Pipelines Bursting with Judgement: The Identification and Outcome of Organizational Misconduct

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The planning and construction of the Dakota Access Pipeline (DAPL) was accompanied by persistent protests. The indigenous protesters call themselves water protectors; in their epistemology, the pipeline represents a certain deterioration of their water supply.[1] The pipeline became operational in June 2017. Five spills occurred in 2017, and its sister pipeline, ETCO, experienced three more. One of the ETCO spills was categorized by the Pipeline and Hazardous Materials Safety Administration (PHMSA) as "significant". These information did not fly under the radar, but received (albeit limited) coverage by the media.[2] Yet, high-ranking lobbyist and previous head of PHMSA Brigham McCown describes the pipeline's safety record as impressive and categorically rejects the notion that it could be a risk to public health.[3] This article concerns in general terms both reasons for the coexistence of these polar opposite frames, and their implications for organizational behavior.

The existence of two radically diverging epistemologies on pipeline safety indicates two potential extensions of the work on organizational or corporate misconduct. (1) The divergence showcases the role of other audiences in addition to social control agents (Greve, Palmer, & Pozner 2010) for the translation of misbehaviors into scandals. (2) The concept of near-misses (Carroll 1998, Dillon & Tinsley 2008) has explanatory value in a more general model of organizational misconduct. Altogether, the divergence highlights the broader relevance of research on organizational misconduct. Mohliver (2019) demonstrates

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[1] See for example `https://www.businessinsider.com/north-dakota-access-pipeline-protest-drinking-water-2016-10`, accessed 2020-01-12.

[2] `https://theintercept.com/2018/01/09/dakota-access-pipeline-leak-energy-transfer-partners/`, accessed 2019-01-13

[3] `https://www.forbes.com/sites/brighammccown/2018/06/04/what-ever-happened-to-the-dakota-access-pipeline/`, accessed 2019-01-13.

that the social assessment of a practice can trigger both the adoption or cessation of this practice in an organization. But where the classification by a social control agent does not exist, or does not take the form of a binary label, the assessment can still steer organizations' behaviors. A positive or indifferent assessment can hinder organizations' aspirations adapt, and thus indirectly supports existing routines. A negative or ambiguous assessment can trigger aspirations to abolish a practice or reduce negative side effects thereof (e.g., oil spills).

Social control agents usually play a key role in the identifying misconduct (Greve et al. 2010, Palmer 2008, Schnatterly, Gangloff, & Tuschke 2018). A government fine or the expulsion from a professional association is an unmistakable signal that individual or organizational misconduct has occurred. To use decisions by social control agents is an advantageous method for the operationalization of misconduct; the researcher avoids the social dilemmas that would occur if she or he were to decide herself or himself what constitutes an instance of misconduct (e.g., Pontikes, Negro, & Rao 2010). Mohliver (2019) demonstrates that when a social control agent provides an indication that a practice constitutes organizational misconduct, population-level or industry-level actors (Madsen & Desai 2018) such as professional auditors disseminate this practice throughout the population of organizations. The general public, especially media, can also play a key role in translating misconduct into scandals Hoffman (1999), Piazza and Jourdan (2018). These two audiences act as alternative mechanisms in the identification of organizational misconduct, in addition to their role in the unfolding of scandals.

Another new avenue is the organizational response, the interpretation of scandals as events by organizations. The translation of environmental feedback to organizational behavior into organizational adaption (Cyert & March 1963) does not occur mechanically; instead, it is mediated by the attentional processes of an organization (Hoffman & Ocasio 2001, Ocasio 1997). At the most basic level, a successful outcome reinforces existing routines, while failure triggers adaption of routines (Levitt & March 1988). Thus, failures

are particularly valuable for correcting organizational misdevelopments (March & Shapira 1992). This relationship is mediated by the attentional processes of the organization: where a failure goes unnoticed, for instance because it is mistakenly interpreted as a success, a potentially valuable opportunity for learning (Carroll 1998) is forgone (Dillon & Tinsley 2008).

The translation of misconduct by a general audience such as the media into a scandal that plays in (almost) the familiar fashion is only the first step. The attention of an organization is structurally determined (Hoffman & Ocasio 2001), meaning that initial assessments by population-level actors are of particular importance for the proliferation or adaption of liminal or established practices (Madsen & Desai 2018, Mohliver 2019). Here, research on organizational misconduct could make a strong impact, by showing how frames of industry-level actors direct attention and allow practices to continue (or cease) in the absence of clear assessment by social control agents, even in the advent of resistance by general audiences. Or, organizations can adopt a frame from a general audience or industry-level actor that initiates adaption.

