# Corporate Reputation and Public Belief Formation in the Evaluation of Arguments for Past Events

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*Companies, athletes, celebrities, and politicians all attempt to present persuasive arguments supporting their desired accounts about past events. After such attempts, consumers can evaluate the content of different proposed explanations and come to their own conclusions. In such instances, how do consumers weigh each explanation, and what determines their degree of belief in each explanation? This study explores the impact of alternative explanations on consumer lay beliefs, focusing particularly on the explanatory virtues of each explanation that correspond to established criteria for justifying past descriptions in historical analysis. In a study involving 200 participants, individuals were asked to evaluate two proposed causal explanations for a recent hypothetical event connected to a potential corporate scandal. After providing initial degrees of belief for each cause, participants were introduced to additional information intended to improve support for one of the explanations along different dimensions of established explanatory criteria. Results indicate that all arguments along the dimensions of explanatory criteria increased belief in the favored cause while simultaneously reducing belief in the unfavored cause.*

*Keywords: corporate reputation, explanatory virtues, consumer persuasion, inference to the best explanation*

## INTRODUCTION

Companies, athletes, celebrities, and politicians often present arguments to defend against false accusations or to support the authenticity of a company's reputationally beneficial actions (Hearit, 1995; Sanderson, 2008; Samoilenko et al., 2019). If unfavorable, evaluations of the evidence for past events can negatively impact organizational perception (Cain, 2022). Conversely, positive evaluations lead to

numerous performance outcomes (Randel, 2009). Such evaluations play into a firm's overall reputation, which is considered an important factor for competitive advantage (Iwu-Egwuonwu, 2010).

Given the importance of argumentation, it would be good to understand how argumentation impacts belief. How do firms' (professional individuals') arguments about what happened in the past shape consumers' and the public's beliefs regarding past events? Recent literature has attempted to address this question in various ways, for example by investigating various aspects of argumentation such as emotional and psychological influences on consumer belief through methods of persuasion (e.g., narrative transportation; Escalas, 2007; van Laer et al., 2014). To the authors' knowledge, less work has focused on how consumers build beliefs through the conscious evaluation of alternative explanations proposed during argumentation. When consumers evaluate competing explanations for past events, how does the content of the arguments for each explanation impact belief?

This paper provides an initial investigation into addressing the above question by examining the impact of explanatory virtues used in historical analysis on lay beliefs regarding competing explanations for past events. Relying on several traditional criteria for justifying past explanations in historical research (McCullagh, 1984), this paper hypothesizes and then tests the impact of different types of explanatory content on the beliefs of consumers and public individuals evaluating competing explanations for a potential corporate scandal. Results indicate that the criteria used by historians to evaluate the likelihood of past events has a parallel impact on the lay individual's belief in the likelihood of explanations for recent events. By examining this context and the impact of historical analysis criteria on lay belief regarding a potential corporate scandal, this research also addresses long overdue calls for using historical methods in marketing research (Golder, 2000; Savitt, 1980).

The rest of the paper proceeds as follows. First, relevant literature is reviewed and hypotheses are developed regarding the impact of different explanatory criteria on lay beliefs for alternative explanations. Then, the study is presented and its details are described. Afterwards, an overview of the results is described that compares the key findings against the developed hypotheses. Finally, the paper ends with a discussion on the relevance of the research, as well as a brief review of limitations and potential directions for future research.

## Review of Key Literature and Hypothesis Formation

As mentioned, reputation is considered an important asset for competitive advantage and financial performance (Iwu-Egwuonwu, 2010). Given its importance, it has been a substantive focus in academic research, which has explored both how to develop a corporate reputation (e.g., Cain, 2022; Sanderson, 2008; Samoilenko et al., 2019) and what to do when reputation is threatened or diminished (Escalas, 2007; Iwu-Egwuonwu, 2010: Randel et al., 2009). A central concept in this context is the impression of stakeholders (Bundy et al., 2017; Elsbach, 2003), as firm's seek to influence how consumers understand past events and develop their views of the firms. Impression management can cover a diversity of topics, methods, and antecedents (e.g., the moral salience of the firm's actions for the viewer Brown et al., 2016, or the general affinity the viewer has for the firm prior to evaluation Bundy & Pfarrer, 2015, etc.).

