

Consumer Response To Company Communications During A Product Harm Crisis

Dr. George J. Siomkos, Marketing, New York University,
Dr. Peter G. Malliaris, Marketing, University of Piraeus, Greece

Abstract

Industrial crises deserve serious research attention because of their increasing rate of occurrence and their negative consequences on organizations and society. A particular type of crisis of great concern to marketers and advertisers is product harm crisis which can occur from several causes such as manufacturers negligence, product misuse or sabotage. All product harm crises involve financial costs for the troubled company. However, differences exist in the way firms respond to such crises. This paper analyzes the role of organizational communications in helping a firm successfully handle a product harm crisis. The study utilizes three important factors, that is, a company's reputation, responses, and the external effects, which affect management's success in handling a product harm crisis, in order to examine consumers' attitudes toward the firm's communications.

Introduction

This paper addresses an important issue of particular interest to marketers and advertisers, i.e., the role of organizational communications in helping a firm successfully handle a product harm crisis. The study utilizes three important factors, i.e., a company's reputation, responses, and the external effects it faces during the crisis, all of which affect management's success in handling a product harm crisis, in order to examine consumers' attitudes toward the company communications.

Industrial crises deserve serious research attention due to their increasing rate of occurrence and their negative consequences on organizations and society. Tragic accidents lead to crises for many organizations. Corporate tragedies are "unwelcome visitors" in our lives. They challenge our established habits, break our everyday routines, and threaten our basic beliefs about the predictability and orderliness of the world as reviewed in Mitroff and Kilman (1984).

A particular type of crisis of great concern to marketers and advertisers is product harm crises. Product harm crises can occur from several causes, such as manufacturer's negligence, product misuse, or sabotage. Regardless of the cause, product harm crises all involve financial costs for the troubled company. Differences, however, exist in the way companies respond to such crises. Specifically, some organizations accept responsibility for

liability, recall the product voluntarily, and compensate victims for damages while others take a wait and see attitude.

Negative Effects of Product Harm Crises

Industrial crises usually produce negative publicity for the organization. Crises due to product harm are good illustrations of this principle. Individual consumers learn about the firm's harmful product(s). Often, in such crises, the company is accused of social irresponsibility, which can severely damage its corporate image. Thus, a problem with one of a company's product can cause sales of its other products to drop as well. Companies often attempt to limit the damage, which is usually done through public relations (PR) efforts targeted both at customers and the public at large.

In their attempt to minimize the negative effects on their images, organizations usually stress statements that denote socially responsible acts in handling the crisis. Troubled organizations usually make PR announcements about the crisis in an effort to restore consumer confidence in their product. Meanwhile, the company has to decide whether to recall the product. If it decides on a recall, the product can be directed to new markets, or reintroduced on the same market after correcting the problem. Sometimes the product has to be dropped.

Consumer and Company Responses to Crises

Consumers receive information about the crisis from the media as well as from the organization's communications or PR department. The firm attempts to determine the cause of the product failure and form opinions, perceptions and attitudes regarding the degree of success with which the organization handled the crisis.

The company responds within certain boundaries, which are set by the environment. Regulatory agencies concerned with consumers' welfare and safety, along with the press, constrain what the company-in-crisis can do and say about it. Regulating agencies set standards about product performance and companies responsibilities and the press usually reports on many aspects of a crisis in detail. Consumers form perceptions and attributions about the extent and cause of a crisis. This process leads to the formation of attitudes that consumers hold about the company, the defective product, and the company's communications.

Weinberger and Dillon (1979) studied the effects of negative product information (which make a product-harm crisis particularly difficult to handle), and found that a recall campaign is considered effective if it informs product owners without damaging the firm's reputation. It was found that unfavorable product information received from an independent testing agency or peer as a source had a relatively stronger negative effect on purchase intentions than did similar information communicated by the trade and professional association source. Finally, it was shown that consumers probably place more reliance on outside sources of information when purchasing a service than when purchasing a product.

Mowen and his colleagues (1981) conducted a series of studies on product recalls. The main thesis of their research is that quick or responsive product recalls may substantially lower an organization's risk in product liability trials. These researchers identified several important variables that determine the degree of success of a product recall. They suggest that a prompt and effective product recall is part of the solution, not the problem. It may limit legal liability, reduce liability awards and generate favorable press coverage. A product recall can seriously harm the public's perception of a company if it is treated as a problem to avoid, rather than as an opportunity to take. On the other hand, a prompt and effective recall can generate plaudits from both government officials and the press as analyzed in Mowen and Ellis (1981) and Mowen and Pollman (1981).

