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Original Article

Effects of Food Industry Crises on Consumer Attitudes

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In recent years, issues and events related to food safety and health, including the adulteration of milk with melamine, the labeling of trans-fatty acids and the bleaching of shark fins, have severely damaged the reputation of the food organization. When these crises occur, it is critical to effectively manage the crisis to minimize the damage it causes. In this study, we employ a 2x3 experimental design that manipulates two types of crises (mislabeled food products and food poisoning) and three response policies (no response, admission, and refutation) to investigate how these variables influence consumer attitudes (attribution of responsibility and willingness to purchase). This experimental design also allows for the evaluation of moderating effects of the organization's reputation and the performance of a perceived risk analysis. This results indicate that a trusted organization reputation facilitates the management of crises.

Key words: attribution of responsibility; food safety; perceived risk; response policy; situational crisis communication theory (SCCT)

INTRODUCTION

In recent years, issues and events related to food safety and health, including the presence of dioxin in duck eggs, grouper fish poisoned with malachite, the adulteration of milk with melamine, mad cow disease, the labeling of trans-fatty acids, and the addition of harmful substances to food products (e.g., formaldehyde or sulfur dioxide added to dried mushrooms) have severely damaged the collective reputation of the food organization. As a result, feelings of uncertainty and subsequent consumer distrust have become pervasive.

As technological innovations related to the food organization have developed, the production of food has become more complicated. A few questionable operators of food businesses improperly added chemicals to the food their companies produced, resulting in the dissemination and commercial availability of tainted food that can pose a threat to consumer safety. In light of the issues mentioned above, Röhr, Lüddecke, Drusch, Müller, & Alvensleben (2005) indicated that food safety and quality has become increasingly important and has thus attracted the attention of many consumers. To illustrate, Smed & Jensen (2005) pointed out that most consumers in industrialized countries have become increasingly concerned with health problems related to their diets.

Fearn-Banks (2010) defined corporate crisis as an important event that has the potential to negatively affect an organization, its public image, products, services, or reputation. Crandall, Parnell, & Spillan (2013) posited that although the likelihood of crises occurring is relatively low, they can have a substantial negative effect on corporations that face them. In light of their need to address crises related to their production and dissemination of food products, it is essential for corporations to identify a solution that will mitigate damage to their reputations (Benson,

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1998). Even if the causes of and solutions crises are not immediately obvious, a contingency response policy should be executed as quickly as possible.

Generally, past studies related to crisis management have employed. Theory of Image Restoration as a framework for analyzing specific cases in which a corporation was subjected to a crisis (Kao & Lai, 2009; Liu, Huang, & Xie, 2005). Although the Theory of Image Restoration can be useful for evaluating the appropriateness of an organization's response policy, it lacks the theoretical foundation to allow for its application to specific crisis groups or society as a whole. Instead, some scholars argued that response policies require a set of reference instructions that are based on empirical evidence rather than induction from experiences (Rousseau, 2006). In response to this need, Coombs has applied attribution theory to the study of crises and their effects on organizations (Coombs, 1995, 2006, 2007; Coombs & Holladay, 2001). In these studies, Coombs has utilized experimentation as a means to compare the effects of different response policies in various crisis situations, thus developing the Situational Crisis Communication Theory (SCCT).

With the SCCT as its theoretical basis, this study treats personnel in the food organization as subjects and focuses on two types of crises that are of utmost concern to consumers—food poisoning (e.g., melamine-tainted milk) and mislabelled products (e.g., the content identified in plasticizer)—for scenario analysis. Through these analyses, we seek to investigate the effects that different types of crises and response policies have on consumer attitudes (as measured by attribution of responsibility and willingness to purchase) and determine the moderating effects of corporate reputation and consumers' perceived risk. Specifically, this study features an experimental design that will allow for the evaluation of consumer attitudes following the broadcast of the food organization's response to a crisis. We believe that the exploration of different crisis situations can bring to light optimal response strategies and mitigate the negative effects of those crises. As such, the results of this study can be used as a guide for effectively responding to crises, thus facilitating the restoration of consumer confidence and organization's reputation.

