of product-harm crisis. Measurement of stability included three items. Firstly, this event reflected Holiday Inn`s problems existent all the time rather than sporadic. Secondly, it is likely that such event once happened in Holiday Inn. Thirdly, it possesses high possibility that such event will take place in Holiday Inn again in the future. Measurement of controllability also included three items. First, Holiday Inn should absolutely predict occurrence of this crisis event. Second, Holiday Inn should sufficiently take some measures to avoid happening of such crisis event. Third, Holiday Inn failed to monitor quality of their products and service. Five-point Likert Type Scale was applied (1 = strongly disagree and 5 = strongly agree, Cronbach`  $\alpha$ =0.783, KMO=0.785).

**Table-1: Situation Description of Test Stimulation**

Test Stimulation	Situation Description
<b>Firm Denying</b>	After media exposed the towel event, Holiday Inn declared on its official website that the report was unreal; it was simply rumor and false accusation. Therefore, Holiday Inn refused to make compromise and take any responsibilities.
<b>Passive Rectification</b>	After media exposed the towel event, Holiday Inn didn`t require the branch in Qingdao to make interior rectification. Then under the compulsory requirements of the industry association and related departments, the branch made rectification until reaching the operational regulation and standard of the industry.
<b>Active Rectification</b>	After media exposed the towel event, Holiday Inn required all branches to make rectification.
<b>Positively Taking Responsibilities</b>	After media exposed the towel event, Holiday Inn required all branches to make rectification immediately. Persons in charge in this event were punished. Meanwhile, Holiday Inn required all branches to make inspection to resolutely avoid happening of such event again.

Measurement of brand relationship quality included three dimensions as brand satisfaction, brand commitment and brand trust. As to measurement of brand satisfaction, the scale adopted is five-point Likert Type Scale (1 = strongly disagree and 5 = strongly agree). Items concerning brand satisfaction and brand commitment in questionnaires were all from researches of Aaker [31], Keller [32], Niraj [6]. Items concerning brand trust referred to research findings (Cronbach`  $\alpha$ =0.896, KMO=0.858) of Morgan [33].

Measurement of consumers` buying intention adopted scale developed by Zeithaml in 1996 to measure behavioral results of service quality. Measurement of buying intention included three items; I`d like to buy most products and service in Holiday Inn; I think Holiday Inn is the first choice of buying relevant products and service; measures taken in this crisis event would not prevent me from buying relevant products and service of Holiday Inn. The scale adopted is five-point Likert Type Scale (1 = strongly disagree

and 5 = strongly agree, Cronbach`  $\alpha$ =0.805, CFI=0.96, NFI=0.99, RFI=0.97, RMSEA=0.065).

**Analysis of Test Result Control Test**

To verify whether control of coping strategies for indefensible product-harm crisis among four test groups is successful, stability and controllability of responsibility attribution as well as the mean value of consumers` buying intention should be compared to ensure whether there is significant difference. This article adopted single factor analysis of variance for test. The precondition of variance analysis is that the totality of each group`s data complies with normal distribution of variance equality. Before conducting single factor variance analysis, variance homogeneity test should be first conducted. As presented in Table-2, p values correspondent to Levene statistical magnitude of stability, controllability and consumers` buying intention are respectively 0.602、 0.173 and 0.695, all over 0.05, satisfying the precondition of variance test.

**Table-2: Variance Homogeneity Test**

	Levene Statistical Magnitude	df1	df2	Significance
Stability	.686	4	240	.602
Controllability	1.606	4	240	.173
Buying Intention	.556	4	240	.695

**Table-3: Difference of Descriptive Statistic Results of Four Groups**

	Stability				Controllability				Buying Intention			
	1	2	3	4	1	2	3	4	1	2	3	4
M	4.31	3.52	2.29	1.69	2.79	4.24	3.53	2.21	1.01	1.74	3.37	4.06
SD	0.74	0.81	0.83	0.72	0.61	0.71	0.76	0.66	0.78	0.61	0.74	0.67

1=Group of firm denying; 2= Group of Passive rectification ; 3= Group of Active rectification ; 4=Group of Positively taking responsibilities

Through single factor variance analysis, difference of descriptive statistic results of four groups were shown in Table 3. According to the average, there existed significant difference among four test groups in stability and controllability of responsibility attribution as well as the mean value of consumers` buying intention. Therefore, the test control is feasible.