Factors Affecting Success in Managing a Product Harm Crisis

More recent studies in the crisis management area such as Siomkos (1989) and Shrivastava and Siomkos (1989), integrated previously identified variables affecting success in managing a product harm crisis into broader factors. These studies introduced different levels of company responses to a crisis (including both product recall versus non-recall responses, as well as voluntary product recalls versus involuntary recalls forced by regulatory agencies). The two research studies just mentioned were coupled with the development of measurements for consumer acceptance of company responses during a crisis. Consumer attitudes were used as measures of company success in dealing with a product harm crisis.

Specifically, Siomkos (1989) developed measures for consumer attitudes toward the company, toward the harmful product, and toward the company's communications during a product harm crisis (Siomkos 1989). Consumer attitudes toward the company's communications were shown to form since consumers wish to determine the cause of a product failure. Information about the crisis that they receive from the media, the press, the regulatory agencies as well as from the organizational communications are sorted out by the consumer and given different weights. Three important factors were identified as instrumental in determining successful management of a crisis : (a) the company's reputation and image, (b) external effects during the crisis, and (c) company's responses.

The first of the studies utilized experiments to measure consumer attitudes toward a harmful product (a harmful hair dryer model) and the company-in-crisis. Numerous experiments were run using different combinations of the factor levels which were manipulated with the use of scenarios presented to the participants. These factors were shown to influence the effectiveness of a company to deal with a crisis, since they could determine the level of consumer attitudes toward the harmful product and the company during a crisis. The three fundamental factors are presented in Appendix 1.

Research Questions and Hypotheses

Several unanswered questions still remain in crisis management especially in regard to company communications, which play a key role during a crisis. Since the three factors presented in Appendix 1 influence the effectiveness of a company to deal with a crisis, the issue of concern to advertisers and PR professionals would be to what extent these factors influence consumers' attitudes toward the company communications (A_c). Therefore, it is reasonable for an advertiser to ask: To what extent does each of the factors affect consumer

attitude toward company communications in a product harm crisis situation? With this question in mind, there are two central objectives of this study : (1) to determine the degree to which different combinations of the company's reputation, external effects, and the company's response, influence A_c ; (2) to determine the most appropriate company responses under different factor combinations.

In order to examine these issues, the following hypotheses are tested in this study:

H1: Consumers will hold more favorable attitudes toward the company communications of a well-known and high-reputation company than of an unknown and low-reputation company.

H2: The more positive the external reactions (by government, agencies, and the press) are to the company's responses during a product-harm crisis, the more favorable the attitudes consumers will hold toward the company communications.

H3: Consumers will hold more favorable attitudes toward the company communications the closer the company response is to "super effort," all other factors being at the same level.

Methodology

A $2 \times 2 \times 4$ factorial experimental design was utilized, therefore defining 16 treatments or manipulations (2 levels of company's reputation times 2 levels of external effects times 4 levels of organizational response). In order to manipulate the levels of the factors, alternative scenarios were utilized. The experiment was conducted in two stages. Subjects received a set of scenarios that they were told was a reprint from a *Business Week* article. Subjects were then asked to respond to the first set of questions, which measured their attitudes toward the company. That was done to ensure that manipulations worked (e.g., subjects indeed perceived a company that was presented in the scenarios as well-known and respected as such). Next, the subjects were presented with a second set of scenarios which described the crisis, the company's responses to it, its communications, and the external effects it faced. Subjects were told that this was also an article about the same company, and that it appeared in the same magazine at a later date. Finally subjects' attitudes toward organizational communications (A_c) were measured through the second set of questions. At the end, subjects were debriefed and told that the articles with which they were presented were mock magazine articles.

Subjects and Products

The sample consisted of 384 subjects. Subjects were

asked to voluntarily participate in the study. Sample size requirements were determined to be 384 subjects, i.e., (2 products) \times ($2 \times 2 \times 4$ treatments) \times (12 observations per treatment) = 384. The basic requirement for participants in the study was that they were users of the two products. Students were the target consumers in the study, since the two products are used by students quite extensively. The sample was therefore representative, and consisted of undergraduates (39.1%, 46.9%), graduates (60.9%, 53.1%), males (49.5%, 47.9%), females (50.5%, 52.1%), ages 18-25 (48.4%, 56.8%), and ages 26 and over (51.6%, 43.2%). The percentages in parentheses refer to the hair dryer and apple juice categories, respectively.

