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The Influence of Media News Frame on Consumer's Brand Attitudes in the Context of Product-harm Crisis

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Abstract: This article examines the relationships between the media news frame and consumer brand attitude after the product-harm crisis. Based on the past classification about negative events, this article divides the media news frame into two kinds: disability type and immoral type. By a 2(media frame: disability VS immorality) * 2 (severity of crisis: high VS low) experiment, the findings show that in the case of product harm crisis, the customer brand attitude is more significantly affected by the immoral type media news frame. In the meanwhile, the significance of this frame effect is affected by cognitive need and severity of crisis. For the consumers with high cognitive need, the frame effect is not obvious. But for the ones with low cognitive need, the frame effect is obvious. The customer brand attitude is more obviously affected by the media news frame in a circumstance of high crisis than low crisis. Therefore, when a product-harm crisis happened, the firms should care about the news reporting format so that the customer brand attitude will not be seriously damaged and the brand image can be well restored.

Keywords: frame effect, brand attitude, product-harm crisis, cognitive need

1. INTRODUCTION

The term 'product-harm crisis' refers to well-known events related to product defects or harm associated with some brands^[1]. In fact, every enterprise cannot be perfect, so the product harm crisis is almost a problem that each enterprise can not avoid. Once an enterprise is confronted with a severe product-harm crisis, it is likely to experience a disaster. In order to help enterprises with product-harm crisis better respond to consumers' questioning and repair its image, many studies have been carried out in this field in recent years and have achieved fruitful results. Nonetheless a lot of them mainly concentrated on exploring the impact of coping style or consumers' responses. Nowadays news media exert great influence on social orientation of public opinion. Especially with rapid growth of social media, negative publicity may even completely destroy a brand. When product-harm crisis event---as a negative publicity happened, consumers will actively search for crisis related information, attribute who should be responsible for the incident^[2]. Different reporting style may have different effects on consumers, thus affecting consumer's brand attitudes after crisis event---may be slightly, or may be very seriously. For the same negative publicity, different media will report from different perspectives so that individuals can form different cognition. When different media expressions give rise to consumers' different cognition, "frame effect" is generated. As to frame effect, the research achievements are fruitful both in domestic and abroad at present, which also includes the research of negative publicity. But in the case of product harm crisis---as a typical negative publicity, the question how media frame affects consumers brand attitudes remains unsolved in the current study. Obviously, after crisis event, a quick and efficient way for consumers to get to know the progress of that event is through media coverage. So we can say consumer's brand attitudes are subject to different types of reporting frame. In this article, we hope to explore the possible regulatory factors in the process of media news frame influencing consumers' attitudes to brand in the occurrence of product-crisis. From the theoretical point of view, this research intends to build a model illustrating the media news frame effect and

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on exploring the related factors that may affect consumers' brand attitudes. From the practical point of view, this research intends to provide enterprises and society the theoretical basis on how to effectively use the media to spread information and later repair its image after product-harm crisis.

2. LITERATURE REVIEW

The theoretical study of the frame was derived from <The Frame Analysis > published by Goffman in 1974, which clearly illustrated the frame. He believes that the frame can quickly help people understand the surrounding social reality and translate the reality into subjective thought and give people a chance to form their own cognition^[3]. Based on the sociological perspective, Goffman studied the frame, believing that the frame is partly caused by the individual's past experience and also be influenced by the social cultural consciousness. Research on frame effect originated from Kahneman and Tversky's 'Asian disease' experiment, it proved that people will make different decisions when an event is expressed by two ways of positive and negative, so in this case, people are affected by frame effect, making themselves no longer a rational decision maker base on the facts^[4]. The frame effect has long been studied in the field of Psychology, while in the field of Marketing, researches are relatively rare. This paper intends to broaden the study field of the theory of frame effect to marketing and product-harm crisis circumstances.

