Title: Investigating the role of organizational culture in corporate scandals

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ABSTRACT

Corporate scandals occur when widespread and severe misconduct within an organization (e.g., fraud) is publicly revealed. Scandals can have severe consequences (e.g., bankruptcy, societal harm), and it is suggested that risk of an institution having an incident is greater when it fosters an organizational culture that pressurizes members to meet unrealistic targets. We examined this by using a natural language processing methodology to measure the salience of norms for target pressure within employee online workplace testimonies for 218 European firms (n = 3,843,548 words). Companies were at greater risk of experiencing a corporate scandal (measured using news-articles and Wikipedia) when norms for target pressure were highly salient amongst employees (i.e., prominent in thinking). Qualitative analysis indicated this relationship to be explained by leadership priorities that incentivize and necessitate misconduct (e.g., to meet unrealistic targets), employee relationships that legitimize and normalize poor behavior, and job strain that elevates employee stress. The study indicates the potential utility of analyzing naturally occurring and unobtrusive data about companies to detect problems in organizational culture and employee conduct.

Keywords: corporate scandals; target pressure; organizational culture

Introduction

Corporate scandals are institutional failures where conduct that is "prohibited under the rules of good governance" (e.g., accounting fraud, bribery, price manipulation, violating ecological standards) is publicly recognized and admonished (e.g., by the mass media, regulators, the public) (Ehrenhard and Fiorito, 2018: 3; Jory et al., 2015). Recent examples include accounting fraud at Wirecard, the evasion of environmental regulation at Volkswagen, and the creation of two million fake customer accounts at Wells Fargo (with these cases resulting in bankruptcy, billion dollar fines, and many dismissals).

Akin to other forms of institutional failure (e.g., accidents), corporate scandals cause harm to organizations, stakeholders, and wider society (e.g., a bank collapse), and organizational culture has been suggested as a framework to explain and predict the risk of their occurrence (Brannan, 2017; Leaver and Reader, 2019; Kaptein, 2008; Kish-Gephart et al., 2010). In particular, analyses of scandals highlight how cultural norms relating to ethics (e.g., integrity, dishonesty) and targets (e.g., pressure to meet sales expectations) often underlie serious organizational misconduct (e.g., fraud) (Ehrenhard and Fiorito, 2018; Sims and Brinkmann, 2003; Brannan, 2017; Mishina et al., 2010). Yet, the role of organizational culture – and specifically social norms for ethics and targets – in determining the risk of an institution experiencing a corporate scandal has not been investigated, and we examine this.

Theoretical framework

Misconduct in organizations refers to behavior that transgresses a "line separating right from wrong; where such a line can separate legal, ethical, and socially responsible behavior from their antitheses" (Greve et al., 2010: 58). Corporate scandals occur when misconduct within an organization becomes so widespread, severe, and impactful that it is publicly reported on (in the mass media) and censured (e.g., by regulatory fines). Common

types of misconduct that underlie corporate scandals include accounting fraud, bribery, violation of environmental standards, manipulating prices, mistreating customers, money laundering; product misrepresentations, rogue trading, and tax avoidance (Ehrenhard and Fiorito, 2018; Hail et al., 2018; Jory et al., 2015; Hald et al., 2020). Such behavior typically arises from unethical (e.g., cheating customers) or risk-taking activities (e.g., rule violations, disregard of environmental concerns) within an organization, which, if widespread and/or extreme, can precipitate a scandal (e.g., due to losses, harmed customers, ecological damage). The consequences of corporate scandals can be severe (e.g., bankruptcy, societal harm), and understanding and preventing them is a priority for academics, organizations, and policy makers (Soltes, 2017; Sheedy and Griffin, 2018; FCA., 2018). Notably, organizational culture has been identified as potentially useful for explaining and predicting the risk of an institution experiencing a corporate scandal due to its focus on the social norms that lead to workplace misconduct (Ordóñez et al., 2009; Bhaskar and Flower, 2019; Kaptein, 2008).

Organizational culture is generally theorized in terms of the values, beliefs, and assumptions that are shared by members, and provide a common frame of reference for guiding behavior and understanding the organization (Schein, 1992; Schneider et al., 2013). According to Schein's seminal three-level model, organizational culture consists of: artefacts, which relate to observable manifestations (e.g., language, rituals, stories, rules) of institutional value systems; espoused values, which refer to the "strategies, goals, and philosophies (espoused justifications)" that signal and guide how members communicate and behave (Schein, 1999: 21); and underlying assumptions, which are the "unconscious, taken for granted beliefs, perceptions, thoughts, and feelings . . ..(ultimate source of values and action)" that are implicit, and provide an interpretive framework for guiding member behavior and cognition (Schein, 1999: 21). of interest (e.g., values, behaviors, narratives) (Giorgi et al., 2015).