The study was run on two products to increase its external validity. The product selection process had two goals: (a) select two products with which subjects could associate (wide use and acceptance among them), and (b) select fictitious company and brand names for the products so that prior subject attitudes toward the producer or the brand would be minimized and not affect subject responses during the experimental sessions. The two products selected with the corresponding fictitious company and brand names were: (a) hair dryers: model "Warp-5," produced by "DryAire," and (b) apple juice: "TropiCola Apple Juice," produced by "TropiCola." Hair dryers were also used in the Mowen studies, based on a true case of a hair dryer defective model manufactured by Conair Co. The selection of apple juice as the second product was based on the real case of Beech-Nut apple juice adulteration (Welles 1988).

Development of the Dependent Variable

Subjects in the study responded to 7-point scales to the following three questions: (1) "How credible do you perceive the company's communications about the product recall to be?" [1=Extremely credible; 7=Not at all credible]; (2) "Was the recall information presented by the company objectively?" [1=Definitely yes; 7=Definitely no]; and (3) "How trustworthy were the company's spokesperson?" [1=Extremely trustworthy; 7=Not at all trustworthy].

The three items above measuring credibility (CRED), objectivity (OBJ), and trustworthiness (TRUST) of company communications during a crisis were combined to form a single measure as their correlation coefficients seemed to be quite high [CRED with OBJ .57; CRED with TRUST .59; OBJ with TRUST .51] Principal Components Analysis was performed and results appear in Table 1. Results suggest that A_c can be defined as

$$A_c = a_{11}X_1 + a_{21}X_2 + a_{31}X_3 \quad (1)$$

where X_1 , X_2 , and X_3 are the items that measure credi-

bility objectivity and trustworthiness of the organizational communications respectively. Dividing the factor correlations by the square root of the first eigenvalue one gets the first characteristic vector or the first eigenvector $[a_{11}, a_{21}, a_{31}]$ which is used to define the latent variable of A_c as IN (1).

Therefore, for the hair dryer cases

$$A_c = (.59)(CRED) + (.57)(TRUST) + (.57)(OBJ) \quad (2)$$

and for the apple juice product cases

$$A_c = (.59)(OBJ) + (.57)(TRUST) + (.56)(CRED) \quad (3)$$

were not. This means that hypothesis H1 must be rejected, since it seems that company reputation does not contribute to any difference in consumers' A_c . Average values for A_c were 7.12 and 6.76, respectively for the low- and high reputation company cases. Notice that a lower number indicates a higher A_c value, and a higher number indicates a lower A_c . Therefore, the A_c variable moves according to the hypothesized direction, however, the main effect is not significant. For the external effects, a significant main effect on A_c exists, hence H2 is accepted. The mean A_c here is 1.21 and 6.67 for the negative and positive external effects cases, respectively. The organizational response main effect was significant also. The highest value (more favorable)

TABLE 1
PRINCIPAL COMPONENTS ANALYSIS RESULTS

| HAIR DRYER | | | | |
|-------------|---|------------|------------|----------------------------------------|
| Factor | | Eigenvalue | % Variance | Factor Matrix |
| CRED | 1 | 2.115 | 70.5 | $0.863 / \sqrt{2.115} = 0.59 = C_{11}$ |
| OBJ | 2 | 0.491 | 16.4 | $0.824 / \sqrt{2.115} = 0.57 = C_{31}$ |
| TRUST | 3 | 0.394 | 13.1 | $0.831 / \sqrt{2.115} = 0.57 = C_{21}$ |
| APPLE JUICE | | | | |
| Factor | | Eigenvalue | % Variance | Factor Matrix |
| CRED | 1 | 2.363 | 78.8 | $0.865 / \sqrt{2.363} = 0.56 = C_{31}$ |
| OBJ | 2 | 0.388 | 13.0 | $0.916 / \sqrt{2.363} = 0.59 = C_{11}$ |
| TRUST | 3 | 0.247 | 8.2 | $0.882 / \sqrt{2.363} = 0.57 = C_{21}$ |

Results

Subjects believed the stories that were presented to them and the manipulations employed in the study worked. Subjects perceived the well-known and reputable company as such. The first set of questions measured consumer attitudes toward the company. Attitudes toward a company were lower when the company was presented in the stories as low in reputation and not-well-known. For both the hair dryer and the apple juice products, one way analysis of variance were performed with attitudes toward the company as the dependent variable. The Attitudes by Reputation ANOVA's gave highly significant F-Ratios (Hair dryer: F-Ratio=467.65; Apple juice: F-Ratio=402.51; both significant at .00001).

ANOVA results assessed the effects of the three factors on A_c . Table 2 reveals that the main effects of response and external effects were significant, in the hair dryer product case, although the reputation main effect

for A_c was the case of firms which chose the voluntary recall response to overcome the crisis.

