Article

Instructional messaging most significant in food recalls

By Monique Farmer and Ming Wang

Abstract
When a food company faces recalls, their crisis communicators need to direct their message to those most likely to be affected—consumers—and provide them with information on how to deal with the recall. The study here by Monique Farmer and Ming Wang demonstrates that a focus on "instructional messaging" correlates with a positive tone in newspaper coverage.

Keywords
agenda building, crisis communication, public relations, food recall, instructional messaging, transparency, content analysis, sentiment analysis, newspaper

Once a food company has made and widely distributed a food to the public, quality issues can sometimes arise that may lead to food recalls. The United States Department of Agriculture recorded 94 food recalls in 2014, registering 18,675,102 pounds of food.[1]

Decisions regarding what to and what not to communicate to journalists and the public can come with significant consequences if not carefully planned on the part of food companies. For instance, instructional messaging delivered during a crisis can be

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integral because instructional messages can save lives.[2] Using effective crisis messaging strategies can help or prevent harm to a company's reputation.[3]

This study explores whether three best practices identified in the crisis communication literature, relying heavily upon the situational crisis communication theory, lend support to the agenda-building function of crisis communicators by analyzing food recall notifications and resulting newspaper coverage. Results indeed show a symbiotic relationship between the two theories. Findings also suggest that situational crisis communication theory can incorporate transparency into the model.

Literature Review

Agenda building is the process that takes place before agenda setting.[4] Agenda setting theory, first introduced by McCombs and Shaw in their seminal study of the 1968 presidential election, posits that the media's priorities with various issues corresponds closely with public concern for those same issues in the magnitude of significance.[5]

Subsequent research has highlighted the first-level and second-level distinction.[6] While the first level deals with the transfer of "issue" salience, the second level focuses on the transfer of "attribute" salience.[7] For instance, if the media devote more coverage to the recall of spinach distributed by Company A than to the national economy, the first-level agenda-setting theory will predict that the public will perceive the spinach recall to be a more important issue than the national economy. Furthermore, if the media coverage of the spinach recall focuses on blaming Company A for the crisis (a substantive attribute) and portrays the recall in a negative tone (an affective attribute), the second-level agenda-setting theory predicts that the public will think about the recall crisis along the same lines.

Agenda building, on the other hand, shifts the spotlight away from what is on the media and public agenda to how certain issues and attributes become salient on the media agenda in the first place.[8] In other words, where do the story ideas originate? Who sets the media agenda?

If information is treated as a commodity, the media gain access to the information through any number of means often referred to as information subsidies. These means could include news releases, interviews with spokespersons, special events, press conferences and media advisories.[9] Even though many factors determine what gets on the media agenda, information subsidies play a critical role because news is shaped by information sources.[10]

Through providing information subsidies to journalists, public relations practitioners seek to have their information published and framed intact with the desired tone and in alignment with the organizational messages they desire to present to their target audiences through the media.[11]

In essence, the second-level agenda-building theory explains why certain issue attributes are made the focal point of attention and widely disseminated for public information while other issue attributes are not generally pushed out as salient pieces of information.[12] Attributes can be substantive (e.g., issue positions) or affective (e.g., positive, neutral or negative tone).

This paper studies the transfer of three substantive attributes of the food recall issue from recall notifications to newspaper coverage. The attributes—instructional messaging,

acceptance of responsibility and transparency—are grounded in the crisis communication literature, especially the situational crisis communication theory.

In the affective realm, this paper differs slightly from other tests of the second-level agenda-building theory. While most prior studies have examined whether the valence of the issue in information subsidies—positive, neutral or negative—is consistent with the tone in news coverage, this paper focuses on whether the three attributes in recall notifications are associated with positive newspaper coverage that ensues.