Relevant to this study is impression management that can occur when the firm is connected to a potentially reputationally impactful event (for the sake of writing clarity, we will discuss situations of potentially reputationally damaging events, although this discussion is reversable to situations where the past event is positive and the firm wants to claim responsibility for that event). When faced with such potentially damaging situations, firms often engage in a "corporate apologia", or an attempt to defend their legitimacy or establish trust in the firm (Hearit, 1995; Lamin & Zaheer, 2012). Lamin and Zaheer (2012) categorize organizational responses to such accusations under four categories: denial, defiance, decoupling, and accommodation. Of these four options, defiance is the category within which the firm goes beyond simply denying a claim. It may attempt to provide an alternative explanation for the event in question. This paper focuses on such contexts, where an alternative explanation is proposed for a potential event.

This study explores whether, in cases where an alternative explanation is proposed, consumer opinions may be influenced by the 'explanatory virtues' highlighted by the arguments companies employ in comparing and contrasting possible explanations. Explanatory virtues are a theoretical posit about aspects

of explanation that are argued to increase the likelihood of an explanation being correct, and are the criteria that different proposed theories are evaluated against (Jansen, 2016; Keas, 2018; Lipton, 2017; McCullagh, 1984). Within the historical domain – where potential corporate scandals lie, and which are the target of many accusations – past events are proposed and evaluated as explanations for present data. The criteria used to evaluate the strength of proposed explanations is called inference to the best explanation. McCullagh (1984), who gives the standard description of this view, draws out five categories of argument content:

**TABLE 1**
**Theoretical Virtues for Historical Explanation**

| Category | Definition |
|---|---|
| Explanatory scope | Compared to other hypotheses, the proposed event explains a greater number and/or variety of explanandum. |
| Explanatory power | Compared to other hypotheses, the proposed event more strongly implies that the current explanandum would occur. |
| Disconfirmation | Compared to other hypotheses, the proposed event implies fewer outcomes that are believed _not_ to have occurred. |
| Plausibility | Compared to other hypotheses, the proposed event is implied by more already believed propositions. |
| Adhocness | Compared to other hypotheses, the proposed event includes fewer suppositions that are not yet implied by already believed propositions. |

* Categories and descriptions summarized from McCullagh (1984)

The better a proposed past event performs on each category in comparison to other hypotheses, the more reason there is to believe it. In historical analysis, these categories are inferred to influence the beliefs of trained historians, and are defended with intuition, argument, and the past success.

To the authors' knowledge, these criteria have not been evaluated in relation to lay consumer belief formation. Indeed, everyday abductive argumentation is considered to be less thought out (Jansen, 2016) compared to the more laborious evaluations for historical events done in historical analysis (McCullagh, 1984). Still, the virtues of a theoretical posit seem to be properties of the arguments themselves (Keas, 2018) and, therefore, should impact any individual that recognizes them. Further, there is no reason to believe that a lay individual will not recognize the virtues if they are presented in an argument. Given that the intuitions and reasoning undergirding the impact of the categories of argument content on belief are intuitive and appear to be general beyond the historical domain, we propose that consumers will be similarly affected by the categories of argument content:

*H1: Greater explanatory power for a proposed past event will increase belief for that event in comparison to competing hypotheses.*

*H2: Greater explanatory scope for a proposed past event will increase belief for that event in comparison to competing hypotheses.*

*H3: Lesser disconfirmation for a proposed past event will increase belief for that event in comparison to competing hypotheses.*

*H4: Greater plausibility for a proposed past event will increase belief for that event in comparison to competing hypotheses.*

**H5:** *Lesser degree of adhocness for a proposed past event will increase belief for that event in comparison to competing hypotheses.*

## METHODOLOGY

We conducted a mixed design study to examine the impact of argument content category on consumer belief formation within the context of a potential scandal. The study used a 6 (argument: Baseline vs. Scope vs. Power vs. Plausibility vs. Disconfirmation vs. Adhocness) by 2 (favored cause: flu vs. lead) design. Anonymized data is available from the third and fourth authors upon request.