3. CONSTRUCTIONS AND MODEL

3.1 Two different media news frame: disability and immorality

Compared with positive events, a lot of researches are more inclined to study the effect of information frame in the context of negative events. In the context of corporate negative events, most of the previous studies are carried by the ability frame and morality frame. There are different types of media frame, for example, the media tends to blame the corporate immorality, or to blame the corporate disability. Disability and immorality, are often the two criticisms of a business after a negative event happened, we can see them as two different angles of judgment. The enterprise's crisis may due to the lack of ability to provide products, for example, the production process is not well controlled, therefore lead to quality problems; It may also due to the immoral problems of the enterprise, such as using inferior or harmful material or parts in the process of production in order to reduce costs^[5]. Therefore, consumers will also evaluate the product-harm crisis events from the two dimensions of disability and immorality: disability type (such as product quality is not good, technology is not good enough), immoral (such as lack of basic morality, make decision only by self-interests). Theoretically, these two kinds of crisis events can be defined as a crisis formed by the lack of ability to fulfill their promises to consumers(disability), and a crisis formed by conflicts with the moral standards established by consumers or society(immorality).

Base on this standard, the media news frame that affects consumers is divided into disability frame and immorality frame. In other words, if news media pay more attention to condemning the enterprises lacking of ability after product-harm crisis, consumers will tend to rationally attribute that event to enterprise lack of ability, conversely to condemn the enterprise lack of morality, consumers may perceptually attributed that event to the enterprise lack of business ethics.

3.2 Cognitive need

Cognitive need refers to an individual's tendency to think^[6]. It reflects the tendency of individuals to engage in and enjoy thinking activities. It exerts great effects on the depth and breadth of information extraction and judgment. Cacioppo believes the essence is that different individual's cognitive motivation is different. people with high cognitive need tend to pay more attention to the essence of information, and are willing to

devote more energy to process information, analyze and process information more comprehensively, thus forming a relatively more objective cognition. Therefore, when people with high cognitive need receive information, they will think more deeply and collect some related data to understand and analyze the information more comprehensively, depend more on their own understanding of information. People with lower cognitive need, on the contrary, are reluctant to spend more energy to process information, and are more dependent on others heuristic cognitive or social comparison process. Since they rely on the outside world but not to analyze the information through their own effort, people with low cognitive need are more susceptible to the influence of external information. In the context of product-harm crisis, every consumer has different tendency in information processing. Some consumers may be particularly susceptible to the frame effect, and some may not. Therefore, the impact of brand attitudes caused by different types of media frames be regulated by consumers' cognitive need.

3.3 Consumer brand attitudes

Attitude is a very important concept both in the field of psychology and marketing. In marketing, consumer attitudes refers to the acquisition tendency of consumers for specific objects in a specific situation, which can guide consumers to form relatively stable positive or negative behaviors towards the object^[7]. Today, scholars define attitude from the perspective of structure and mechanism of action, so there is a more comprehensive view of attitude. Attitude is a lasting system including cognition, emotion, and behavior tendency. Thus we can say, it is the integration of cognition, emotion and behavior that form consumer attitude. In the view of the mechanism of the attitude, consumers evaluate the brand through cognitive experience and emotional experience, then produce the behavior of buying or not buying. It shows that the consumer's purchase behavior is completely done in good emotional and cognitive conditions. Therefore, once the crisis events happened, the first consideration for an enterprise is to save the consumers' emotion and cognition, minimize the negative emotions of the public, and make time for enterprises to think out a way to repair consumers' purchase intention. Therefore, in this study, given that media news frame will exert influence on consumers, we will measure the brand attitudes of consumers by two dimensions of cognition and emotion. To sum up, the research frame and main variables of this paper are shown in Figure 1.