Materials and Methods

Research framework

The central purpose of this study is to explore the influence of crises and response strategies on consumer attitudes. In addition, this study seeks to explore the interactions among organizational reputation, consumers' perceived risk, attribution of responsibility, and consumer willingness to purchase a given product. To address these issues, this study features a 2x3 experimental design method whereby we manipulate crisis type (food poisoning vs. mislabeled products) and response strategies (no response vs. refutation vs. admission). In addition, we incorporate various intervening variables into our analyses, including organization's reputation and risk perception. Ultimately, this study seeks to understand how these variables affect attribution of responsibility

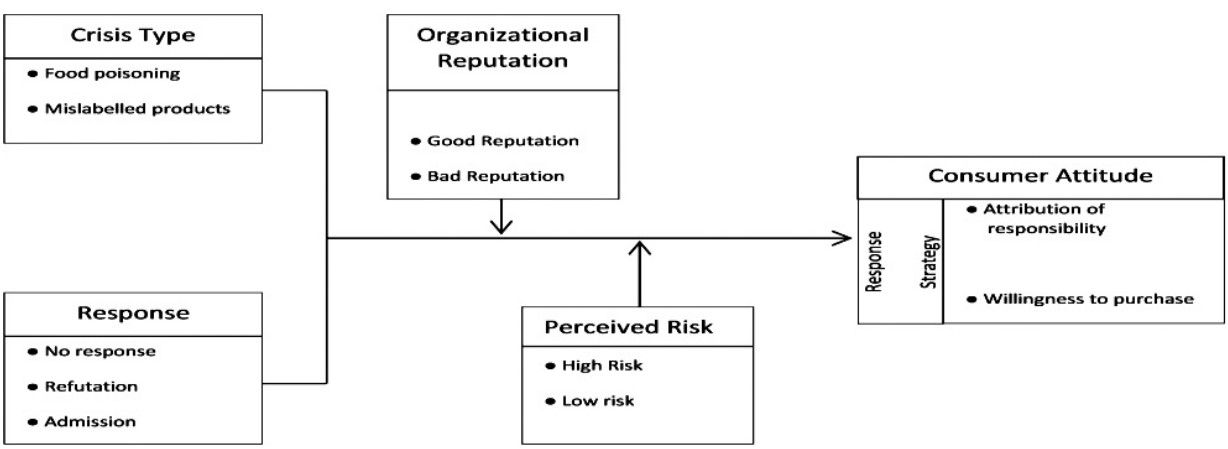

Figure. 1 Research Structure

and consumer willingness to purchase a given product. The methodological structure of this study is illustrated in Figure 1.

Research hypothesis

Coombs & Holladay (2001) indicated that when an organization is facing a crisis, it should to protect its reputation by selecting the most appropriate response strategy. To ensure a consideration of different response strategies for each of the crisis situations, we operationalized three response strategies—no response, refutation, or admission—in the form of a press release. After reading one of the messages related to an organization's response strategy, we measured participants' perceptions of the different crisis types and cross-referenced them to determine if the manipulation was successful.

As described above, attribution of responsibility is an interested party's placement of blame for a crisis. The degree to which an organization bears responsibility for a crisis is largely contingent on its type and severity. To determine participants' attributions of responsibility for a crisis, we utilized a scale developed by Coombs (2007). After participants were exposed to a news story describing a crisis (food poisoning, mislabelled products) within the food industry, we explored their attributions of responsibility in accordance with an organization's response strategy. We employed seven-point, Likert-type scales (7 = strongly agree, 1 = strongly disagree) to measure the degree to which participants attributed responsibility for a crisis to organizations within the food organization. Higher scores indicated that a stronger belief that responsibility should be attributed to the food organization; lower scores indicated a belief that the food organization should bear little responsibility for the crisis.