Common to many conceptualizations of organizational culture is the idea that social influence is a key mechanism for explaining how attitudes and behaviors become shared and common (Chatman and O'Reilly, 2016). This is operationalized through the study of social norms that "guide the thinking and behavior of members" (Cooke and Rousseau, 1988: 246). Social norms ('norms') relate to collective understandings on the attitudes and behaviors that are prescribed or prohibited in organizational and societal contexts (Paluck and Shepherd, 2012). Within organizational culture theory, norms are assumed to i) be developed through explicit and implicit processes that signal and reinforce desired attitudes and behaviors, (e.g., via codes of conduct, incentives, story-telling, colleagues and leaders), ii) exert influence over the cognition and behaviors of members through shaping collective beliefs on the practices that are typical and expected (e.g., reporting safety problems), and iii) distill and embody the values prioritized within an organization or group (e.g., for ensuring workplace safety) (Chatman and O'Reilly, 2016; Guldenmund, 2000; Rousseau, 1990). Thus, norms are a cornerstone of organizational culture research, and studies examine their salience, intensity, and sharedness (e.g., for speaking-up in teams) in order to provide insight on the values that underpin an organization (e.g., open communication), and explain behavior. This work finds a range of behaviors (e.g., creativity, customer service, reporting on safety) and outcomes (e.g., sales, profit, accidents) to be predicted by the extent to which a norm (e.g., for adaptability, customer focus, safety) is salient, shared and intensely held by organizational members (Boyce et al., 2015; Chatman et al., 2014; Denison et al., 2014; Kotrba et al., 2012; Beus et al., 2019; Bisbey et al., 2019).

Normative perspectives on organizational culture are potentially useful for explaining corporate scandals because they can account for the psychological contexts in which members engage in the misconduct that leads to incidents (Hald et al., 2020; Ehrenhard and Fiorito, 2018). In particular, corporate scandals have been found to result from members

engaging in misconduct (e.g., ignoring hazards, breaking procedures, falsifying data) in order to achieve institutional targets and goals: for example, as demonstrated in rogue trading scandals, 'Dieselgate', and cases of mis-selling financial products to customers (Tayan, 2019; Leaver and Reader, 2019; Elson et al., 2015). Research on safety and risk management helps to explain such behavior because it shows that an overly strong focus on targets can lead to a de-prioritization of other concerns (e.g., safety, ethics), and incentivize or necessitate poor behavior (e.g., rule-breaking, risk-taking) (Mearns et al., 2001; Rafeld et al., 2019; Ordóñez et al., 2009; Sheedy and Griffin, 2018). Thus, where organizations develop strong and collective norms for prioritizing and achieving unrealistic targets (e.g., by rewards and sanctions) the likelihood of misconduct and corporate scandal may increase.

Yet, identifying companies that have developed a culture of prioritizing targets over, say ethical concerns, is difficult. Traditional self-report approaches (e.g., surveys), whilst useful for measuring culture at the level of sub-group and within an organization, can be less well suited for comparing institutions, and identifying companies where conduct problems are emerging and there is susceptibility to a scandal. Given the relatively low base rate of corporate scandals (Hail et al., 2018), organizational culture should ideally be studied concurrently at one time point over a large sample of established companies (e.g., 100+) in order to distinguish between companies that experience scandal in subsequent years. Because organizational culture is typically measured using surveys, it is highly challenging to gain access to a large, stratified sample of companies, especially those that may not prioritize ethics. Furthermore, and inherent to the nature of organizational culture, self-report measures may not be optimal for measuring norms. As with the concept of normalized deviance (Vaughan, 1999), and emulating research on safety culture (Antonsen, 2009), employees may not observe or report on concerns about culture problems that have become systemic (e.g.,

extreme targets). Thus, to enable comparison, it is essential to ensure that data are comparable between organizations and not skewed by the culture itself (McSweeney, 2002).

To address the above issues, Reader and colleagues (2020) have suggested that culture researchers draw on "unobtrusive indicators of culture" to identify norms and values that might lead to conduct problems. This involves utilizing advances in data accessibility and data science to analyze naturally occurring data (e.g., employee online feedback, company reports) and measure organizational culture. The benefit of this approach is that self-report biases can be minimized, and analyzes are based on naturally occurring institutional activities rather than attitude surveys. Accordingly, the current study analyzes naturally occurring textual data from employees to investigate the association between publicly reported instances of misconduct in major companies and organizational norms for target pressure.

Target pressure and corporate scandals

To investigate the association between corporate scandals and norms for target pressure, we undertook a multi-method analysis of textual data generated by employees in online testimonies about experiences of working in major companies. The study builds on the growing use of Natural Language Processing (NLP) to analyze textual data (e.g., company reports) and investigate organization culture (Reader et al., 2020). This work adopts Schein's (1999) theorization that, due to language being an artifact of organizational culture, the values of institutions are revealed and instantiated in the words and phrases used by members. Studies using NLP determine the salience of values and norms within organizations (i.e., their prominence in the collective thinking of members) through analyzing patterns of language (e.g., terms relating to teamwork in emails). Where there is greater use of words associated with a norm or value it is assumed to be more salient, and to therefore have a greater influence upon member cognition and behavior (e.g., by framing how

members approach their work) compared to organizations where the norm is less salient (Grennan, 2013; Nguyen et al., 2019; Moniz, 2015).