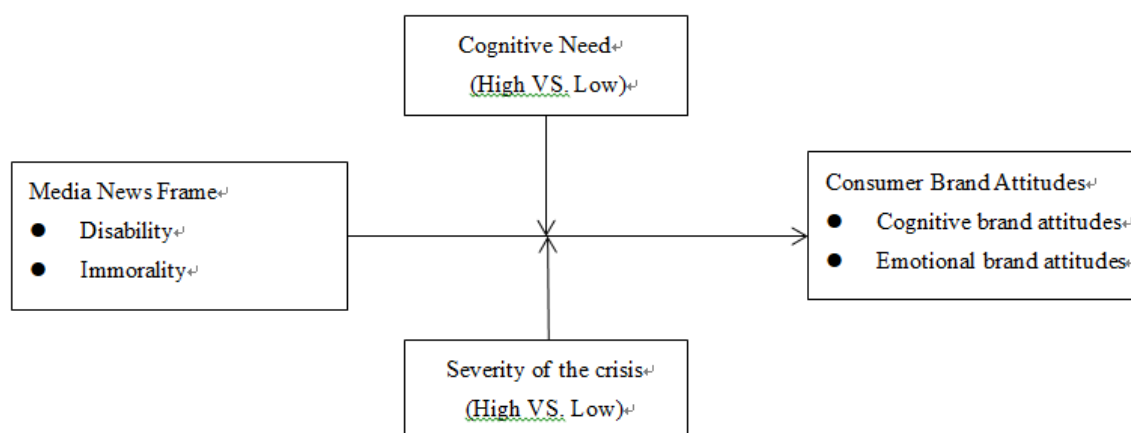


Figure 1. The research frame

4. THEORETICAL DEDUCTION AND HYPOTHESIS

4.1 Different reporting frames cause different consumer's brand attitudes

Pulling (2006) divided the negative information into two types: ethics-related and product-related^[8]. Media's reports on product-harm crisis is obviously a negative one. Therefore, based on the classification of

enterprise negative information, we divide the news reporting frame into disability frame and immorality frame. Of course, sometimes a crisis occurs because of both lack of morality and ability. But according to the related research of media news frame, the media will selectively report and highlight some truth, thus forming the frame of consumers' judgment. The researches show that in the positive information frame, satisfaction in individual decision-making process and confidence on result is significantly higher than those in negative information frame. Empirical research pointed out that when faced with a crisis, consumers are subject to be influenced by the way of problem expression. Research on negative events of disability and immorality also found that violation of emotional morality is more incline to generate a severe and lasting impact than lack of ability. According to these researches the following assumptions is made:

H1: In the context of product harm crisis, compared with disability frame, consumer's brand attitudes is influences more significantly by immorality frame.

4.2 The regulatory role of cognitive need

The existing research shows that under the positive frame, cognitive need can significantly affect individual decision outcomes. Under the negative frame, for people with high cognitive need, frame effect is not as significant as that with low cognitive need. When cognitive need and frame conditions are considered as dependent variables respectively--do not consider their interaction, have significant impacts on the individuals' decision-making. Similarly, the negative publicity of enterprises have been studied from the moral perspective, and the regulatory role of cognitive need in immoral negative publicity has been discovered^[9]. This research found that the negative spillover effect of the people with low cognitive need is more significantly influenced by negative publicity of the brand than those with high cognitive need. What's more, consumers with low cognitive need are more subject to the influence of immoral issues. Based on these studies, we infer that consumers with high cognitive need are less affected by frame effect than those with low cognitive need. Therefore, the following hypothesis is made:

H2: In the context of product-harm crisis, compared with consumers with high cognitive need, consumers with low cognitive need is more influenced by the media news frame.

4.3 The regulatory role of the degree of crisis

Vassilikopoulou and other scholars(2009) defined the severity of crisis as the number and extent of the casualties of people, animals and the environment that caused by the crisis. When consumers are unable to accurately get the data caused by the crisis, they will speculate the severity of the event. Therefore, a crisis event which can not be quantified through data, its severity is likely to be different to consumers. The more serious the crisis is, the higher consumer's perceived risk^[10]. Both enterprises and consumers are affected by different degrees of crisis events. In the studies of the impact of negative events on consumer confidence, scholars proved that no matter in what kind of negative events (integrity or ability), as long as the severity of that incident get higher, consumer's trust will be more significant damaged. As a result, consumers brand attitudes may also be significantly affected in the context of high degree of crisis. To sum up, the following assumption is made:

H3: Compared with the lower degree of crisis, consumer's brand attitudes are more affected by media news frame in the context of higher degree of crisis.

5. EXPERIMENT AND STATISTIC ANALYSIS

5.1 Pretest

The purpose of pretest is to design and test the context of product harm crisis in the empirical research, control the degree of severity, and design the media news frame, control the way when report the disability and

immorality. According to the hypothesis, the experimental scenarios are 2(media frame: disability VS immorality) *2 (severity of crisis: high VS low).

The first step in the experiment is to identify a crisis-generated industry. After studying 148 product-harm crisis events in all kinds of industries, we sum up 8 classic cases, finally chose three representative industries from the perspective of social awareness. These industries are food manufacturing industry, dairy manufacturing industry and drinks manufacturing. As food and drinks are closely related to the health of consumers, they are easy to attract the attention of the media and consumers. Therefore, this article designed a situation related to the beverage industry, which is more likely to arouse the situation association of respondents.