Simply, willingness to purchase refers to the probability that consumers will be willing to engage in specific buying behavior (Fishbein & Ajzen, 1975). In this study, we treat willingness to purchase as an indicator of consumer attitudes towards an organization and its products. Therefore, to understand the effect that crisis type and response strategy have on consumer attitudes, we tested subjects' willingness to purchase an organization's product after being made aware of the organization's response strategy (i.e., no response, refutation, or admission) for managing the crisis. As with attribution of responsibility, we measured willingness to purchase using seven-point, Likert-type scales (7 = strongly agree, 1 = strongly disagree). Higher scores indicated a higher level of willingness to purchase an organization's product; lower scores indicated a lower level of purchase willingness.

Given the variability in the types of crises that can occur (e.g., food contamination, mislabelled products) in the food organization, different response strategies will have different effects on consumer attribution of responsibility and willingness to purchase. As a result, we propose the following hypotheses:

H1a: There will exist variable interaction effects between crisis type and response strategy on consumers' attributions of responsibility for the crisis.

H1b: There will exist variable interaction effects between crisis type and response strategy on consumers' willingness to purchase an organization's product.

Research by Laczniak, De Carlo, & Ramaswami (2001) illustrated that an organization's reputation can influence consumers' attributions of responsibility, thus affecting consumer attitudes towards the crisis in general. Therefore, when a crisis occurs, organizational reputation can affect the relationship between the response strategy an organization employs and a consumer's attribution of responsibility and willingness to purchase. Specifically, in the event of a crisis, a good reputation can mitigate the effect of the crisis on consumers' attributions of responsibility, thus limiting the influence of the crisis on consumer attitudes. In contrast, when an organization has a bad reputation, consumers are more likely to blame the organization for the crisis. Given this, it follows that in the event of a crisis, the effects of different response strategies on consumer attitudes will vary in accordance with the organization's reputation.

As such, we propose the following hypotheses:

H2a: In the event of a crisis in the food organization, the organization's reputation will moderate the relationship between organizational response strategy and consumers' attributions of responsibility for the crisis.

H2b: In the event of a crisis in the food organization, the organization's reputation will moderate the relationship between organizational response strategy and consumers' willingness to purchase.

Frewer et al. (2016) identified three fundamental elements of consumers' perceived risk: the degree to which the consumer is familiar with the risk, the degree to which the risk induces fear, and a consumer's estimation for being exposed to the risk exposure.

Consumers' purchasing strategies are heavily contingent on (a) the degree to which they are aware of inherent risks associated with purchasing (and consuming) a given product (i.e., there exists a relationship between perceived Risk and purchasing behavior (Rossi, Stedefeldt, da Cunha, de Rosso, 2017; Sillence, Hardy, Medeiros, & LeJeune, 2016), and (b) the amount of risk they consider tolerable. Given these findings, we predict that consumers who are aware of risks associated with their food will have a more cautious attitude towards the food organization when making a purchase. This prediction yields the following hypotheses:

H3a: In the event of a crisis in the food organization, perceived risk will moderate the relationship between organizational response strategy and consumers' attributions of responsibility for the crisis.

H3b: In the event of a crisis in the food organization, perceived risk will moderate the relationship between organizational response strategy and consumers' willingness to purchase.

Research methods and experimental design

Experimental subjects

We sampled students from universities in central Taiwan as participants in this study. Specifically, we collected data from students at National Chung Hsing University, Chung Shan Medical University, China Medical University, Tunghai University, Providence University, Asia University, Central Taiwan University of Science and Technology, and other universities in the fields of food, nutrition, and hospitality. Students from departments that are unrelated to these focal areas were sampled as well. University students were chosen as research subjects because they represent a largely homogenous group (in terms of age and education), and because the use of university students as experimental subjects has been well established in past research (Baker, Honea, & Russell, 2004; Kumar & Krishnan, 2004).

Experimental process

The questionnaire was comprised of five sections. The first section contained seven questions related to consumers' perceived risks associated with the food organization. The second section consisted of three questions and measured consumers' perceptions about the reputation of a food organization. The third section contained only one item intended to test the manipulation of the food organization's various response strategies. The fourth section included eight questions concerning an organization's reputation and consumer willingness to purchase its products after being made aware of its response strategy. The fifth section was comprised of various questions intended to obtain information about the subjects themselves.