Increasingly, NLP studies of organizational culture apply a method called "word embedding": this measures the distribution and meaning of words used in textual data (Garten et al., 2018; Mikolov et al., 2013; Boyd and Schwartz, 2020). Research using a word embedding approach theorizes that the salience of a norm can be assessed through calculating the degree to which the entire discourse of an organization (e.g., in employee emails, executive speeches) uses words that are similar in meaning to the norm being studied (Li et al., 2021; Kurdi et al., 2019; Boyd and Schwartz, 2020; Reader et al., 2020). To measure this, analyses draw upon the insight that words which frequently co-occur together (e.g., "targets" and "goals") have greater semantic similarity than those which co-occur less frequently (e.g., "targets" and "restful") (Harris, 1954; Wittgenstein, 1953). Specifically, artificial intelligence is used to i) calculate the distance of all words from one another in everyday language through generating a model of their co-occurrences (e.g., in billions of internet pages), ii) specify where a concept is situated within this model by using a coherent and representative set of "seed terms" (e.g., "honesty", "ethics", and "integrity" for norms relating to ethicality), and iii) generate a score for every word within the model for its semantic distance from the concept (e.g., "honest" and "fair" might be scored as more associated with ethicality than "increase" and "plan") (Garten et al., 2018). Target documents (e.g., employee testimonies) for different organizations are then scored in terms of the degree to which they use words associated with the concept (e.g., close in meaning to ethicality), with higher semantic similarity indicating the norm to be more salient within an institution.

In the current study, we utilized a word embedding methodology to analyze online testimonies from employees about working in major European companies, and investigated whether the salience of norms for target pressure in employee language was associated with

corporate scandals (measured using media reports, internet search trends, and Wikipedia data). We then undertook a qualitative investigation of the testimonials to further evidence any significant findings and deepen the conceptualization of mechanisms assumed to underly the hypothesized relationship.

We hypothesized (H1) that there would be an association between the salience of norms for target pressure and corporate scandals. We conceptualized norms for target pressure in terms of collective attitudes and behaviors within an organization for the importance of meeting highly challenging and unrealistic targets (e.g., sales, workloads), and measured the salience of these norms (i.e., the degree to which they were at the forefront of member cognition) through using the NLP word-embedding methodology to analyze employee testimonies.

Based on the literature, we supposed that high salience of norms for target pressure might increase the risk of institutional misconduct and thus corporate scandal through three intertwined mechanisms: leadership priorities, employee relationships, and job strain. First, following research on tone-from-the-top, highly salient norms for target pressure may reflect member perceptions on the values and outcomes prioritized by senior leaders, and increase the likelihood of misconduct (e.g., mis-selling) occurring due to poor behavior being implicitly incentivized (e.g., for achieving bonuses), or considered necessary and acceptable (e.g., to meet unrealistic targets that benefit the organization) (Amernic et al., 2010; Mearns et al., 2001; Ordóñez et al., 2009; Litzky et al., 2006; Umphress and Bingham, 2011). Second, building on research on the influence of "bottom-line mentality" on standards of conduct and workplace relationships, highly salient norms for target pressure may reflect and lead to overly high workplace performance demands (e.g., from supervisors, colleagues), leading to misconduct becoming more likely due to it becoming normalized and required to meet expectations and maintain social relationships (Samnani and Singh, 2014; Quade et al.,

2020; Fehr et al., 2019; Litzky et al., 2006). Third, highly salient norms for target pressure might lead to members experiencing job strain, with misconduct becoming more likely due to it being a way to relive stress (i.e., for meeting targets difficult to achieve legitimately), and emotional exhaustion that leads to reduced motivation and willingness to ensure high standards of conduct (Karasek, 1979; Malik et al., 2021; Mathisen and Bergh, 2016).

To test hypothesis 1, we compared the semantic similarity of language used by employees in large European companies to seed terms associated with members feeling pressurized to meet targets ("reward", "pressure", "stressful", "competitive"). We then calculated the salience of norms for target pressure, and using the measures of publicly reported misconduct, tested the following:

Finally, we conducted a qualitative analysis of the employee testimonies in order to better understand any supported relationships (Creswell and Creswell, 2018). In doing so, we adopted an "integrative multi-method" approach to the study, which recommends that quantitative inferences between variables should be deepened, corroborated, and refined through qualitative analysis (Seawright, 2016). This approach is especially suitable for the analysis of large-scale textual data, as theoretically specified models can be used to test hypotheses at a macro-level (i.e., using NLP), and then established at a more granular level (i.e., through the analysis of textual excerpts) in order to elucidate any findings. Whilst this cannot confirm a causal pathway, it can generate evidence for a causal model and explain significant correlations. Accordingly, we qualitatively analyzed the employee testimonies in order to substantiate the study hypotheses, with the analysis focused on evidencing the mechanisms suggested to underlie the hypothesized relationship between corporate scandals and organizational culture.