Situational Crisis Communication Theory

Crises are threats to an organization's reputation. Drawing upon the attribution theory, Coombs' situational crisis communication theory posits that three factors shape the reputational threat, the first of which is initial crisis responsibility.[13] The more key stakeholders attribute the responsibility of the crisis to the organization, the lower the reputation of the organization becomes.[14]

According to this theory, even though acceptance of responsibility may lead to damaged reputation, the effect is contingent upon the initial assessment of the crisis type. For instance, victim cluster such as product tampering/malevolence is associated with weak attribution of crisis responsibility and mild reputational threat, accidental cluster such as technical-error accidents or product harm with minimal attribution of crisis responsibility and moderate reputational threat and intentional cluster such as human-error accidents or organizational misdeed with strong attribution of crisis responsibility and severe reputational threat.[15]

Situational crisis communication theory uses crisis responsibility to connect crisis types with response strategies. Coombs argues that instructional messaging should be the initial response for a crisis that has victims or potential victims.[16] The crisis communication literature has identified three types of instructional messaging: basic information about the crisis, steps stakeholders need to take to protect themselves and corrective measures the organization should take to deal with the crisis.[17]

Beyond the base response, the situational crisis communication theory also finds that "as attribution of crisis responsibility increases, crisis managers must use crisis response strategies that increasingly accept responsibility for the crisis."[18] These response strategies range from denial to diminish to rebuild.[19]

In summary, the situational crisis communication theory recommends instructional messaging and a certain degree of acceptance of responsibility, depending on the situation.

What is missing from the situational crisis communication theory is transparency.

The crisis communication literature suggests that transparency should be upheld during all phases of a crisis. Organizations should present risk messages with honesty at the pre-crisis stage and emphasize honesty and openness in message delivery during a crisis.[20]

Organizational transparency helps build credibility and trust with the media and the public during all phases of the crisis.[21] The media may sometimes cover an issue in a biased manner, coloring events in a way they see fit, whether that is positively, negatively or neutrally.[22] Honesty and transparency hold an important role in helping shape media coverage related to a crisis event. Transparency can help companies generate favorable media coverage.[23]

As a result, this study explores transparency as an additional best practice for crisis response.

Study Context and Hypotheses

As food recall notifications are developed, crisis communicators have a certain level of flexibility to craft messaging with a focus on specific attributes that align with the crisis management strategy. Once those messages are crafted in a news release, the public information phase of the food recall notification process begins as the notification is disseminated to ensure public safety and promote awareness that a product may pose a public health or safety risk.

Once the decision to issue a food recall has been made, a company usually enters the crisis territory and often starts involving the media.[24] Few studies have looked at the relationship between food recall notifications and follow-up media coverage of the issue. This empirical inquiry will investigate whether the following best practices identified in crisis communication literature will help food makers better manage food recall crises.

In food product recall crises, instructional messaging plays a particularly important role by communicating to the public what to do if they are affected. More than a quarter of Americans indicated in a 2010 survey that they were not given adequate information to protect themselves or their families during major recalls that took place between 2006 and 2009.[25] Uncertainty is a defining characteristic of a crisis and organizations should work to reduce stakeholder uncertainty by providing helpful information.

Larsson identifies the media as the most important information path for relaying instructional messaging during a crisis event.[26] Because crises can be exploited and exacerbated by the media, practitioners have an important role to play in proactively forwarding the appropriate messages to affected stakeholders through news media.[27]

Since instructional messaging can help restore order in times of uncertainty and panic,[28] it is likely to be positively received by the media. Hence:

H1:

The tone of newspaper coverage is more likely to be positive if the food recall notification includes instructional messaging for consumers to follow.

Given the critical role instructional messaging plays in informing and educating the public, such information is expected to be covered by media outlets who receive food recall notifications that include instructional messages.

H2:

The attribute of instructional messaging in food recall notifications will be transferred to newspaper coverage.

A food recall can be easily framed as an accidental or victim crisis over which an organization has little control. Under such circumstances, accepting responsibility for the recall could minimally damage the organization's reputation. In some cases, the act may even enhance it in the long run because the organization is willing to shoulder the responsibility even though it has little control over the cause.

One classic case often referenced as a crisis management model is the Tylenol tampering case, which affected Johnson & Johnson Corporation back in 1982. The company promptly assumed responsibility for an issue it was not responsible for in order to protect public safety. While the company's brand experienced a huge blow, affecting Tylenol's profits and the brand's reputation, process changes inside the company and a redesign of the packaging with the introduction of a tamper-resistant seal brought the company positive capital on the media coverage front.