Undergraduate students from a university in the Midwest United States were recruited for the study. Following data exclusion (see Appendix), 232 participants, including 109 females (45.99%), 126 males (53.16%), and two individuals (0.01%) who identified as "other" gender, were included in the final dataset. The average age of the participants was 21.85 years and ranged from 20 to 27.

Participation took place through a survey, taken via Qualtrics link. Participants were presented with a scenario involving a recent increase in symptoms within a fictitious town. Two potential causes were proposed to explain the symptoms: minor lead poisoning due to the lead content in a company's products, and a seasonal flu. Participants were informed that the symptoms likely originated from the same cause and no other illnesses manifested such symptoms. Participants indicated their belief regarding whether each potential cause was responsible for the symptoms on a scale from -100 (Definitely Not the Cause) to 100 (Definitely the Cause).

Participants were then randomly divided into two groups, one favoring the flu as the cause of the symptoms and the other favoring lead poisoning as the cause. Every participant then received new pieces of information related to the categories of argument content (Scope, Power, Plausibility, Disconfirmation, Adhocness). The participants received new information about one category at a time, and the order of category presentation was randomized. In the group where the flu (lead poisoning) was the favored cause, each piece of information provided an advantage to the flu (lead poisoning) being the cause over lead poisoning (the flu). After each new piece of information was presented for each category, participants were asked to consider only the original information and the new information presented for that category, rather than all five new pieces cumulatively. After each new piece of information, participants updated their belief regarding the cause of the symptoms.

## RESULTS AND DISCUSSION

Table 1 provides the average and standard deviation of the belief that either the flu or minor lead poisoning was the true cause of the symptoms, while Table 2 provides the average, standard deviation, ANOVA test results, and simple differences test results for the marginal belief (the difference between the belief that the favored cause is the true cause and the belief that the unfavored cause is the true cause) across arguments and conditions. Table 2 results are shown for the baseline measurement and for each additional piece of information provided, corresponding to the five categories of argument content. For example, the numbers in the second row and third column show the marginal belief after the participant received information that gave the potential cause 'flu' an advantage over the potential cause 'lead' in the category of explanatory power. All statistics are calculated using the R software program (Version 4.4.1).

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**TABLE 1**
**BELIEF BY CONDITION AND ARGUMENT**

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| Favored Cause | Belief in as the cause | Base | Power | Scope | Plausibility | Disconfirmation | Adhocness |
|---|---|---|---|---|---|---|---|
| Flu | Flu | 22.88 (44.63) | 59.93 (38.91) | 63.66 (44.55) | 65.14 (37.43) | 62.98 (39.62) | 46.58 (43.10) |
| | Lead | 7.55 (49.57) | -35.09 (51.78) | -45.69 (54.83) | -46.76 (46.83) | -49.03 (45.53) | -28.99 (49.70) |
| Lead | Flu | 25.04 (38.72) | -20.62 (46.01) | -37.13 (47.26) | -26.85 (49.78) | -28.43 (50.23) | -5.79 (46.89) |
| | Lead | 11.73 (44.41) | 60.21 (36.50) | 65.33 (31.53) | 62.82 (36.81) | 59.06 (36.28) | 34.90 (42.82) |

Numbers outside parentheses (inside parentheses) provide the average (standard deviation) belief that the proposed cause is the true cause of the symptoms.