METHOD

Sampling and Data Collection

We collected anonymous employee reviews about their experiences of working in a company ("testimonies") uploaded to the website Glassdoor for 2016 and 2017. Because they provide narrative accounts of workplace experiences, employee testimonies in aggregation are assumed to provide insight on the norms and values within an organization (Moniz, 2016). We collected data for companies in the MSCI Europe Stock Market Index, which represents the largest companies in Europe (85% of market capitalization). Companies were included if they had more than 2,500 words available (required for NLP).

To measure corporate scandals, we gathered public reports of misconduct from news articles, Wikipedia data, and Google Trends. News-reported scandals were manually generated and the primary measure for testing the study research questions. The Google Trends and Wikipedia-based measured were automated, and used to validate the primary measure of scandals, and further evaluate the study research questions. Media reports, Wikipedia data, Google Trends data on corporate scandals were collected for the period 1st January 2018 to 30th June 2020. All data were in English.

For each company, we collected control data (e.g., sector, number of employees, revenue). The institutional review board (ethics committee) at the host university reviewed and approved the study.

Study measures

Norms for target pressure

We used Garten et al.'s (2018) distributed dictionary representation (DDR) word embedding methodology to develop variables for measuring the salience of norms for target pressure. This develops a language model of associations between words in the English language through calculating the extent to which they occur together in billions of webpages. Latent concepts are specified through identifying seed words that are highly associated in terms of meaning and language use with a concept (e.g., target pressure). The distance

between the words used within a given document and the target concept vector (synonymous and closely associated words that are used to represent a concept within the language model) is then calculated. This computation measures the degree to which terms within a document are semantically similar to the concept being measured, and Figure 1 illustrates the DDR method.

INSERT FIGURE 1 HERE

The target pressure variable was developed through the following steps. First, seed terms were generated: these were derived from the earlier reviewed research on misconduct, and example words include demanding, pressured, and targets" for target pressure. We ignored negations and sentiment (e.g., whether challenging targets were discussed positively or negatively), because our focus was on the salience of norms (i.e., the extent to which targets were present in the cognition of employees). Second, we evaluated the internal construct validity of the seed terms for measuring norms for target pressure. Every sentence within the employee testimonies was scored in terms of their cosine similarity (from 1 (identical) to 0 (no similarity)) to the concept of target pressure (specified by the mid-point within the language model for the seed terms). We inspected the content validity of sentences with high cosine similarity scores to ensure they were relevant to and consistent with norms for target pressure, and tested the reliability of the seed as coherent measures of each concept through Cronbach's alpha. Seed terms were constantly iterated in order to optimize construct validity and reliability, and the average semantic distance (calculated as a cosine similarity) of all words used in the employee testimonies from the vector of seed-terms for target pressure was measured. This calculated the salience of norms for target pressure in each company, and the variable "target pressure" was generated.

Corporate scandals

Our main outcome variable was news reports about misconduct within a company. Additionally, to evaluate the validity of this measure, and confirm any study findings, we developed two further indicators of corporate scandals.

To develop the "corporate scandals (news reported)" measure, we used an internet search engine to generate news articles (dated from 1st January 2018 to 30th June 2020) related to the name of each company and the word "scandal". The time frame ensured scandals occurred after the period during which employee online reviews and company earnings calls were generated (i.e., to ensure reporting on them was not influencing the culture data), and reflected research on the lagging influence of culture on organizational outcomes (Boyce et al., 2015). The first 40 hits (ordered by relevance to the search terms) were evaluated for whether they linked to news articles in quality mass media outlets (e.g., The Financial Times, Reuters, The Guardian, The Times, Bloomberg) reporting forms of misconduct (e.g., accounting fraud, money laundering) reported in previous studies of corporate scandal (see Table 1 for a complete list). The researcher identifying the news articles was blinded to the culture variables for each company, and a second reviewer evaluated each news article in order to confirm the reporting of a corporate scandal, and to verify the type of misconduct reported. The articles were then further verified through identification of a confirmatory story from a second quality news outlet, and an additional check the timeframe within which scandals occurred (i.e., to ensure they were not historical events pre-dating data collection).

Our second corporate scandal variable was "corporate scandals (Google Trends)". This used Google Trends search data, which are a measure of the popularity of Internet search terms and phrases that are run on the Google engine. We theorized that, given that scandals are publicly recognized, high volumes of searches for public reports about a scandal

revealed public concern over unethical behavior within a company. We used a Python script to query the Google Trends public API for searches from 2018 onwards that contained the name of the company and the word "scandal" in any of five European languages: "scandal," "scandale," "skandal," "escándalo," and "scandalo." This yielded a relative score based on a sample of Google's complete search data for all geographic regions, with zero indicating insufficient search data for a score. We split the data into zero scores (no evidence of a scandal) and scores greater than zero (evidence of a scandal) to produce an automated binary measure of companies with high volumes of internet searches about a corporate scandals.