Based on the situational crisis communication theory, it is reasonable to deduce that the news media are more likely to cover a food recall crisis with a positive tone when the issuing company takes responsibility.

H3:

The tone of newspaper coverage is more likely to be positive if the food recall notification demonstrates that the issuing firm takes a level of ownership for the issue (acceptance of responsibility).

Along the same line of reasoning for H2, when the food recall notifications contain the acceptance of responsibility message, the news media are likely to cover it, too.

H4:

The attribute of acceptance of responsibility in food recall notifications will be transferred to newspaper coverage.

Best Practice in Food Recall Crises: Transparency

Transparency and honesty are what consumers and other stakeholders look for in food recalls. Zaremba concludes that in case after case, transparency has been proven to be critical to effective crisis communication:

> *Whether the case is political like the Watergate break in, related to airplanes or space travel like the horrific disasters of the Challenger and Columbia, medical like Dow Corning's crisis with its breast implants, industrial like Union Carbibe's Bhopal crisis, or based on a natural disaster such as Hurricane Katrina – regardless of the nature of the crisis, the results repeatedly point to the pragmatic wisdom of transparency.*[29]

One way for a company to alleviate potential negative media coverage in a food recall crisis is to be transparent. For food recalls specifically, one sign of transparency is providing clear product identification information. The demonstration of transparent communication can lead to positive newspaper coverage and the presence of transparent information in it, as well.

H5:

The tone of newspaper coverage is more likely to be positive if the food recall notification includes messaging that communicates clear product identification information **(transparency)**.

H6:

The attribute of **transparency** in food recall notifications will be transferred to newspaper coverage.

Method

This study relies on two sources of data. First, food recall notifications distributed in the form of news releases are posted to the Food and Drug Administration (FDA) website. These notifications are fed through *Food Track*, a subscription-based program used by the food industry. In addition, resulting newspaper articles were pulled both from *Food Track* and *Lexis Nexis* to study the tone of newspaper coverage and the presence of issue attributes.

A search of the product recall notifications issued by the FDA in 2013 was first conducted. This study focused on this year because at the time of data collection *Food Track* did not have data prior to 2013. A targeted search was initiated to extract only food recall notifications that had been fed into the program from the FDA's archive. Because *Food Track* also displays associated articles, this program was used, as opposed to FDA's Food Recall Archive website. The first author archived the entire population of food recall notifications issued that year.

Next, a search within *Lexis Nexis* was initiated for news articles that corresponded with the food recall notifications. Food recall notifications that did not have corresponding newspaper coverage in either *Food Track* or *Lexis Nexis* were not included in the analysis. This procedure resulted in a total of 72 food recall notifications, all of which were analyzed to complete this study, along with the corresponding 143 newspaper articles. The newspaper articles were drawn primarily from national sources that offered online coverage, such as *USA Today* and Progressive Media Company News.

Each of the recalls included in this study posed a potential public safety risk, whether because of the presence of a foreign material like metal or pathogens such as listeria and salmonella that can cause serious illness or life-threatening reactions. Because the articles were pulled retroactively, it is likely that the collective number of articles generated as a result of each event may not have been captured for archival and retrieval by *Food Track* and/or Lexis Nexis. Food recall notifications generated corresponding articles ranging from as few as one article to as many as seven per incident.