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**TABLE 2**
**MARGINAL BELIEF BY CONDITION AND ARGUMENT**

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| Favored Cause | Base Marginal Belief | Power Marginal Belief | Scope Marginal Belief | Plausibility Marginal Belief | Disconfirmation Marginal Belief | Adhocness Marginal Belief |
|---|---|---|---|---|---|---|
| Flu | 15.33 (84.58) | 95.02 (82.48) | 109.35 (92.48) | 111.90 (76.83) | 112.01 (77.19) | 75.58 (84.85) |
| Lead | -13.32 (72.87) | 80.84 (70.82) | 102.46 (70.08) | 89.68 (78.06) | 87.49 (77.11) | 40.68 (79.89) |
| Mixed Effects ANOVAs | - | Favored Cause F(1,235) = 6.19 p = .014 | Favored Cause F(1,235) = 4.24 p = .041 | Favored Cause F(1,235) = 9.33 p = .003 | Favored Cause F(1,235) = 10.22 p = .002 | Favored Cause F(1/235) = 13.02 p < .001 |
| | - | Argument F(1,235) = 264.24 p < .001 | Argument F(1,235) = 311.77 p < .001 | Argument F(1,235) = 292.84 p < .001 | Argument F(1,235) = 288.69 p < .001 | Argument F(1/235) = 100.23 p < .001 |
| Simple Effects T-Tests | - | Pro Flu Condition t = -11.75 p < .001 | Pro Flu Condition t = -10.83 p < .001 | Pro Flu Condition t = -12.50 p < .001 | Pro Flu Condition t = -13.72 p < .001 | Pro Flu Condition t = -8.05 p < .001 |
| | - | Pro Lead Condition t = -11.34 p < .001 | Pro Lead Condition t = -14.31 p < .001 | Pro Lead Condition t = -11.76 p < .001 | Pro Lead Condition t = -10.85 p < .001 | Pro Lead Condition t = -6.25 p < .001 |

Rows 2 and 3: Numbers outside parentheses (inside parentheses) provide the average (standard deviation) of marginal belief: the difference between the belief that the favored cause is the true cause and the belief that the unfavored cause is the true cause. Results are shown for the baseline measurement and for each additional piece of information provided, corresponding to the five categories of argument content.
Row 4: Mixed effect ANOVA results are shown for subsets of the full sample including the base marginal belief and the belief for each argument (power, scope, plausibility, disconfirmation, adhocness).
Row 5: Within subject, simple effect t-tests are provided, indicating the difference in marginal belief (belief of favored cause minus belief of unfavored cause) between the base case and after each new argument.

Visual analysis indicates that each argument effectively increased the difference between belief in the favored cause and belief in the unfavored cause, and did so in such a way that made the favored cause more believed and the unfavored cause less believed. A mixed effects ANOVA includes 1) the marginal belief between the favored and unfavored cause as the outcome, 2) whether the flu or lead poisoning was the favored cause as the between-subjects variable, and 3) argument type as the within-subjects variable. Results reveal a significant main effect of both 'argument type' ($F(5, 1175) = 111.74$, $p < .001$) and 'favored cause' ($F(1,235) = 8.36$, $p = .004$). Within subjects simple effects two-tailed t-tests reveal that each argument content category increased marginal belief in the favored cause ($p < .001$) regardless of which cause was favored (see Table 2). We thus conclude that H1-5 are supported.

## CONCLUSION

This paper provides initial evidence of the applicability of historical criteria to argument content for lay consumers. Through a controlled experiment involving 232 participants, we investigated the impact of five categories of argument content—Explanatory Scope, Explanatory Power, Disconfirmation, Plausibility, and Adhocness—on beliefs regarding the cause of a hypothetical corporate scandal. In the study, participants evaluated the traditional categories of argument content consistently with the intended relationships in the established methods of historical analysis.

The findings of this study highlight the persuasive power of the different dimensions of argument used in the historical literature and support the application of the relationships proposed in the historical literature to lay consumers evaluations of media and information content. Each dimension significantly affects participants' beliefs in consistent directions with historical theory, with arguments that enhance Explanatory Scope, Explanatory Power, Plausibility, and reduce Disconfirmation and Adhocness, consistently strengthening belief. Moreover, strengthening belief in the favored cause simultaneously weakened belief in the unfavored cause, which is consistent with the comparative nature of the content criteria.

Finally, this research indicates numerous potential fruitful directions for future research. The study was run on a university campus in the United States Midwest, and future research can investigate whether culture (McKenna, 2019) and other demographics can potentially impact the results. Additionally, it is plausible that the historical method has not covered all the potential explanatory virtues that can be used in argumentation. Other domains of research propose other frameworks for evidence (Al-Jubouri & Waheed, 2020). Future research can consider integrating the five categories used in historical reasoning with other evaluative criteria to expand or otherwise reconsider the current proposed categorization and lay belief responses. Finally, future research can explore whether contextual factors like prior beliefs (Yu & Lagnado, 2012) or emotional appeals (Dowding, 2018) interact with argument content could provide deeper insights into the consumer decision-making processes.