However, A_c for those companies using the voluntary recall, and companies employing the denial approach in responding to a crisis, had, on the average, higher A_c values than those using the involuntary recall response. Therefore, if it is assumed that the difference in A_c levels is only clear when talking about "good" versus "bad" organizational responses, H3 can be accepted.

For the apple juice product, on the other hand, all three main effects were significant at the .005 level, supporting hypotheses H1, H2, and H3. However, no interactions were significant for this product.

Two of the two-way interactions were significant in the hair dryer product case; specifically, the (reputation) × (response), and (response) × (external) effects (Table 2). Figures 1 and 2 plot the means of A_c for the various

TABLE 2
ANOVA RESULTS : F-RATIOS

| SOURCE OF VARIATION | HAIR DRYER | APPLE JUICE |
|-------------------------------|-------------------|-------------------|
| Main Effects | | |
| REPUTAT | 1.8 | 17.2 ^a |
| RESPONSE | 21.2 ^a | 50.4 ^a |
| EXTERNAL | 3.8 ^b | 15.8 ^a |
| 2-Way Interactions | | |
| REPUTAT × RESPONSE | 3.3 ^b | 1.2 |
| REPUTAT × EXTERNAL | 0.1 | 0.1 |
| RESPONSE × EXTERNAL | 5.1 ^a | 1.8 |
| 3-Way Interaction | | |
| REPUTAT × RESPONSE × EXTERNAL | 0.4 | 0.3 |

^a p < 0.005

^b p < 0.05

^c p < 0.10

level combinations. A_c is higher for companies that choose to handle a crisis through a voluntary product recall, in both low- and high-reputation company conditions (Figure 1). In addition, between denial and involuntary recall, the denial cases have higher (more favorable) A_c values for both high- and low reputation conditions. Comparing across conditions, it can be concluded that consumers' A_c will be the highest in the case of a high-reputation company that voluntarily chooses to recall the defective model, and A_c will be the lowest (least favorable) for the cases of troubled organizations that select involuntary product recall as their response to the crisis.

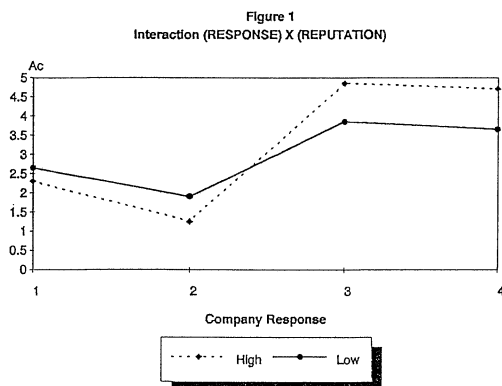
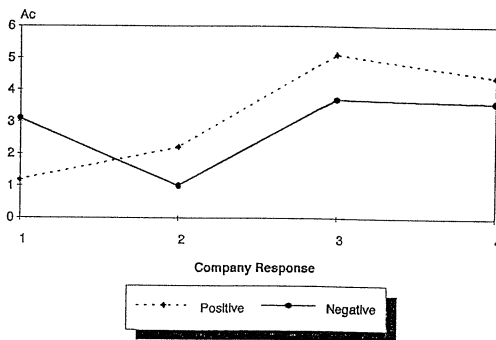


Figure 2, yields several important results. Companies that face negative external effects, will have the highest A_c if they voluntarily recall the harmful product. The same applies for those companies that face positive external effects during a crisis. However, the first set of companies will have the lowest A_c in the case of an

involuntary recall, whereas their positive-external effects counterparts will experience the lowest levels of A_c in the case of a denial response. It seems, therefore, as if consumers cannot accept denial of responsibility from a company that has the opportunity to show social responsibility due to the positive external effects it experiences.

Figure 2
Interaction (RESPONSE) X (EXTERNAL)



Conclusions and Managerial Implications

Recent measurement of pre-crisis attitudes toward the company will suggest the placement of the company within the high- or low-reputation category. The reaction of the press news releases about the crisis will define the external effects that the company faces as either positive or negative. Combining pre-crisis consumer attitudes with the nature of external effects, managers can make a response decision based on the findings of this study.

The broad conclusions that emerge are as follows :

First, managers of high-reputation companies should implement a voluntary recall of the harmful product. Their organizations will enjoy high levels of A_c . They should definitely avoid denying any responsibility for the harmful effects of the defective product, and should also avoid waiting for a regulatory agency's order to recall it. As soon as the first substantiated indications of a harm appear, the product should be immediately recalled.

Second, managers whose company faces negative external effects during a crisis should preferably employ the super effort response, since they will have to prove to the public that the company is indeed honest, concerned with consumer welfare, and socially responsible. In such cases, responses like denial and involuntary product recall will only intensify rumors or further justify substantiated evidence about the product harm. The already negative press and regulatory agencies' reactions would become more negative and the company would be presented as attempting to hide the truth from the consumer.