First, we sent research personnel to classrooms at the schools described in the last section. These research personnel briefed the participants about the general purpose of the study and provided logistic guidance in completing the questionnaire. Following their reception of instructions, subjects responded to questions that corresponded to the design of the simulation conditions to which they were assigned. This step can be separated into three parts. The first part of the questionnaire gauged the subjects' perceptions of risk about the food organization. Following this, subjects were exposed to food organization profiles and the reputation manipulation. Second, we evaluated participants'

reactions after reading about different crises in the food organization and the response strategies used to address them. Finally, after completing the questionnaire, subjects were reminded to check for any missed questions and were thanked for their participation.

Data analysis techniques

We used SPSS 20.0 statistical software to analyze data as a means to address the hypotheses outlined above. Specifically, we employed two types of statistical analysis. First, we conducted independent sample t-tests to determine the respective effects of crisis type (food poisoning, mislabeled products) and response strategy (no response, refutation, admission) on consumer willingness to purchase. Second, we performed analyses of variance (ANOVAs) to evaluate the effects of the independent variables (crisis type and response strategies) and moderating variables (*organization's* reputation and risk perception) on salient outcomes (attribution of responsibility and consumer willingness to purchase).

Results

Data collections and sample

SA total of 500 questionnaires were distributed, 100 of which were returned with irregularities. Thus, omissions of answers, incomplete answers, or those in which answers to all the questions were the same scale point were all deemed as invalid and removed. The 400 valid questionnaires represented a recovery rate of 80%.

Demographics

The sample contained more female respondents (58.6%) than male respondents (41.4%). 36.9% of participants were freshmen; 33% were in their second year of university; and 20.3% were in their third year; and 9.9% were in their fourth year. Participants' respective monthly family incomes were largely heterogeneous, as 23.3% made NT$ 70,001-90,000 per month, 32.3% made NT$ 50,001-70,000 per month, and 29.1% made less than NT$ 50,000 per month.

In terms of perceived risk, all items had mean scores between 6.18 and 6.41 on the Physical Risk and *functional risk* parts, indicating that the potential for food to generate allergic reactions, the hazards posed to human health, and security concerns are the most critical factors for consumers when choosing food. In total, over 70% of participants have concerns about food safety, likely due to increased incidence of events concerning the addition of harmful substances to food products and the lack of communication between government agencies and consumers. Accordingly, more than half of the participants indicated that they do not trust the Department of Health for food safety risk management.

Measurement

The central goals of this study were to (a) investigate the effects on consumer attitudes in the wake of crises in the food industry and (b) identify the appropriate response strategy for managing different types of crises to improve consumer attitudes and willingness to purchase. Thus, this study featured three independent variables: company reputation, crisis type, and response strategy. To ensure that the manipulations associated with these predictor variables were successful, we performed a series of manipulation tests.

First, we tested the manipulation of organization's reputation. Specifically, we developed two types of food *organization* profiles that contained information that communicated that a company in the industry had either a good reputation or a bad reputation. To test this manipulation, participants responded to three questions regarding an organization's reputation. Data collected from these questions were used to conduct a t-test on consumers' awareness of organization's reputation. The average score for companies with good reputations was 4.12, and the average score for organizations with bad reputations was 2.36. Both organizations with a good reputation and bad reputation were shown to be significantly different from the baseline ($p < 0.1$), indicating that the manipulation related to company reputation was successful.

Second, we performed a manipulation check

to ensure that participants understood the type of crisis inherent in the condition to which they were assigned. For this manipulation check, each participant answered a single question concerning the type of negative news they were exposed to. Research personnel would check participants' answers to ensure that they were correct. If the answer to this question was incorrect, the questionnaire was considered invalid and discarded.

Finally, we conducted a manipulation check to ensure that subjects were aware of the response strategy employed by the company in the condition to which they were assigned. Specifically, we wrote scenarios for three different types of organizational response (i.e., no response, refutation, admission). Similar to the manipulation check related to crisis type, each respondent answered a single question concerning the response strategy they read about. Following the questionnaire's completion, research personnel checked this question for accuracy. If the answer was incorrect, the questionnaire was deemed invalid and discarded.