Coding Instructional Messaging, Acceptance of Responsibility and Transparency

Three individual students coded the product recall notifications as well as the resulting newspaper coverage following a series of training sessions conducted by the first author. Codebooks and coding sheets were developed to help the coders identify messaging related to the following variables in both the food product recall notifications and resulting newspaper coverage: instructional messaging, acceptance of responsibility and transparency. Operational definitions of each attribute were developed based on a literature review as well as an analysis of a small random sample of the dataset. Table 1 shows how each attribute was operationalized. For instance, transparency was captured by five items. Coders were asked to check if the recall

Table 1

Coding Food Recall Notifications and News Articles for Instructional Messaging, Acceptance of Responsibility and Transparency

Instructional Messaging *(0 to 4)*	*Acceptance of Responsibility (0 to 4)*	*Transparency* *(0 to 5)*
Does the notification/news article provide consumers with a toll-free number and/or email address to call if they have questions (an email that is listed for media is OK as well)?	Does the notification/ news article suggest that the company is accepting responsibility for the reason the product is being recalled?	Does the notification/news article provide specific information regarding some or all of the following product data: UPC code, product size, use by/best by/sell by date?
Does the notification/news article provide consumers with instructions regarding what they should do with the product (e.g., destroy, discard, return, etc.)?	Does the notification/news article provide information about corrective action items that have been taken or will be taken (e.g., holding back product from the marketplace, contacting customers/retailers to inform them about the situation)?	Does the notification/news article inform readers about whether any illnesses or deaths have taken place to date?
Does the notification/news article provide consumers with instructions regarding what they should do if they are concerned they may have ingested the recalled product?	Does the notification/news article provide make mention of any process changes that are taking place inside the company to arrest the crisis and prevent it from happening again in the future?	Does the notification/news article inform readers about the potential risks associated with using the recalled product?
Does the notification/news article provide consumers with information regarding how they can return the product or get a refund/coupon/replacement?	Does the notification/news article make any mention of the manufacturer working with regulatory agencies or other authorities to manage the recall process?	Does the notification/new article mention where the consumer can view photos/images of the product, OR does it provide a link to access photos/images?
		Does the notification/news article provide information about the geographic locations impacted by the recall or provide the consumer with information about specific stores where the product may have been sold?

notification or news article met each of these five criteria, giving 1 for each criterion met and 0 otherwise. The scores were added to provide a six-point scale (0 to 5) for transparency. The other two attributes were coded in the same way, except they were each summed to a five-point scale. [See Table 1]

Intercoder Reliability

Intercoder reliability was assessed with Krippendorff's alpha[30], a statistical measure that controls for chance agreement.

An intercoder reliability test was conducted in a pilot coding session. A small dataset was compiled from a set of 15 food recall notifications retrieved from the FDA Archival website.

Coding returned acceptable intercoder reliability coefficients (instructional messaging: α = .694; responsibility: α = .724; transparency: α = .819), according to Krippendorff's guidelines.[31]

Sentiment Analysis

The tone of newspaper coverage was assessed using a methodology employed in a similar study,[32] using a list of positive, neutral and negative words. The list was developed following a review of a simple random sample of 25 news articles pulled from the larger data set of 143 stories. Words that appeared to suggest positive action and response on the part of the recall-issuing firm were placed in the positive column on the list. For example, the positive column included such words as action, immediate, working closely, coordinating and investigating. The negative column included such words as sick, deadly, fatal, hospitalized, severe and extreme. The neutral column included such words as potential, possible, inadvertent and distributed. The full word list can be requested from the authors.

The assessment of the tone was determined through a mathematical calculation, which subtracted the highest score—a count of the number of words—of either positive or negative points assessed from the lowest score of either positive or negative points assessed. Any number of neutral points were then subtracted from the remaining total to determine the appropriate categorization of sentiment for each article.

Analytical Strategy

Spearman's Rho was used to assess the bivariate association between issue attributes used in food recall notifications and the tone of newspaper coverage (H1, H3 & H5), and Pearson's product-moment correlation was used to test whether there was a statistically significant relationship between issue attributes in food recall notifications and the resulting newspaper coverage (H2, H4 & H6).

Findings

Consistent with H1, there is a moderate positive correlation between instructional messaging in food recall notifications and positive newspaper coverage (ρ = .21, p < .05).