Our final measure was "corporate scandals (Wikipedia)". For this, we undertook an automated analysis of each company's Wikipedia (a free online encyclopedia) article. These are standardized articles about companies that are produced by a community of members and overseen by moderators. The Wikipedia template for companies is to have a section of dedicated to scandals, and these were analyzed to identify publicly acknowledged instances of misconduct. We obtained these data using Python to access the Wikipedia API and then searching for sections that pertained to scandals occurring from 2018-2020. The presence/absence of such sections was used to create a binary variable indicating a scandal.

Analysis

We conducted a mixed-methods explanatory sequential design, that is, a two-phase quantitative-to-qualitative investigation in which quantitative findings feed-forward into a qualitative analysis that evidences hypotheses, strengthens inferences, and generates theory (Creswell and Creswell, 2018; Seawright, 2016)

In the first phase, to determine the relationship between target pressure and corporate scandals, we constructed a logistic regression model. This model tested whether the salience of norms for target pressure amongst employees was predictive of corporate scandals, with the primary analysis focusing on news-reported scandals. The model controlled for the

company's business sector grouping (clustered into industry, consumer, and technology groups), the log of the number of employees, and the log of revenue (controlling for financial size). The textual measure of target pressure were scaled to have a mean of 0 and a standard deviation of 1. To test the hypothesis, we performed a likelihood ratio test comparing the full logistic regression models to a baseline model with control variables but not textual variables. We then replicated the model separately for the automated Google Trends and Wikipedia scandal measures.

In the second phase, we qualitatively analyzed the employee testimonies. The quantitative phase found an association between the salience of norms for target pressure within the employee testimonies and corporate scandals. To substantiate this finding and build on the NLP analysis underlying the study finding, we qualitatively analyzed the 1000 highest scoring sentences for target pressure. The purpose was to identify evidence of the key mechanisms (leadership priorities, employee relationships, job strain) suggested as explaining the relationship between target pressure and misconduct. Sentences related to these topics were identified, systematically read and re-read by the authors, and then interpreted in terms of the supported hypothesis. Although such evidence does not establish causation, it was assumed to provide converging evidence of the findings.

RESULTS

We obtained usable data for 218 companies: 91 consumer (40 consumer discretionary, 32 financials, 19 consumer staples), 84 industry (47 industrials, 18 materials, 11 utilities, 8 energy), and 43 technology (20 health care, 16 information technology, 7 telecommunications services). These companies were based in the United Kingdom (60), France (38), Germany (28), Switzerland (17), Netherlands (16), Sweden (11), Denmark (10), Spain (7), Italy (6), and other countries (25). There were 4,356,105 words (m = 19982.12) in the employee

reviews (n = 71,830, m = 329.50), and 3,843,548 words in the earnings calls (m = 17,630.95).

Correlations between all study variables are presented in Table 1.

INSERT TABLE 1 HERE

Evaluation of study measures

Target Pressure

The final seed terms for target pressure were: "bonus," "bonuses," "challenges," "competitive," "cutthroat," "demanding," "pressure," "pressured," "pressures," "reward," "rewarded," "rewards," "ruthless," "stressful," "targets," "workload," and "workloads". Table 2 provides examples of high-scoring sentences. Employees tended to discuss target pressure in terms of experiences at work (e.g., "unhealthy environment with continued pressure and unrealistic targets", and "bullying environment, stats orientated and unrealistic expectation"). For employees, the 100th most similar sentence to the seed terms was "Pay should at least track inflation and reward key people with more financial incentives"; the 500th was "Management decisions are erratic and unpredictable so priorities change all the time"; the 5,000th was "working hours can be quite long, stressful...workload is horrendous"; and the 50,000th was "A necessary evil that they feel they need to constantly 'manage' to squeeze the best metrics they can out of you." However, by the 100,000th sentence, the theme of target pressure was gone entirely ("listen to long serving employees"). This indicated the measure to capture the salience of norms for target pressure Cronbach's alpha revealed high reliability for employee (0.921, 95% CI = 0.899–0.94). For the executive text, the seed terms yielded sentences consistent with target pressure (e.g., on being competitive, setting targets).

INSERT TABLE 2 HERE

Corporate Scandals (news-reported)

We identified 48 companies as having had a scandal from 2018 onwards (listed in Table 3). The most common forms of scandal related to misconduct in selling products ($n = 8$), money laundering ($n = 6$), and environmental damage ($n = 6$). Financial companies (i.e., banks, insurance firms, pension companies) were most linked to scandals ($n = 16$). The most common sources (63%) for identifying scandals were the Financial Times, Reuters, the Daily Telegraph, Bloomberg, the BBC, and the Guardian. Scandals were usually reported across multiple outlets; 19 emerged in 2018, 25 in 2019, and 4 in 2020.