Hypothesis testing

The effect of crisis type and response strategies on consumer attitudes

In this study, we delineated crisis type into two groups, food poisoning and mislabeled products, and analyzed their respective effects on consumer attitudes toward an organization and its products. An ANOVA revealed that regardless of the type of crisis faced by the organization, response strategies have their own respective influences on consumer willingness to buy ($p < .01$ for both food poisoning and mislabeled products).

When faced with a crisis involving the mislabeling of products, consumers were least likely to buy products from organizations that offered no response ($\mu = 2.07$), followed closely by organizations that engaged in refutation ($\mu = 2.15$). Organizations that admitted their role in the crisis fared best, as consumers most readily expressed a willingness to purchase products from them ($\mu = 3.47$). Post hoc comparisons showed that consumer willingness to purchase was significantly higher for organizations that adopted an adoption response strategy relative to those organizations that offered no response or adopted a refutation strategy. Patterns associated with willingness to purchase an organization's product were similar in a crisis that involves food poisoning. In this condition, mean scores related to the offering of no response, refutation, and admission were 1.98, 2.36, and 2.54, respectively. Unlike during a mislabeling event, however, post hoc comparisons showed that although an admission strategy was better than offering no response at all, there was no significant difference between an organization admitting its role in a crisis and refuting its role in a crisis in terms of consumer willingness to purchase that organization's products. Taken together, these results suggest that admission is the most appropriate strategy for dealing with crises in the food organizations.

Table 1. The effects of different crisis types and response strategies on attribution of responsibility.

Source	Type III Sum of Squares	Degree of Freedom	Average Sum of Squares	F	p-value
Crisis Type (A)	5.471	1	5.471	3.635	.048*
Response Strategy (B)	10.193	2	5.096	3.394	.023**
A*B	2.875	2	1.438	1.362	.347
Error	516.825	321	1.610		
Total	529.148	326			

**$p < .05$, *$p < .10$

Table 2. The effects of different crisis types and response strategies on willingness to purchase.

Source	Type III Sum of Squares	Degree of Freedom	Average Sum of Squares	F	p-value
Crisis Type (A)	7.29	1	7.29	4.25	.031**
Response Strategy (B)	106.22	2	53.11	32.82	.000**
A*B	20.91	2	10.46	6.37	.001**
Error	608.27	321	1.89		
Total	749.31	326			

**p < .05, *p < .10

To empirically investigate the possibility that different organizational crisis response strategies affect consumer attribution of responsibility and willingness to purchase in different ways (i.e., H1a and H1b), we performed a two-factor ANOVA. The results of this analysis are summarized in Tables 1 and 2.

Given that the interaction effect between crisis type and response strategy was non-significant ($F = 1.363$, $p = .347$), Hypothesis 1a is not supported. In contrast to the analysis related to attribution of responsibility, Table 2 demonstrates that the interaction between crisis type and response strategy significantly influences consumer willingness to purchase an organization's products ($F = 6.37$, $p < .05$). Additionally, there was a significant difference between the respective effects of crisis type and response strategy on willingness to purchase. As such, Hypothesis 1b was supported.

Table 3. The effect of different crisis types, response strategies, and organization's reputation on consumer attribution of responsibility.

Source	Type III Sum of Squares	Degree of Freedom	Average Sum of Squares	F	p-value
Crisis Type (A)	5.49	1	5.49	3.74	.043**
Response Strategy (B)	10.56	2	5.28	3.79	.019**
Organization's Reputation (C)	3.82	1	3.82	2.58	.083*
A*B	2.97	2	1.49	1.04	.335
A*C	.11	1	.11	.08	.748
B*C	1.08	2	.54	.37	.652
A*B*C	12.61	2	6.31	4.75	.006**
Error	493.94	321	1.54		
Total	529.82	326			

**p < .05, *p < .10

Table 4. The effects of different crisis types, response strategies, and risk perception on consumer willingness to purchase.