**Hypothesis Test**

As to consumers` buying intention, the best coping strategy for corporations is positively taking responsibilities and then follows active rectification, passive rectification and finally firm denying. More active coping strategies promote stronger consumers` buying intention. Through multiple comparisons, there existed significant difference between two passive coping strategies of firm denying and passive rectification as well as two active coping strategies of active rectification and positively taking

responsibilities (Table 4). If corporations choose coping strategies of firm denying and passive rectification, consumers` buying intention will be weak. If corporations choose coping strategies of active rectification and positively taking responsibilities, consumers` buying intention will be strong. However, there is no significant difference between firm denying and passive rectification. Positively taking responsibilities and active rectification also have no significant difference. Therefore, H1 is partly supported. According to correlation analysis results of variable (Table 5), coping strategies for indefensible product-harm crisis are positively associated with consumers` buying intention ( $\gamma=0.729$ ,  $P<0.01$ ) . Coping strategies corporations adopt for indefensible product-harm crisis positively affect consumers` buying intention of hotels` products. Therefore, H1 is supported.

**Table-4: Multiple Comparison Test**

(I) Coping Strategy		(J) Coping Strategy	Difference of Mean Value (I-J)	Standard Error	Sig.
LSD	Firm Denying	Passive Rectification	-0.732**	0.105	0.007
		Active Rectification	-2.355**	0.096	0.003
		Positively Taking Responsibilities	-3.049**	0.044	0.001
	Passive Rectification	Firm Denying	0.732**	0.615	0.007
		Active Rectification	-1.623**	0.701	0.002
		Positively Taking Responsibilities	-2.317**	0.765	0.000
	Active Rectification	Firm Denying	2.355**	0.732	0.003
		Passive Rectification	1.623**	0.101	0.002
		Positively Taking Responsibilities	-0.694**	0.078	0.002
	Positively Taking Responsibilities	Firm Denying	3.049**	0.027	0.001
		Passive Rectification	2.317**	0.072	0.000
		Active Rectification	0.694**	0.052	0.002

As presented in Table-5, coping strategies for indefensible product-harm crisis are positively associated with consumers` buying intention ( $\gamma=0.729$ ,  $P<0.01$ ). Coping strategies are negatively associated

with stability of consumers` responsibility attribution ( $\gamma=-0.609$ ,  $P<0.01$ ) . Stability of responsibility attribution is negatively related to consumers` buying intention ( $\gamma=-0.713$ ,  $P<0.01$ ) .

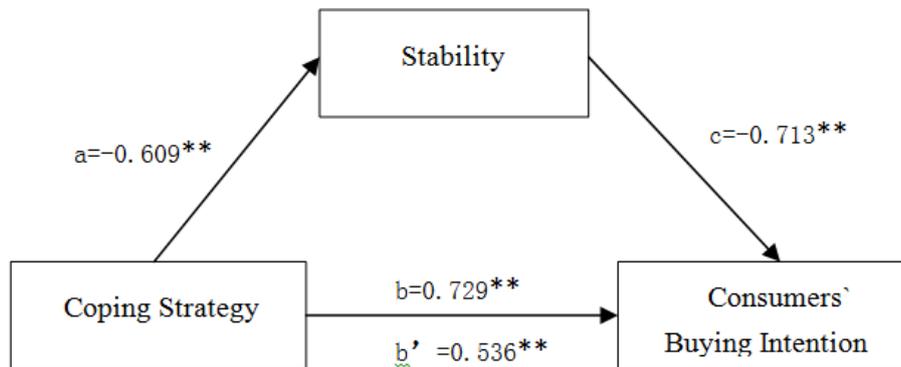
**Table-5: Correlation Analysis of Variable**

Variable	M	1	2	3	4
1. Coping Strategy	2.878	1.000			
2. Stability	2.944	-.609**	1.000		
3. Controllability	2.832	-.724**	.032	1.000	
4. Buying Intention	2.531	.729**	-.713**	-.695**	1.000