The second step is to consider the type of media news frame. In order to prevent consumers from being too subjective to the scene, we described the scenario more like news. By referring to some main internet news, we organized the event in our own statements to make the text more clear. For the construction of two media reporting frames of disability and immorality, we described the company of being "restricted by technology" and criticized the company "reduce cost and violate the rule". By such keywords to make consumers have a basis for judgment.

The third step is to construct crisis. Since what we need to construct is media news reporting frame of product-harm crisis, therefore the brand and company names were fictitious. So participants' prior attitudes would not affect their responses. In summary, we chose to construct a high/low product harm crisis in the beverage industry respectively on our own. Through the analysis of scholars, we can find that both the media and the consumers are more concerned about the crisis that is harmful to human health, so we set the crisis into two situations that may cause safety issue to human health. At the same time, considering consumers may pay much too attention to their health so that they may also see some small harm to health as serious health threats, and then judge that crisis as very serious, we emphasized "mild allergy" in the construction of low risk scenarios, which is greatly contrasted with "severe diarrhea and vomiting" in high risk situations. According to the ideas and construction methods above, four kinds of questionnaires were designed.

In total, 40 pretest questionnaires were retrieved. In order to exclude the effects of area and age, the questionnaires were distributed in real time through the network, and the communication with the respondents was maintained. For the news frame, the accuracy rate of the report of disability and immorality reached 100%, which shows that everyone has made correct judgment. Therefore, it is sure that the media coverage frame operated successfully under the four scenarios. For high degree crisis event, the mean of Likert 7 scale is $6.7 > 4$, which indicates that the degree of the crisis is high. For low degree crisis event, the mean is $3.3 < 4$, which indicates the crisis is of low degree. From these 2 results, the control of new frame and severity of crisis is successful.

5.2 Formal experiment

In this experiment, 164 questionnaires were collected. After excluding invalid questionnaires, the remaining valid questionnaires were 138, and the effective rate was 84%, including 66 men and 72 women. The experiment is a group-between of 2 (media news frame: disability VS immorality) * 2 (severity of crisis: high versus low). Subjects were randomly assigned to one of the scenarios. In order to get rid of the interference, we didn't mention the brand name of that beverage in the experiment scenario.

First of all, at the top of the questionnaire, a news scene is designed. There are some words like "the following is news, according to media reports..." The product-harm crisis is described in the tone of news report. The causes of the crisis were first explained, and the underlying causes of the crisis were revealed in an in-depth investigation. The description of the whole news will form a frame for the subjects. After reading the background information, the subjects were asked to answer the questionnaire. The questionnaire was composed

of the Freedman's mature brand attitude scale and the 18 items of cognitive need scale which is revised by Cacioppo in 1984.

5.2.1 Frame effect hypothesis test

The experimental group was divided into disability group and immorality group. By using the mature Freedman (2001) classic attitude measurement model and the ANOVA analysis we got some data as table1 showed. In the immorality group, subjects' brand attitudes was $M_{Immority} = 1.60$ on average. While the subjects's brand attitude of disability group was $M_{Disability} = 2.85$ ("1-7 points" indicates "very dissatisfied -- very satisfied"). $F = 52.881$, $P = 0.000 < 0.05$, which indicates that the difference of consumers' brand attitudes result from the impact of the two media news frame is statistically significant. H1 is proved.

Table 1. Media news frame effect

	SS	df	MS	F	P
Group-between	54.219	1	54.219	52.881	0.000
Group-in	139.442	136	1.025	—	—
Total	193.661	137	—	—	—

5.2.2 The regulatory role of cognitive need test

We took the median of cognitive needs score as the midpoint, divided the subjects into two groups: high cognitive need and low cognitive need. Through ANOVA variance analysis, we got the following conclusions: For high cognitive need group, $M_{Immority} = 2.37$, $M_{Disability} = 2.44$, $F = 2.64$, $P = 0.22 > 0.05$; For low cognitive needs group, $M_{Immority} = 1.87$, $M_{Disability} = 2.01$, $F = 6.005$, $P = 0.016 < 0.05$, this data showed that for high cognitive need group, the frame effect is not significant but for the low cognitive need group, the frame effect is significant. H2 is proved.