To further examine the relationship between the two variables, a logistic regression was conducted to determine the likelihood of receiving positive newspaper coverage when instructional messaging is present in food recall notifications. The model is statistically significant (χ^2 = 65.59, p < .001, *Cox & Snell R^2* = .061, *Nagelkerke R^2* = .122). There is a marginally significant relationship between instructional messaging

Table 2
Summary of Results

Hypotheses	*Results*
H1: Presence of instructional messaging in food recall <+> positive media coverage	Supported
H2: Presence of instructional messaging in food recall <+> Presence of instructional messaging in media coverage	Supported
H3: Presence of acceptance of responsibility in food recall <+> positive media coverage	Not supported
H4: Presence of acceptance of responsibility in food recall <+> Presence of acceptance of responsibility in media coverage	Supported
H5: Presence of transparency in food recall <+> positive media coverage	Not supported
H6: Presence of transparency in food recall <+> Presence of transparency in media coverage	Supported

in food recall notifications and positive newspaper coverage ($B = 1.32$, *S.E.* $= .77$, $p < .10$). Furthermore, for every additional unit of instructional messaging included in the food recall notification, the probability of receiving positive newspaper coverage increases by a ratio of 3.75.

In support of H2, there is a moderate positive relationship between the instructional messaging in food recall notifications and the mention of this attribute in the resulting newspaper coverage ($r = .27$, $p < .05$).

Contrary to what H3 predicts, whether the food recall notifications demonstrate that the issuing firm takes ownership of the issue is not associated with the positive tone of newspaper coverage ($\rho = -.04$, *n.s.*). However, there is a moderate positive relationship between the acceptance of responsibility strategy in food recall notifications and the mention of this attribute in the resulting newspaper coverage ($r = .36$, $p < .01$), supporting H4.

Correlational analysis indicates that relationship between the presence of transparency messaging within the food recall notifications and positive newspaper coverage is not statistically significant ($\rho = -.20$, *n.s.*). Therefore, H5 is not supported. On the other hand, there is a moderate positive association between the use of transparency strategy in food recall notifications and the mention of this attribute in the resulting newspaper coverage ($r = .38$, $p < .001$), lending support to H6.

All hypothesis testing results are summarized in Table 2.

Discussion

By investigating whether specific attributes in food recall notifications subsequently had an impact on the tone of newspaper coverage, as well as whether those attributes appeared in the coverage, this study contributes to a deeper understanding of best crisis communication practices.

From a practical standpoint, instructional messaging appears to be the most effective strategy in a food recall crisis if the company seeks to gain positive newspaper coverage. This may sound intuitive at first, but many companies are not currently practicing it. These findings advocate a consumer-centric crisis management perspective versus a company-centric one.

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Surprisingly, transparency and acceptance of responsibility do not lead to subsequent positive newspaper coverage. Encouragingly though, consistent with the second-level agenda-building theory, when food recalls contain messages of companies providing instructional information to consumers, taking responsibility and being transparent, these messages were also included in follow-up news stories in the media. This shows that food recalls are powerful information subsidies that help shape how journalists frame the food recall crisis.

From a theoretical standpoint, the study tested the boundary conditions of three crisis communication best practices commonly discussed in the literature, using the second-level agenda-building framework. The findings lend support to the core propositions in the second-level agenda-building theory and offer transparency as an additional response strategy for the situational crisis communication theory.

Future research can extend the current project to incorporate agenda building and agenda setting in the same model to test how instructional messaging, acceptance of responsibility and transparency are transferred to the public agenda. After all, the public is the intended target audience of these recall notifications.

This study suffers from flaws in the sample, such as a limited number of newspaper articles available in *Food Track* and an incomplete database of daily newspaper services in *Lexis Nexis*. Additionally, food recall notifications may simply be one of a myriad of sources the public sees during a food recall because journalists typically rely on multiple information subsidies during a crisis situation. This may account for the muted associations between recall notifications and subsequent newspaper coverage. Finally, it is possible that a negative story might have been categorized as a positive one if positive words outnumbered negative words in the story. To check this, coders also read each story for overall tone and no such faulty categorization was found.

Despite these limitations, the findings in this research study add to the body of knowledge crisis communicators in the food industry can draw from to determine which attributes may be the most important to focus on when developing communication messages during food recall events. On the other hand, newspaper journalists will also have a better understanding of how information subsidies can affect their work.

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