\*\*P<0.01

To further verify the relationship between coping strategies for indefensible product-harm crisis and consumers` buying intention, the relationship between coping strategies for indefensible product-harm crisis and stability as well as the relationship between stability and consumers` buying intention, four regression analyses were adopted. Regression 1 views coping strategies as independent variable and consumers` buying intention as dependent variable. Regression 2 views coping strategies as independent variable and stability of responsibility attribution as dependent variable. Regression 3 views stability of attribution of responsibility as independent variable and consumers` buying intention as dependent variable. Regression 4 views coping strategies and stability as independent variable and consumers` buying intention as dependent variable. Analysis result of moderating effects of stability of responsibility

attribution is presented in Table 6. Coping strategies are negatively associated with stability of responsibility attribution ( $\beta=-0.609^{**}$ ,  $P<0.01$ ). When indefensible product-harm crisis takes place, more active coping strategies corporations adopt promote consumers to think that the crisis is sporadic. Therefore, H2a is supported. Stability of responsibility crisis is negatively associated with consumers` buying intention ( $\beta=-0.713^{**}$ ,  $P<0.01$ ). When stability of indefensible product-harm crisis is stronger, consumers` buying intention is weaker. By introducing stability into regression analysis, coping strategies are positively associated with buying intention. Standard coefficient decreases to 0.536. Moderating effects of stability of responsibility attribution are significant. Therefore, H3a is supported.



**Fig-1: Mediating Effects of Stability of Responsibility Attribution**

As seen in Table 5, consumers` buying intention is negatively associated with controllability of responsibility attribution ( $\gamma=-0.724$ ,  $P<0.01$ ). Controllability of responsibility attribution is negatively associated with consumers` buying intention ( $\gamma=-0.695$ ,  $P<0.01$ ). Then regression analysis is conducted to test moderating effects of controllability of responsibility attribution (Table-6). Coping strategies are negatively associated with controllability of responsibility attribution ( $\beta=-0.724^{**}$ ,  $P<0.01$ ). When indefensible product-harm crisis takes place, more active coping strategies promote consumers to think that the crises are uncontrollable. Therefore, H2b is supported. Controllability of responsibility attribution is negatively associated with consumers` buying

intention ( $\beta = -0.695^{**}$ ,  $P<0.01$ ). When controllability of indefensible product-harm crisis is stronger, consumers` buying intention is weaker. By introducing controllability of responsibility attribution into regression analysis, coping strategies are positively associated with buying intention. Standard coefficient decreases to 0.580. Moderating effects of controllability of responsibility attribution are significant. By testing controllability,  $z=10.91$  ( $P<0.01$ ), moderating effect of controllability is significant. Therefore, H3b is supported.

If regression coefficient of independent variable multiplying dependent variable is significant, moderating effects of regulated variable on the relationship between independent variable and dependent variable is significant [34]. Multiple

regression analysis is adopted for testing moderating effects of brand relationship quality (Table-6). By adding influencing factor of brand relationship quality, change of value  $\Delta R^2=0.11$  is significant. Moderating effects exist. Brand relationship quality is positively associated with the relationship between consumers' buying intention and indefensible product-harm crisis

( $\beta_{\text{brand relationship quality} * \text{coping strategies}} = 0.307, P < 0.01$ ) . It is stated that in hotels' indefensible product-harm crisis, when relationship quality between consumers and brands is higher, impacts of coping strategies adopted by hotels on consumers' buying intention is stronger. Therefore, H4 is supported.

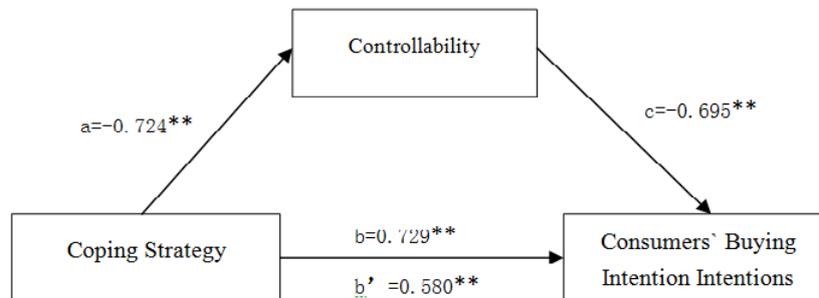


Fig-2: Mediating Effects of Controllability of Responsibility Attribution

Coping strategies for indefensible product-harm crisis have significantly predictive effects on consumers' responsibility attribution. By adding influencing factor of brand relationship quality, change of value  $\Delta R^2=0.006$  is significant. Moderating effects exist. Brand relationship quality is negatively associated with consumers' responsibility attribution ( $\beta_{\text{brand relationship quality} * \text{coping strategies}} = -0.281, P < 0.01$ ) . It is stated that in hotels' indefensible product-harm crisis, when relationship quality between consumers and brands is higher, consumers are likely to believe that crisis events are not recurrent. When relationship quality between consumers and original brands is weaker, stability of responsibility attribution is