Source	Type III Sum of Squares	Degree of Freedom	Average Sum of Squares	F	p-value
Crisis Type (A)	6.62	1	6.62	3.84	.038**
Response Strategy (B)	108.37	2	54.19	32.52	.000**
Risk Perception (C)	7.59	1	7.59	4.75	.020**
A*B	19.82	2	9.91	5.85	.002**
A*C	7.38	1	7.38	.000	.947
B*C	4.15	2	2.08	1.18	.237
A*B*C	7.83	2	3.92	2.26	.078*
Error	559.28	321	1.74		
Total	725.38	326			

**p < .05, *p < .10

The moderating effect of organization's reputation on the relationship between crisis type and response strategy on consumer attitudes

We conducted a three-factor ANOVA to explore whether the effects of crisis response strategies employed within the food organization on consumer attitudes differ as a function of the reputation of the organization that enacts them (i.e., H2a and H2b). The results of these analyses are summarized in Tables 3 and 4.

According to Table 3, there exists a significant three-way interaction effect between crisis type, response strategy, and organization's reputation on consumer attribution of responsibility ($p < .01$). This finding suggests that in the face of different crises in the food organization, the effect of the selected response strategy on consumer attribution of responsibility will be moderated by the organization's reputation, thus supporting Hypothesis 2a. To provide a more thorough evaluation of the respective effects of response strategy and organization's reputation on consumer attribution of responsibility in different crisis situations, we distinguished an organization's reputation as being either good or bad. Given this distinction, further analysis revealed that when the organization facing the crisis had a good reputation, neither crisis type nor response strategy had significant effects on consumers' attribution of responsibility. When the food organization suffers from a bad reputation, however, there was a significant interaction effect between crisis type and response strategy on attribution of responsibility ($p < .01$).

This analysis suggests that if a food-producing organization suffers from a bad reputation, consumers will attribute responsibility to it regardless of its response to the crisis. In the event of mislabeled products, however, our results suggest that an admission strategy will mitigate the degree to which consumers attribute responsibility to an organization.

Unlike the findings associated with attribution of responsibility, there exists no significant three-way interaction effect between crisis type, response strategy, and the organization's reputation on consumer willingness to purchase an organization's product. This finding suggests that in the event of different crises in the food organization, the effect of the organization's response strategy on consumer

willingness to purchase is not moderated by the organization's reputation. Given this, Hypothesis 2b was not supported.

3.4.3. The moderating effect of risk perception on the relationship between crisis type and response strategy on consumer attitudes

To explore whether consumers' risk perceptions moderate the effect of an organization's strategy on consumer attitudes (i.e., H3a and H3b), we performed a three-factor ANOVA. The results of these analyses are summarized in Tables 3 and 4.

Results indicated that there exists no significant three-way interaction between crisis type, response strategy and risk perception in terms of their collective effect on consumer attribution of responsibility. This result suggests that when different crises occur in the food organization, consumers' perceptions of risk do not affect the relationship between an organization's response strategy and consumer attribution of responsibility. As such, Hypothesis H3a was not supported.

In contrast, Table 4 illustrates the presence of a marginally significant three-way interaction effect between crisis type, response strategy, and risk perception on consumer willingness to purchase ($p < .10$). Though marginal, this finding suggests that in the event of different crises in the food organization, consumer risk perception moderates the effect of an organization's response strategy on consumer willingness to purchase a product produced by that organization. This finding provides empirical support for Hypothesis H3b.

To investigate the respective effects of organizational response and risk perception on consumer willingness to purchase under different crisis situations, we divided consumer risk perception into two categories: high and low. Analyses of these respective groups revealed that when consumers hold perceptions of low risk, the interaction between crisis type and response strategy did not significantly predict consumer willingness to purchase. However, when consumers had high perceptions of risk, there was a significant interaction effect between crisis type and response strategy on consumer willingness to purchase ($p < .01$). Specifically, our findings indicate that in the event that a crisis related to the mislabelling of products occurs, consumers with high perceptions of risk will only be influenced by an admission response strategy on the part of the organization. Other response strategies fail to mitigate the negative influence of the crisis on willingness to purchase. In fact, if an organization employs a refutation strategy or neglects to respond at all, in the event of a product mislabelling crisis, consumers' willingness to purchase the organization's products is reduced. In the event that a crisis related to food contamination occurs, none of the response strategies are likely to increase consumers' willingness to purchase the organization's products.