General Audiences' Assessment of Oil Spills

The US has constructed of the most extensive pipeline networks in the world [4]. In the decade from 2010 to 2020, US pipelines experienced y pipeline spills, z of which were categorized by the Pipeline and Hazardous Materials Safety Administration (PHMSA) as significant. Major operators regularly experience multiple significant spills per year.[5] Yet, there is a significant variation in the number of pipeline incidents by operator, even after taking into account the number of pipeline miles or the amount of material transported.[6] Even though pipelines are not typically classified as high reliability organizations such as

[4] Seehttps://www.cia.gov/library/publications/the-world-factbook/fields/383.html,accessed2020-01-13

[5] See https://julianbarg.shinyapps.io/incident_dashboard, accessed 2019-01-13.

[6] For the full dataset, see https://github.com/julianbarg/oildata/

nuclear reactors (HROs; Weick, Sutcliffe, & Obstfeld 1999), there is a complex system in place to collect data on pipeline spills, presumably to allow for control and learning.

PHMSA differentiates between three different classes of incidents. Serious incidents resulted either in a fatality or in-patient hospitalization. Note that thus a serious pipeline incident could hypothetically occur without any liquid being spilled. Regardless, I will henceforth use the term "spill" instead of the (more precise) euphemism "incident" that is used throughout the industry. Every serious spill is also automatically classified as a significant spill. As of 2002, a spill qualifies as "significant" also if either (2) $50.000 or more of material or (3) 5 barrels or more were lost (50 barrels or more for high volatility liquids such as ethane, propane, or butane), or (4) if a fire or explosion occurred [7]. We will refer to spills below these thresholds as non-significant.

Social control agents have been identified in the literature on organizational misconduct as key actors that translate misconduct into scandals (Greve et al. 2010). However, the classification provided by social control agents is not always fine-grained or well-tuned. For instance, multinational corporations make sure first and foremost that their intricate tax evasion schemes are legal;[8] yet, a public discourse has emerged that without doubt would allow for researchers to explore this phenomenon under the umbrella of organizational misconduct. To return to the phenomenon at hand: over the decade from 2010 to 2020, on average at least one significant spill occurred every three days. Therefore, the occurrence of a significant spill by itself would not be picked up by national media or an industry publication as a newsworthy event. However, an observer (or the regulator) could exert some additional effort and either (1) discover an unusual pattern of spills, or to identify (2) unusual attributes (e.g., cause or magnitude) of an individual spill. In the classification system of the regulating agency, PHMSA, these spills would be no different than the significant spills which occur on a regular basis, and, as of 2020, have not

[7] See `https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/docs/pdmpublic_incident_page_allrpt.pdf`, accessed 2019-01-13.

[8] `https://www.bbc.com/news/magazine-20560359`, accessed 2019-01-13.

prompted PHMSA to bring the hammer down. The identification by other audience occurred both (1) when in the case of Catholic Church, international media classified a series of sex abuses as a sex abuse scandal (Piazza & Jourdan 2018), and (2) when in the case of stock-option backdating, auditors as industry-level actors both disseminated and proactively eradicated the practice in their network (Mohliver 2019). In this article, we test the impact of the identification of misconduct by other audiences on the adaptation of pipeline safety by pipeline operators.

Identification of misconduct and effect on an industry

Typically, when a social control agent (especially the government) identifies a case of misconduct, the actor also has the power to end the practice. On the one hand, general audiences and industry-level actors do not hold the same power over organizations. On the other hand, organizations do themselves pay attention to the external environment. For example, both J.-Y. J. Kim and Miner (2007) and Madsen and Desai (2010) demonstrate that organizations respond to the failure and near-failure of other, similar organizations in their proximity. In extreme cases, a case of corporate misconduct can threaten the survival of an organization, which is a strong motivation for individuals in organizations to attent cases of misconduct that have been identified in their industry.