stronger. They think crisis events are recurrent. Therefore, H5a is supported. In addition, brand relationship quality is negatively associated with controllability of responsibility attribution in indefensible product-harm crisis ( $\Delta R^2=0.015, \beta_{\text{brand relationship quality} * \text{coping strategies}} = -0.304, P < 0.01$ ) . It is stated that in indefensible product-harm crisis, when brand relationship quality is higher, consumers' controllability of responsibility attribution is weaker, so consumers are inclined to believe that crisis events are uncontrollable. When brand relationship quality is weaker, consumers tend to believe that crisis events are controllable. Therefore, H5b is supported.

Table-6: Multi Regression Analysis

	Regression 1			Regression 2 (a)			Regression 2(b)			Regression 3			Regression 4		
	B(SE)	$\beta$	sig	B(SE)	$\beta$	sig	B(SE)	$\beta$	sig	B(SE)	$\beta$	sig	B(SE)	$\beta$	sig
Coping Strategies	.683(.031)	-.729**	.00	.660(.035)	-.609**	.02	.741(.033)	-.724**	.03				.721(.035)	-.798	.00
Brand Relationship Quality				-.587(.076)	-.502**	.00	-.402(.073)	-.570**	.00				-.576(.052)	-.604**	.00
Brand Relationship Quality* Coping Strategies				-.616(.530)	-.536**	.00	-.654(.058)	-.580**	.01				-.358(.056)	-.281	.01
Stability										-.725(.053)	-.713**	.00	-.616(.053)	-.536**	.00
Controllability										-.762(.058)	-.695**	.00	-.654(.058)	-.580**	.00
$\Delta R^2$	.027			.155			.032			.011			.015		
Significance Level	<0.01			<0.01			<0.01			<0.01			<0.01		

## CONCLUSION AND DISCUSSION

Application of crisis management in corporations is more and more significant. This article discussed relationship among coping strategies, brand relationship quality, consumers' responsibility attribution of crisis events and buying intention in hotels' indefensible product-harm crisis. Through data analysis and hypothesis test, some conclusions are summed up, to some extent explaining the specific crisis events in our real life and further helping guide hotels to adopt more effective coping strategies when indefensible product-harm crisis happens.

Firstly, in hotels' indefensible product-harm crisis, more active coping strategies corporations adopt promote consumers' stronger buying intention. Consumers' buying intention due to firm denying and passive rectification is obviously weaker while consumers' buying intention due to positive coping strategies of active rectification and positively taking responsibilities is obviously stronger. Through test, this article verified that coping strategy of firm denying has significantly stronger impact on consumers' buying intention [1]. Firm denying failed to promote consumers' buying intention that has already decreased [35]. When crisis events occur, hotels should promptly make compensations to reduce consumers' perceived risks, weaken negative impact on consumers' buying intention. It is one of corporations' capabilities of crisis management to adopt suitable coping strategies faced with product-harm crisis. Skills and methods are required in this process. Principle of taking responsibilities is one the five principles to handle crisis [25]. By adopting positive measures, hotels can prevent weakening of consumers' buying intention to a maximum limit.

Second, in hotels' indefensible product-harm crisis, corporations' coping strategies affected consumers' responsibility attribution, then further affecting consumers' buying intention. When coping strategies are more active and positive, stability and controllability of consumers' responsibility attribution is weaker and consumers tend to attribute responsibility of crisis as sporadic and uncontrollable, strengthening consumers' buying intention. In product-harm crisis, coping strategy of ignoring crisis has negative impact on consumers' attitudes compared with positive coping strategy [36]. This enhances consumers' negative cognition [37]. This result stated that in indefensible product-harm crisis, consumers' psychological cognition is more important than the truth itself [38, 39]. For consumers concerning their interests, how corporations handle crisis can change their interior judgment of crisis responsibilities [40]. Consumers believe that occurrence of crises is sporadic which helps change consumers' psychological states and eliminate consumers' blame for hotels, thus emotionally remedying consumers' brand attitudes. Besides, consumers' attitude and evaluation will also

be changed when indefensible product-harm crisis happens. That is, degree of consumers' buying intention is less weakened or even maintained. Positively taking responsibilities is the best coping strategy. Since indefensible product-harm crisis occurs, consumers are less likely to attribute responsibility to corporations adopting such strategy. Therefore, corporations should adopt suitable and positive coping strategies, actively conduct activities of crisis management and make efforts to weaken consumers' responsibility attribution of hotels' interior.