Discussion

The central purpose of this study was to explore the effects of crisis type (food poisoning, mislabelled products) and organizational response strategies (no response, refutation, and admission) on consumer attitudes. In addition, this study featured an analysis of the moderating effects of oorganization's reputation and consumer risk perception on these relationships. A summary of the tests used to evaluate our hypotheses is provided in Table 5.

Given the results summarized in Table 5, this study offers a number of important conclusions. First, when crises occur in the food organization, response strategies will have significant effects on consumer willingness to purchase products from those organizations at the center of those crises. Our results illustrate that when products are mislabeled in the food organization, organizations can incite consumer to retain a willingness to purchase their products through a strategy of admission. However, in the event of food poisoning or contamination, it is difficult to mitigate the negative effects of the crisis on consumer willingness to purchase regardless of the strategy the organization implements.

Second, when crises occur in organizations with bad reputations, response strategies have significant effects on consumer attributions of responsibility. When an organization within the food organization has a bad reputation and experiences a crisis related to food contamination or poisoning, consumers will

Table 5. Table of summarized research results.

Hypothesis	Content	Result
H1a	There exist variable interaction effects between crisis type and response strategy in terms of consumer attributions of responsibility for the crisis.	Not Supported
H1b	There exist variable interaction effects between crisis type and response strategy in terms of consumer willingness to purchase a company's products.	Supported
H2a	In the event of a crisis in the food industry, a company's reputation moderates the relationship between company's response strategy and consumer attributions of responsibility for the crisis.	Supported
H2b	In the event of a crisis in the food industry, a company's reputation moderates the relationship between company's response strategy and consumer willingness to purchase.	Not Supported
H3a	In the event of a crisis in the food industry, perceived risk moderates the relationship between a company's response strategy and consumer attributions of responsibility for the crisis.	Not Supported
H3b	In the event of a crisis in the food industry, perceived risk moderates the relationship between a company's response strategy and consumer willingness to purchase.	Supported

attribute all of the responsibility for the crisis to the organization regardless of the response strategy the organization implements. However, when crises of mislabeled products occur, organizations can diminish the degree to which they are attributed responsibility by offering no response or engaging in a strategy of refutation.

Finally, when the consumers perceive a high risk associated with their food's safety, crisis type and response strategy will have varying effects on consumer willingness to purchase an organization's products. When crises related to mislabeled products occur in the food organization, an admission response strategy is the most effective for lowering the influence of the crisis on willingness to purchase among consumers with high perceptions of risk. In contrast, when organizations offer no response to the crisis or engage in refutation, consumers' willingness to purchase significantly decreases. When crises associated with food contamination or poisoning occur, there is no response strategy that can effectively salvage consumer willingness to purchase an organization's products. In particular, refuting the crisis or offering no response whatsoever causes consumer willingness to purchase to drop to its lowest level.

Conclusions

Given these conclusions, this study offers a number of actionable recommendations to the food organization. The organization's reputation is derived from consumers' evaluations of the organization's past actions. As such, it is a dynamic issue that will change over time as information regarding the organization is released to the public. In addition to causing consumers to be willing to purchase its products, a good organizational reputation can also provide a prophylactic effect that will assist in re-establishing consumer confidence when a crisis occurs. Therefore, this study recommends that in addition to obeying the law during the organization's daily operation, organizations should readily offer informant information to the public as a means to build a reputation of honesty and transparency among the consumers. In addition, organizations can develop a good by supporting and participating in charity events.

In addition to building a strong reputation among consumers, organizations should also be prepared to take the most effective action for

retaining positive relationships with them. To this end, regardless of the crisis an organization faces, the admission response strategy is the most effective. Companies in the food organization who experience a crisis should actively search for its cause, solve the problem, and utilize the media to publicly broadcast the process by which the problem is addressed. Consider, for example, the melamine case in Taiwan. When King Car Industrial Co., Ltd. faced a crisis in which milk was found to be tainted with melamine, the organization immediately contacted reporters to admit their mistake and apologized to the community and accepted returned products from consumers. Although the organization suffered significant financial losses as a result of the crisis, they effectively salvaged their organization's reputation and earned the trust of consumers.