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# APPENDIX

**Study Instruction Excerpts**

Here we reproduce extracts of the instructions in the Qualtrics survey. Text that appeared in the condition that favored minor lead poisoning as the cause are ***(provided in parentheses and are bolded and italicized)***.

**Baseline Information Provided to Each Participant**

10 people in Lindale County, Wisconsin have reported headaches and muscle soreness in the past week, an increase from the normal reporting of such symptoms according to the local area hospital.

Investigations from the reporting team have uncovered two potential causes from experts in the area. When asked about the increase in reported symptoms, a medical research team at the hospital proposed that one cause could be the clothing worn by the affected individuals. Clothing produced by a company called Clothing Inc. has recently become very popular in the area, and Clothing Inc.'s products have been found to contain enough lead to cause minor lead poisoning. Minor lead poisoning symptoms include headaches and muscle soreness.

Alternatively, another research team at the same hospital proposed that the reason people are getting sick could be due to the seasonal flu, which has been spreading throughout the nearby areas. This year's seasonal flu's symptoms also include headaches and muscle soreness.

When asked about whether the individuals showing symptoms could have both lead poisoning and the flu, both medical research teams noted that individuals with both the flu and lead poisoning will not manifest headaches or muscle soreness due to the nature of the interaction of the diseases. Therefore, the affected individuals cannot have both diseases. Moreover, the research teams' examination of the affected individuals reveals that the symptoms are so similar in nature that they are likely coming from one source rather than two different sources. Thus, the symptoms of the affected individuals likely all originate from the same cause. Additionally, no other illnesses that manifest the symptoms of headaches and muscle soreness are known to have a significant presence in the population.

**Belief Statements**

(Offered after the baseline information was provided, and also after each new piece of information was provided.)

To what degree do you believe that the symptoms reported in Lindale County are caused by minor lead poisoning (this year's seasonal flu)?

| Definitely Not the Cause | No Idea | Definitely the Cause |
|:---:|:---:|:---:|
| (-100) | 0 | (100) |

**New Information for Scope**

Upon further research from the investigative team, it has been discovered that the individuals with the sickness are also experiencing abdominal discomfort. Abdominal discomfort is a common symptom of this season's flu ***(minor lead poisoning)*** and is not a common symptom of minor lead poisoning ***(this season's flu)***.

**New Information for Power**

Upon further research from the investigative team, it has been discovered that 90% of individuals with this season's flu have shown ***(minor lead poisoning typically show)*** symptoms of headaches and muscle soreness, whereas 50% of individuals with minor lead poisoning typically show ***(this season's flu have shown)*** symptoms of headaches and muscle soreness.

**New Information for Plausibility**

Upon further research from the investigative team, it has been discovered that this season's flu is sufficiently contagious that individuals would only have to go to a public location (e.g., a store, gas station, etc.) *(Clothing Inc.'s clothing products have sufficient amounts of lead in them that the individuals who recently bought Clothing Inc. products would only have to use their new products)* once a week to have a chance at contracting the illness *(developing minor lead poisoning)*.

**New Information for Disconfirmation**

Upon further research from the investigative team, it has been discovered that minor lead poisoning *(this season's flu)* also very commonly causes high blood pressure, but the affected individuals were found to have healthy or low blood pressure when tested.

**New Information for Adhocness**

Upon further research from the investigative team, it has been discovered that both this season's flu and minor lead poisoning require particular gene expressions within an individual. In order to get minor lead poisoning *(this season's flu)*, an individual must have both Gene Expression MHI and Gene Expression AJD. In order to get this season's flu *(minor lead poisoning)*, an individual must have Gene Expression OEJ. The likelihood of gene expression varies widely, so it is impossible to know whether the expression of both Gene MHI and Gene AJD is more or less likely than the expression of Gene OEJ.

**Study Exclusions (Not a Study Instruction Excerpt)**

Twelve participants failed an in-survey attention check and were excluded. Sixteen indicated they did not pay attention to the survey and stated their data should not be included in the analysis. Seventeen participants indicated they already participated in a previous class (since the study was given out to multiple classes that might have overlapping students).