Third, when relationship quality between consumers and brands is strong, consumers tend to think that hotels' crisis events are sporadic and uncontrollable. And consumers attribute responsibility of the crisis to hotels' exterior. When brand relationship quality between consumers and hotels is weak, consumers tend to believe that occurrence of crisis is controllable and recurrent. Brand relationship quality can moderate consumers' responsibility attribution of indefensible product-harm crisis. Brand relationship quality refers to intensity of relationship. Quality of initial relationship directly affects consumers' cognition. Therefore, when brand relationship quality is strong, consumers are more likely to take the attitude of forgiveness. After indefensible product-harm crisis, original brand relationship quality will affect perception quality, thus affecting consumers' buying intention [22]. This result showed that original brand relationship quality can weaken negative events [41]. Therefore, to weaken negative impacts of indefensible product-harm crisis on consumers' buying intention to a maximum limit, hotels should strengthen relationship between consumers and brands in daily work. When crisis events take place, whether hotels can successfully handle crisis lies in consumers.

## Research Implication and Future Research Direction

### Theoretical Implication

Study of product-harm crisis management is a hot topic. However, most scholars didn't differentiate defensible crisis and indefensible crisis which are totally different in essence. Same coping strategies will lead to different consumers' psychological reactions. Therefore, it is necessary to conduct study of indefensible product-harm crisis. This article meaningfully supplemented the relationship between indefensible product-harm crisis and consumers' buying intention. According to the perspective of attribution theory, this study discussed the relationship between indefensible product-harm crisis and consumers' buying intention. By choosing responsibility attribution as moderating variable, the article verified moderating effects of controllability and stability of responsibility attribution. It ensured moderating effects of brand relationship quality, thus enriching studies of the relationship between coping

strategies and consumers' buying intention as well as expanding study scale of consumers' responsibility attribution. In the study, this article adopted method of situation setting, free from the dilemma that the study can't conduct real-time and field measurement of indefensible product-harm crisis. By setting different situations of coping strategies, researchers judged hotels' coping strategies and studied related dimensions of attribution, trying to provide theoretical support for explaining real phenomenon.

### **Management Implication**

As to serving corporations represented by hotels, when indefensible product-harm crisis takes place, how to reduce loss of consumers, maintain current consumers or even re-attract new consumers is of vital importance for hotel' existence and development. Facing indefensible product-harm crisis, consumers mostly care about two aspects, that is, their interests and emotions. Regardless of whether product-harm crisis happens due to hotels' reason, hotels are suggested to take responsibilities. Besides, hotels should firstly apologize to consumers for bringing about inconvenience or even harm, comfort consumers' emotions, relieve consumers' psychological and emotional disturbance and doubt, maintain consumers' brand relationship quality and try best to regain their understanding and trust for products in the crisis. Positively taking responsibilities not only requires hotels to entirely handle relevant issues after crisis happens, but also requiring hotels to timely predict occurrence of product-harm crisis so as to make warning and take preventive measures before crisis happens as well as establish comprehensive and perfect crisis warning plan. Responsibilities of each department and each staff should be clearly divided. Once product-harm crisis happens, prompt reaction should be taken and coping strategies should be adopted. The symbol of successfully handling product-harm crisis is consumers' rebuy. Hotels should gradually invest more manpower and resources to care about and solve product-harm crisis, such as establishing crisis warning plan and setting up specialized workgroup.

### **Research Limitation and Future Research Direction**

This study adopted research design of test method, to some extent eliminating other factors' impact on responsibility attribution and buying intention. However, under the framework of study of indefensible product-harm crisis, many factors are likely to affect consumers' responsibility attribution. For example, scholars abroad studied demographic factor of consumers themselves like impact of gender and age. Some scholars studied effect of corporation social responsibility (CSR) on responsibility attribution. Therefore, future researches can explore and verify effects of other factors to enhance explanation power of attribution theory on consumers' buying intention under the background of product-

harm crisis. Though these impacts are indirect, they can be taken into consideration. Deep analysis of how these factors affect consumers' buying intention will further deepen cognition of product-harm crisis.