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References

1. Baker, W. E., Honea, H., & Russell, C. A. (2004). Do not wait to reveal the brand name: The effect of brand-name placement on television advertising effectiveness. *Journal of Advertising, 33*, 77–85.
2. Benson, J. A. (1998). Crisis revisited: An analysis of strategies used by Tylenol in the second tampering episode. *Communication Studies, 39*, 49–66.
3. Coombs, W. T. (1995). Choosing the right words: The development of guidelines for the selection of the 'Appropriate' crisis-response strategies. *Management Communication Quarterly, 8*, 447–476.
4. Coombs, W. T. (2006). The protective powers of crisis response strategies: Managing reputational assets during a crisis. *Journal of Promotion Management, 12*, 241–260.
5. Coombs, W. T. (2007). Attribution theory as a guide for post-crisis communication research. *Public Relations Review, 33*, 135–139.
6. Coombs, W. T., & Holladay, S. J. (2001). An extended examination of the crisis situations: A fusion of the relational management and symbolic approaches. *Journal of Public Relations Research, 13*, 321–340.
7. Crandall, W. R., Parnell, J. A., & Spillan, J. E. (2013). *Crisis management: Leading in the new strategy landscape*. Los Angeles: Sage Publications.
8. Fearn-Banks, K. (2010). *Crisis communications: A casebook approach*. (3rd ed.). Mahwah: Lawrence Erlbaum Associates, Inc..
9. Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading: Addison-Wesley Pub. Co..
10. Frewer, L. J., Fischer, A. R. H., Brennan, M., Bánáti, D., Lion, R., Meertens, R. M., … Vereijken, C. M. J. L. (2016). Risk/Benefit Communication about Food-A Systematic Review of the Literature. *Critical Reviews in Food Science and Nutrition, 56*, 1728–1745.
11. Kao, H. Y., & Lai, K. Y. (2009) 11 billion crisis management lessons: Corporate image restoration in the poisoned milk scandal – King Car and Nestle as case studies. paper presented at the 2009 Chinese Communication Society Annual Conference, available at: http://ccs.nccu.edu.tw/word/HISTORY_PAPER_FILES/1144_1.pdf Accessed 10.09.16.
12. Kumar, A., & Krishnan, S. (2004). Memory interference in advertising: a replication and extension. *Journal of Consumer Research, 30*, 602–611.
13. Laczniak, R. N., De Carlo, T. E., & Ramaswami, S. N. (2001). Consumers' responses to negative word-of-mouth communication: An attribution theory perspective. *Journal of Consumer Research, 11*, 57–73.
14. Liu, Y. J., Huang, Y. T., & Xie, P. Y. (2005). Government image restoration strategy – using the Taoyuan water shortage during Premier

Yu's and Premier Hsieh's term of office as a case study. paper presented at the 2005 Chinese Communication Society Annual Conference, available at: http://ccs.nccu.edu.tw/word/HISTORY_PAPER_FILES/1230_1.pdf Accessed 10.09.16.

15. Röhr, A., Lüddecke, K., Drusch, S., Müller, M. J., & Alvensleben, R. V. (2005). Food quality and safety––consumer perception and public health concern. *Food Control, 16*, 649–655.
16. Rossi, M. S. C., Stedefeldt, E., da Cunha, D. T., & de Rosso, V. V. (2017). Food safety knowledge, optimistic bias and risk perception among food handlers in institutional food services. *Food Control, 73*, 681–688.
17. Rousseau, R. (2006). A case study: Evolution of JASIS' Hirsch index. *Science Focus, 1*, 16–17.
18. Sillence, E., Hardy, C., Medeiros, L. C., & LeJeune, J. T. (2016). Examining trust factors in online food risk information: The case of unpasteurized or 'raw' milk. *Appetite, 99*, 200–210.
19. Smed, S., & Jensen, J. D. (2005). Food safety information and food demand. *British Food Journal, 107*, 173–186.