INSERT TABLE 3 HERE

Corporate scandals (Google Trends)

The Google Trends data revealed high frequencies of Internet searches for corporate scandals in 65 companies. The inter-rater reliability between news-reported scandals and Google Trends data was 0.324, and 28 scandals overlapped. Among the 37 companies with no news-reported scandal, searches relating to 20 companies with historical scandals (e.g., car emissions cheating in 2015). The reasons for Internet searches relating to the remaining companies appeared various (e.g., ambiguity in company name, a product line named "scandal") and unclear, indicating the measure to capture false positives.

Corporate Scandals (Wikipedia)

The Wikipedia data identified 21 scandals. The inter-rater reliability between the Wikipedia entries and the news-reported scandals was 0.381, with 16 scandals overlapping.

Of the additional five Wikipedia scandals, all appeared substantial (e.g., environmental failure, market manipulation) and within the specified timeframe.

Testing the research questions

A logistic regression analysis was conducted to test whether companies in which norms for pressure more salient were at greater risk of experiencing a corporate scandal. Focussing initially on news-reported scandals, the model used a complete-case analysis ($n =$ 218) and controlled for the company sector, number of employees, revenue, and the wordcounts for the textual data. The control variables of revenue, number of employees, and wordcounts were log transformed due to their skew. We performed a likelihood ratio test comparing the full logistic regression model to a baseline model that included only the control variables.

Higher salience of norms for target pressure was a significant predictor of companies having a news-reported scandal ($\beta = 1.08$; 95% CI $= 0.314, 1.845, z = 2.763, p = 0.006$). The regression analysis also found a positive association with the Wikipedia scandal measure ($\beta = 1.494$; 95% CI $= -0.380, 2.607, z = 2.631, p = 0.009$). No association was found with the Google Trends data. Based on the salience of norms for target pressure predicting two independent measures of corporate scandal, we concluded hypothesis 1 to be supported.

Qualitative analysis

We qualitatively analyzed the 1000 highest scoring sentences for target pressure within the employee testimonies. To provide converging evidence for hypothesis 2, we sought to identify textual exerts that illustrated and deepened understanding of the mechanisms (leadership priorities, employee relationships, job strain) assumed to account for the relationship between target pressure and the misconduct that leads to corporate scandals.

Leadership priorities

The theme of senior leaders setting overly competitive targets was highly prominent in testimonies (e.g., "upper management's expectations are completely unrealistic", "some of the targets are impossible", "current workloads aren't sustainable"). Pressure was built through senior managers being "aggressive in trying to meet unrealistic targets", "arrogant and ruthless", and using "pressure based management styles… to get results". In practice, this was instantiated through i) the setting of highly challenging targets ("projects… try to deliver unrealistic targets", "targets are set to fail you", "some of the targets are impossible", "pressure to meet unrealistic deadlines"), ii) incentives that were strong but very challenging (e.g., "advancement opportunities exist but (are) very competitive", "criteria for bonuses is terrible", "promotions are scarce", "ever changing targets and moving goal posts"), and iii) punitive measures (e.g., "threats of disciplinary if missed targets", "I witnessed unfair dismissal", "layoffs happen"). Employees indicated senior manager prioritization of targets to encourage misconduct by undermining the importance of other values: "integrity, morals and honesty is not part of the philosophy or culture", "the talented and hardworking are not rewarded, the tactical and manipulative are", "they create an atmosphere that only caters to cutthroats and liars", and "extreme bottom line pressure, severe work-life balance issues".

Employee relationships

In relation to workplace dynamics, employee testimonies high in target salience tended to focus on the relationship between supervisors and employees. Employees described supervisors placing pressure upon employees to achieve targets in order to meet the expectations of senior leaders (e.g., "the stress rolls downhill quickly", "bosses under pressure from upper management to make high revenue"). In the extremes, employees reported that supervisors "micro-managed and made unreasonable demands" to meet targets, adopted a "bullying mentality", enabled a "competitive, fear-driven environment", and generated "extreme… bottom line pressure". This could manifest in employees feeling under

pressure to engage in poor behavior: "unreasonable expectations to upsell to (people) in financial distress", "(sales) sometimes verging on unethical", "coercion of employees to lie to clients", "corruption and non-ethical behavior in the…teams", "pressures by superiors to increase your account sales". This pressure negatively influenced colleague relationships (e.g., "shark tank mentality between coworkers"), with employees reporting difficulties in reporting concerns about problematic practices (e.g., "people… get fired or pilloried for raising objections", "(they) chastise employees who raise… concerns", "staff is intimidated… and does not dare speaking), and action not being taken to address poor behavior if it contributed to meeting targets (e.g., "horrible managers are not let go of, even if they've grossly violate employer conduct", "bully bosses are given free reign", "lie, cynicism, hatred, sabotage of fellow worker is applauded"). Thus, sentences with high salience for target pressure were found to indicate that employee misconduct may be a consequence of institutional targets shaping employee relationships (e.g., supervisory pressure on employees, reducing the willingness of employees to speak-up).