### **REFERENCES**

1. Siomkos GJ, Kurzbard G. The hidden crisis in product-harm crisis management. *European journal of marketing*. 1994 Feb 1;28(2):30-41.
2. Ying QL, Nichols J, Chambers I, Smith A. BMP induction of Id proteins suppresses differentiation and sustains embryonic stem cell self-renewal in collaboration with STAT3. *Cell*. 2003 Oct 31;115(3):281-92.
3. Pullig C, Netemeyer RG, Biswas A. Attitude basis, certainty, and challenge alignment: A case of negative brand publicity. *Journal of the Academy of Marketing Science*. 2006 Oct;34(4):528-42.
4. Deschamps I, Lalonde M, Pauchant TC, Waaub JP. What crises could teach us about complexity and systemic management: The case of the Nestucca oil spill. *Technological Forecasting and Social Change*. 1997 Jun 1;55(2):107-29.
5. Coombs WT. Crisis and risk communication special section introduction; 2007.
6. Dawar N, Pillutla MM. Impact of product-harm crises on brand equity: The moderating role of consumer expectations. *Journal of marketing research*. 2000 May 1;37(2):215-26.
7. Heider F. *The psychology of interpersonal relations*. John Wiley & Sons; 1958.
8. Coombs WT. Choosing the right words: The development of guidelines for the selection of the "appropriate" crisis-response strategies. *Management communication quarterly*. 1995 May;8(4):447-76.
9. Weiner B. *Judgments of responsibility: A foundation for a theory of social conduct*. Guilford Press; 1995 Apr 14.
10. Weiner B. An attributional theory of achievement motivation and emotion. *Psychological review*. 1985 Oct;92(4):548.
11. Bock GW, Kim YG. Breaking the myths of rewards: An exploratory study of attitudes about knowledge sharing. *Pacific 2001 proceedings*. 2001 Dec 31:78.
12. Hoffman KD, Kelley SW, Rotalsky HM. Tracking service failures and employee recovery efforts. *Journal of Services Marketing*. 1995 May 1;9(2):49-61.
13. Peterson RA, Wilson WR. Measuring customer satisfaction: fact and artifact. *Journal of the academy of marketing science*. 1992 Dec 1;20(1):61.
14. Yu B, Li GF, Hu JN. An empirical research on the relationship between brand reputation and brand loyalty influenced by the impact of product-harm crisis management. In *Management Science and Engineering*, 2008. ICMSE 2008. 15th Annual