Third, managers should disclose directly to consumers, open, honest, and accurate product harm relevant data, information on remedy procedures, and precautionary actions for the use of the product. They should also attempt to induce consumers to remain company-loyal through sales promotion, special deals, coupons, cash rebates, and free product samples where possible - in exchange for the recalled product.

Fourth, management's underlying focus of effort must concentrate in enabling the organization to get a second chance to prove itself and to handle the current crisis successfully.

Given, however, that in a typical product crisis case, a company that accepts responsibility becomes legally liable for millions of dollars in damages, it may be tempting for companies to avoid incurring legal liability, by simply denying responsibility for the harm. Avoiding a product recall may be legitimate and accepted by consumers only in the case in which the company is indeed not liable for the product harm, or the company is faced with unsubstantiated rumors.

Finally, independent of specific conditions, a firm will have to clearly explain to consumers where it stands. In addition it should provide enough justification (e.g., supportive product test results, experts' opinions) for not recalling the product and claiming its innocence.

Suggestions for Future Research

The present study also provides evidence and natural-ly leads to the formulation of few important hypotheses

that can be investigated by further research. These are:

First, the more positive the external reactions by regulatory agencies and the press are to the company's responses during a product-harm crisis, the more favorable the attitudes consumers will hold toward the organizational communications.

Second, if given the same levels of a product-harm crisis extent and various external effects, a company employs either a voluntary product recall, or a "super effort" as its response, consumers will hold more favorable attitudes toward the organizational communications.

Third, consumer attitudes toward organizational communications are higher (more positive) for companies that choose to handle a crisis through a voluntary product recall, in both low-and high-reputation company conditions. In addition, in both cases of company reputation, the denial of responsibility response has higher A_c scores associated with it, than does the involuntary product recall response. Finally, low-reputation companies that use the denial or the involuntary recall responses, enjoy higher consumer attitudes toward their communications than their high-reputation counterparts.

Finally, companies which face either negative or positive external effects during a crisis, will have the highest A_c if they voluntarily recall the harmful product. However, negative external effects companies will receive the lowest A_c if they involuntarily recall the harmful product; whereas, their positive external effects counterparts will have the lowest in the case of a denial of their responsibility response. 20

References

1. Mitroff, Ian I. and Ralph H. Kilman, *Corporate Tragedies, Product Tampering, Sabotage, and Other Catastrophes*, New York: Praeger Publishers, 1984.
2. Mowen, John C. and Hal W. Ellis, "The Product Defect: Management and Consumer Implications," in Ben Enis and Kenneth Roering (eds.) *Review of Marketing*, Chicago: American Marketing Association, pp. 158-172, 1981.
3. Mowen, John C. and S.B. Pollman, "An Exploratory Study Investigating Order Effects in Reporting Negative Corporate Communications," *Advances in Consumer Research*, Vol. 9, 1981.
4. Weinberger, M.C. and W.R. Dillon, "The Effects of Unfavorable Product Rating Information," *Advances in Consumer Research*, 10th Annual Conference, San Francisco, 1979.
5. Shrivastava, Paul and George J. Siomkos, "Disaster Containment Strategies", *Journal of Business Strategy*, Vol. 10, No. 5, pp. 26-30, 1989.

6. Siomkos, George J., "Managing Product-Harm Crises," *Industrial Crisis Quarterly*, Vol. 3, No. 1, pp. 41-60, 1989.
7. Welles, Chris, "What Led Beech-Nut Down the Road to Disgrace," *Business Week*, February 22, pp. 124-128, 1988.

Appendix 1

Factors Affecting Success in Managing a Product Harm Crises

1. Company's Reputation and Image : This factor can take two levels. A company can either be well-known and respected, or it can be unknown (or less known) and not respected. The levels of this factor are high/low.
2. External Effects : The factor describes how positively or negatively external parties (e.g., the press, regulatory agencies, special interest groups) influence the company's efforts to handle the product harm crisis. Therefore the levels of this factor are positive/ negative.
3. Company Response : The way that the company responds to the crisis is described by this factor, which can take any of the following four levels. The company can simply deny any responsibility for the harmful product (denial); it can recall it only after a regulatory agency orders it to do so (involuntary product recall); recall the product voluntarily, before an agency issues an order (voluntary recall); or finally respond by using the super effort response, by going beyond simply informing the public of the dangerous product and voluntarily recalling it; the company makes the recall process extremely easy for the consumer, gives out free samples of other products, and advertises the recall widely.