There are two potential mechanisms that would allow the monitoring of the environment to influence organizational behavior, when a general audience or industry-level actor identifies misconduct. (1) The bad reputation that results from organizational misconduct can hamper organizational performance (Park & Rogan 2019). It is beneficial for organizational survival to have mechanisms in place to respond to reputation risks. A possible response is to make efforts to improve pipeline safety, with the caveat that these are of limited effectiveness if the organization also engages in greenwashing to manage reputational risks (E.-H. Kim & Lyon 2015, Lyon & Montgomery 2015).

(2) The moral sentiment of the individual is another mechanism which influences

organizational behavior. Because the phenomenon at hand is organizational misconduct, the research question is typically why individuals in organizations make unethical decisions (e.g., Moore 2008). hence, the (uncontroversial) working assumption is that individuals in general can distinguish ethical and unethical behavior, and have an inclination to behave ethically. Cognitive dissonance theory holds that individuals seek to minimize the dissonance between their values and their actions (Festinger 1962). Individuals can rationalize organizatoinal misconduct, e.g., through denying their responsibility or the occurance of an injury to a person (Ashforth & Anand 2003). But in the face of organizational misconduct that unfolds as a scandal, it becomes more difficult to minimize the dissonance, and action become more likely.

Hypothesis 1: *The identification of organizational misconduct by a general audience or industry-level actor promotes elimination thereof.*

Although public pressure is an important mechanism for organizational change, the ability of outside audiences to influence organizational behavior can be impaired where the organization and the outside audience do not see eye to eye. The opening paragraph of this article introduced an example where the outside audience viewed an operation as a certain failure, but a lobbyist interpreted the (prediced) outcome as a success. Failures of any magnitude provide an excellent opportunity for improvements, when they are taken serious, see e.g., high reliability organizations, where major failure events have to be absolutely ruled out (Carroll 1998).

However, critical events are not always correctly recognized as such by the involved organizations. (Madsen & Desai 2010) points out that the space shuttles' loss of foam isolation preceding the *Columbia disaster* were not correctly interpreted as failure events, because the missions these shuttle launches were a part of overall were successful. In these preceding launches, a fatal accident was an outcome that could have occured, but by chance no such incident occurred before the (Madsen & Desai 2010). In other words, managers made decisions that can be described as wrong, but these decisions were

interpreted as correct because of the overall outcome (Dillon & Tinsley 2008). Similarly, we would expect the failure of an organization to acknowledge a case of organiztational misconduct to stand in the way of the misconduct's elimination.

Hypothesis 2: *The identification of near-misses as success hinders elimination of an identified organizational misconduct.*

The literature on organizational logics indicates that a critical piece, and a more general explanation to this process of recognition and elimination of organizational misconduct is the use of appropriate organizational frames (Misangyi, Weaver, & Elms 2008). In the case of pipeline spills, the frame that could lead to an elimination or reduction of pipeline spills is that provided by a general audience or industry-level actor when a spill or spills are identified as organizatinal misconduct and translated into a scandal. An apotion of that outside frame could counteract the frame of near-misses as succes and its hinder hintering effect on improving pipeline safety.

Hypothesis 3: *An organization's adaption of a frame from a general audience or industry-level actor promotes elimination of corporate misconduct.*

Methods

I use panel regression, in conjunction with Natural Language Processing (NLP) to assess the above hypotheses. The data on improvements in pipeline safety is provided by the US Pipeline and Hazardous Materials Safety Administration (PHMSA). In addition, we use information such as pipeline miles, and age of the pipelines as control variables; this data, too, is obtained from PHMSA. The data used covers the period from 2002-2006. We limited the sample to the 200 largest organizations (by pipeline miles) that are monitored by PHMSA, and after accounting for firm structure (organiztations in the dataset that are actually subsidiaries of other firms), we obtain a sample of 97 organizations. Data on identification of organizational misconduct was obtained from Factiva.

Dependent varaible, independent variables, and control variables

We use the count of articles that cover oil spills in relationship with the pipelines and pipeline operators as the independent variable for H1. Relevant articles are obtain through an iterative keyword search. To test H2 and H3, we apply topic modeling (Hannigan et al. 2019) to articles in the media, industry publications, and sustainability reports of pipeline operators. After identifying the topics (sets of words) that describes near-misses and corporate misconduct/oil spills, we can then obtain a score of how dominant the topic is in sustainability report. The score for the first topic in sustainability reports is used to test H2, and the the presence of the second topic is used for H3.

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