Table 2. The regulatory role of cognitive need

		SS	df	MS	F	P
Group-between	High	6.335	1	5.832	2.64	0.22
	Low	8.877	1	8.877	6.005	0.016
Group-in		201.029	136	1.478	—	—
Total		209.906	137	—	—	—

5.2.3 The regulatory role of the degree of crisis test

Dividing experimental groups into high-risk group and low risk group according to the designed crisis scenario, we examined the difference of consumer brand attitudes between these two cases. Though ANOVA analysis, the following table3 was obtained. Under high crisis situation, $M_{Immority} = 1.92$ and $M_{Disability} = 2.50$, $F = 8.786$ and $P = 0.004 < 0.05$; Under low crisis situation, $M_{Immority} = 2.97$ and $M_{Disability} = 3.14$, $F = 5.526$ and $P = 0.34 > 0.05$; these data showed that the frame effect is significant under high crisis situation but insignificant under low crisis one. H3 is proved.

Table 3. The regulatory role of the degree of crisis

		SS	df	MS	F	P
Group-between	High	11.752	1	11.752	8.786	0.004
	Low	9.757	1	10.833	5.526	0.34
Group-in		181.910	136	1.338	—	—
Total		193.661	137	—	—	—

6. CONCLUSIONS

6.1 Contributions

This research explored the influence of media news frame on consumer brand attitudes in the context of product harm crisis. It is a new development for the existing product harm crisis research, and it also extends the research of information frame effect to product-harm crisis context. Previous researches on frame effect have been used as the basis to further explore the information frame effect. Taking negative events product-harm crisis as background, this study explored whether different reporting ways of news media on the same crisis would affect consumers' brand attitudes. Through empirical studies, we found consumers are really affected by the information frame. Furthermore, we introduced the cognitive need from the perspective of individual consumers and the level of the crisis as regulatory variables and proved that the consumers with high cognitive need is less affected by the frame effect than those with low cognitive need, the higher level of the crisis, the more significant frame effect. It provided the boundary of the frame effect functioning.

6.2 Implications of Management

This study provided a valuable reference for enterprise who is involved in product-harm crisis to response. The enterprise can use correct information release to make people generate attribution which is benefit to it. This study found that the immoral reporting frame is easy to make consumer's brand attitudes more negatively affected. Lack of ability can be forgiven by consumers, but lack of morality can hardly win the trust of consumers again. The enterprise should monitor the media's report after product-harm crisis. When negative publicity happened, if it is really the enterprise's mistake, the firm should immediately admit the mistake to the public and make promise to compensate. Then control the spread of crisis in a proper way, especially when the media criticize the enterprise's immorality. So after the product harm crisis, the enterprise should not only pay attention to its own repair measures to consumers, but also pay attention to the media.

This study proved that when the enterprise has a very high degree of crisis, it should control the media that criticize the immoral problems of the enterprises, which will not make consumers to have very strong moral condemnation to enterprises and thus more negative attitudes to the brand. This study also found that people with different cognitive need may be differently affected by media news frame. Consumers with high cognitive need will not be affected by media news frame and may only pay attention to the facts. For consumers with low cognitive need, companies can affect such groups through the media frame. Although it is difficult for the enterprise to distinguish the people with high cognitive need from those with low cognitive need, it can do distinguish the different style of media reporting. For example, the information with more pictures may arouse the attention of people with lower cognitive but the information with more words describe may arouse the attention of people with higher cognitive. So enterprises pay more attention to the former style of information because the people with low cognitive need may be more likely affected by the media new frame.

6.3 Limitations and Directions

All the exploratory studies have some unavoidable limitations, and so does this study. First of all, though these scenarios have been verified by the pretest and proved that they are in line with the requirements, and all the questionnaires designed in this study were made under the circumstances controlled by the experimenter. It may result in inevitable external validity problem. In the future, the researcher may use internet big data to make the study media news frame effect in the context of product-harm crisis.

This research investigated media news frame effect and the regulatory role of cognitive need and severity of crisis that news frame affected consumer's attitude in the context of product-harm crisis. But the underlying mechanism how consumer's attitude is affected by new frame is unsolved. In the future, the underlying psychological mechanism is a valuable research direction.

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