- Conference Proceedings., International Conference on 2008 Sep 10 (pp. 699-705). IEEE.
15. Vassilikopoulou A, Lepetsos A, Siomkos G, Chatzipanagiotou K. The importance of factors influencing product-harm crisis management across different crisis extent levels: A conjoint analysis. *Journal of Targeting, Measurement and Analysis for Marketing*. 2009 Mar 1;17(1):65-74.
  16. Fei L, Hao C, Hongxing C, Baolong M. How should China's Department Stores Carry out the Innovation in Service?—A Case Study Based on Modern Plazas in Beijing. *Management World*. 2010;2:013.
  17. Fournier S. Consumers and their brands: Developing relationship theory in consumer research. *Journal of consumer research*. 1998 Mar 1;24(4):343-73.
  18. Souiden N, Pons F. Product recall crisis management: the impact on manufacturer's image, consumer loyalty and purchase intention. *Journal of Product & Brand Management*. 2009 Apr 17;18(2):106-14.
  19. Souiden N, Pons F. Product recall crisis management: the impact on manufacturer's image, consumer loyalty and purchase intention. *Journal of Product & Brand Management*. 2009 Apr 17;18(2):106-14.
  20. Vassilikopoulou A, Siomkos G, Chatzipanagiotou K, Pantouvakis A. Product-harm crisis management: Time heals all wounds?. *Journal of Retailing and Consumer Services*. 2009 May 1;16(3):174-80.
  21. Siomkos GJ. On achieving exoneration after a product safety industrial crisis. *Journal of Business & Industrial Marketing*. 1999 Mar 1;14(1):17-29.
  22. Huang J, Xiong W. The breaking and renewal theory of consumer-brand relationship-- retrospect and prospect. *Foreign Economic and Management*, 2007; 29(7):51-55.
  23. Hess RL, Ganesan S, Klein NM. Service failure and recovery: The impact of relationship factors on customer satisfaction. *Journal of the Academy of Marketing Science*. 2003 Mar 1;31(2):127.
  24. Jin XT, Zhang XL. The impacts of domestic and foreign commodity's BRQ on consumer purchase--An research on product harm crisis. *Economic Management*, 2010: 32(8),93-98.
  25. Tian B, Zheng X, Kempa TJ, Fang Y, Yu N, Yu G, Huang J, Lieber CM. Coaxial silicon nanowires as solar cells and nanoelectronic power sources. *nature*. 2007 Oct;449(7164):885.
  26. Yani D, Wei L, Haiyan H, Jianfei N. An empirical study on the impact of product strategy on consumers' purchase intention after product injury crisis. *Modernization of Management*, 2009: 112-14.
  27. WANG LL, LV W, LIAN SF. The Research of Attribution of Responsibility in Product Crisis Based on Brand Loyalty [J]. *Industrial Engineering and Management*. 2009;5:023.
  28. Jiang LX, Lu TH. Does image create values? Brand service image impact on consumer value, satisfaction and loyalty. *Management World*, 2006: 4,11-17.
  29. Tsui AS, Gutek BA. Demographic differences in organizations: Current research and future directions. Lexington Books; 1999.
  30. Laczniak RN, DeCarlo TE, Ramaswami SN. Consumers' Responses to Negative Word-of-Mouth Communication: An Attribution Theory Perspective. *Journal of consumer Psychology*. 2001 Jan 1;11(1):57-73.
  31. Aaker J, Fournier S, Brasel SA. When good brands do bad. *Journal of Consumer research*. 2004 Jun 1;31(1):1-6.
  32. Keller KL. Conceptualizing, measuring, and managing customer-based brand equity. *the Journal of Marketing*. 1993 Jan 1:1-22.
  33. Morgan RM, Hunt SD. The commitment-trust theory of relationship marketing. *The journal of marketing*. 1994 Jul 1:20-38.
  34. Wen ZL, Hau KT, Chang L. A comparison of moderator and mediator and their applications. *Acta Psychologica Sinica*. 2005 Feb;37(2):268-74.
  35. Tybout AM, Calder BJ, Sternthal B. Using information processing theory to design marketing strategies. *Journal of Marketing Research*. 1981 Feb 1:73-9.
  36. Griffin PM, Tauxe RV. The epidemiology of infections caused by Escherichia coli O157: H7, other enterohemorrhagic E. coli, and the associated hemolytic uremic syndrome. *Epidemiologic reviews*. 1991 Jan 1;13(1):60-98.
  37. Kingston RE, Narlikar GJ. ATP-dependent remodeling and acetylation as regulators of chromatin fluidity. *Genes & development*. 1999 Sep 15;13(18):2339-52.
  38. Pearson CM, Clair JA. Reframing crisis management. *Academy of management review*. 1998 Jan 1;23(1):59-76.
  39. Coombs GH, Goldberg DE, Klemba M, Berry C, Kay J, Mottram JC. Aspartic proteases of Plasmodium falciparum and other parasitic protozoa as drug targets. *Trends in parasitology*. 2001 Nov 1;17(11):532-7.
  40. Dang FF, Wang YN, Yu LU, Eulgem T, Lai YA, Liu ZQ, Wang XU, QIU AL, ZHANG TX, Lin J, CHEN YS. CaWRKY40, a WRKY protein of pepper, plays an important role in the regulation of tolerance to heat stress and resistance to Ralstonia solanacearum infection. *Plant, cell & environment*. 2013 Apr 1;36(4):757-74.
  41. Ahluwalia R. Examination of psychological processes underlying resistance to persuasion. *Journal of Consumer Research*. 2000 Sep 1;27(2):217-32.
  42. Klein J, Dawar N. Corporate social responsibility and consumers' attributions and brand evaluations in a product-harm crisis. *International Journal of research in Marketing*. 2004 Sep 1;21(3):203-17.