Job strain

Sentences high in target salience often referred to poor working environment that led to employees feeling unable to cope with demands. For example, in terms of employees describing: "production pressures are immense and everyone feels the strain", "sales targets are aggressive", "the workload keeps increasing and is unmanageable", "not enough staff to cope", "difficult competitive and challenging environment", "insecure environment", and "constantly worried about layoffs". Additionally, symptoms of physical and mental stress, and potentially burnout, were often present in sentences. For instance, in terms of staff reporting: "overloaded and stressful", "aggressive, stressful environment, very hierarchical", "stressful with a heavy unmanageable workload", "stressful on body and mind", "mentally frustrating", "(people experience) depression or high blood pressure or mental problems".

Although these experiences were not linked directly to poor behavior, they evidence the idea that high target pressure leads to job strain, which, through mechanisms such as burnout and attempts to manage stress, may increase the likelihood of misconduct (e.g., rule-breaking).

DISCUSSION

We found companies in which norms for target pressure were more salient to employees to be at greater risk of a experiencing corporate scandal. The qualitative analysis provided some evidence of the mechanisms proposed to explain this relationship. Where leaders set and over-prioritized (e.g., through rewards, sanctions) highly challenging targets, this not only influenced how members viewed the values and behaviors prioritized by the organization, it influenced employee relationships (e.g., in terms of supervisory behaviors to ensure results, colleagues pressurizing one another), and led to job strain if members felt goals were unrealistic and could not be achieved legitimately. Via these mechanisms, highly salient norms for target pressure may increase the risk of corporate scandal through implicitly incentivizing misconduct, legitimizing and normalizing poor behavior, and creating contexts where deviant behavior (e.g., cutting corners) is a way to cope with job strain and stress.

More generally, the findings support the suggestion that organizational culture theory provides a useful model through which to understand and manage the risk of corporate scandals (Ring et al., 2016; Hald et al., 2020; Sheedy and Griffin, 2018). In particular, we theorized organizational culture in terms of collective norms, and drew upon Schein's (1999) observation that these can be revealed through the study of language. Whilst our findings focused on norms relating to target pressure, other aspect of culture, for example values and norms relating to psychological safety, teamwork, training, and perceived organizational support, may also be important, and require study. In terms of practical implications, regulators or companies themselves may use NLP methods (e.g., analyzing employee reviews) – alongside employee surveys – to identify excessive target pressure, disconnects

between the values of executives and employees, and unrecognized ethical problems within companies. In particular, the use of unobtrusive indicators of culture, drawn from naturally occurring organizational data, provides a promising route through which to identify problems in organizational culture that might lead to scandals.

Limitations

The study findings are associative rather than causal, and we lacked individual-level data. Corporate scandals are difficult to measure, as there is no established approach (Ehrenhard and Fiorito, 2018). We drew on manual and automated methods, and found fair consistency between measures. However, for ongoing cases, we were unable to verify that misconduct had occurred, and the nature and severity of scandals varied. Furthermore, our study was not longitudinal in design, and due to relying on a binary outcome variable, we were unable to show whether shifts in culture led to corporate scandals. Whilst NLP is effective at identifying the salience of cultural norms, and is grounded in narrative employee experiences, it does not easily facilitate the study of causal and fine-grained models examined through surveys (where questions are formulated to measure a psychological dimension). Future studies might utilize employee surveys to investigate how norms for target pressure operate in sub-groups, and explore the relationship between target pressure and misconduct. The data sources had limitations (e.g., Glassdoor may over-represent dissatisfied staff), and other factors are likely to influence ethical and risk-taking behavior within organizations (e.g., personality, job role, training), and we were unable to consider these.

Conclusions

Our contribution has been to conceptualize and test the relationship between organizational culture and risk of corporate scandals. We found scandals to be more likely to occur in organizations where norms for target pressure are more salient to employees, with, this being presumed to influence how members think and act in relationship to misconduct

(e.g., through mechanisms such as leadership priorities, employee relationships, and job

strain). The study indicates that the analysis of naturally occurring and unobtrusive data about

companies is a potentially useful avenue through which to detect problems in organizational

culture and employee conduct

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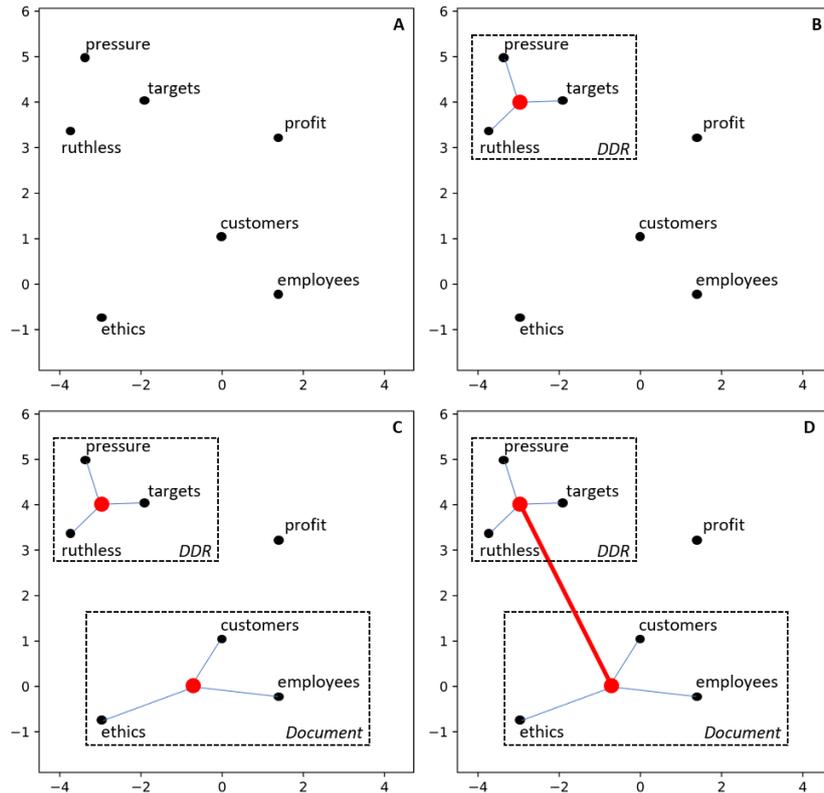
Figure 1. Illustration of measurement using a distributed dictionary representation (DDR)

Notes: Figure 1 illustrates the creation of DDR measures. Panel A visualizes a two-dimensional representation of a distributed language model with, for illustration, only seven words. The distance between the words encodes their semantic similarity (e.g., "ruthless" and "targets" are close, while "profit" and "ethics" are not). In panel B, we create a DDR by identifying concept terms that have high validity and reliability ("pressure," "targets," and "ruthless") and then calculating the mid-point between them. In panel C, there is a document to be measured that consists of only three words ("customers," "ethics," and "employees"). The mid-point between these terms is calculated. In panel D, the distance between the DDR and the target document is measured. This distance captures the similarity of the target document to the DDR. If the target document included a word closer to the DDR (such as "profit"), then the average vector for the target document would be closer to the DDR, and our measure would reveal a higher similarity between the concept being measured and the document.

Table 2. *Spearman's Rank Correlations Between Variables*

	Target pressure	Scandal (news-reported)	Scandal (Google Trends)	Scandal (Wikipedia)
Target pressure	-	-	-	-
Scandal (news-reported)	0.18**	-	-	-
Scandal (Google Trends)	0.12	0.33***		-
Scandal (Wikipedia)	0.16*	0.43***	0.23***	-

* $p < 0.05$
** $p < 0.01$
*** $p < 0.001$

Table 3. *Example Sentences Highly Similar to the Concept Vector for*

Target Pressure

Target Pressure (cosine similarity)
"Low pay more workload and unrealistic targets" (0.79)
"Bonus not rewarding enough, forever increasing workload" (0.78)
"Rewards, bonuses and incentives have become increasingly rare and unattainable" (0.76)
"Keep sales honest - reward profitable outcomes not large onerous deals" (0.76)
"Constant cuts to budgets and staff while raising workloads" (0.76)
"Absolutely no motivation, very demanding bosses and unrealistic expectations" (0.76)
"Quicker promotions and higher salaries to reward workers" (0.76)
"Frequent downgrading of role levels to minimize bonus payout and salary increases" (0.75)
"Unhealthy environment with continued pressure and unrealistic targets" (0.75)
"Sometimes the workload is challenging and there are no financial rewards." (0.75)
"Frequent downgrading of role levels to minimize bonus payout and salary increases." (0.75)
"Quite competitive salary and incentive" (0.75)
"Management is…overly aggressive trying to meet unrealistic targets" (0.74)"
"Workload is extremely high and expectations are unrealistic" (0.74)
"Pressure to meet sometimes unrealistic deadlines" (0.74)
"Middle management getting more incompetent because of unreasonable promotions." (0.74)
"The environment is stressful" (0.74)
"Unsustainable workload, short staffed requiring all employees to overload." (0.73)
"Merit increases and incentives are rewards for burnt out employees" (0.73)
"Selfish managers are just focused on hitting their bonus targets." (0.73)

Table 4. *News reported Corporate Scandals (n = 48)*

Scandal	Company	Allegation	Outcome
Accounting	Clothing	Fraud ($200+ million)	Ongoing
	Financial	Fraud ($2bn+)	Bankruptcy
		Whistleblowing on risk compliance failures	Ongoing
	Telecomm	Fraud ($600m+)	Fine
Bribery	Digital	Bribery for contract	Ongoing
	Energy	Bribery to access oil fields	Ongoing
	Medical	Payments to obtain or retain business	Fine
	Mining	Bribery in accessing deposit fields	Ongoing
	Telecomm	Bribery to access telecommunications markets	Fine
CEO	Advertising	Inappropriate expenses and bullying staff	Ongoing
	Energy	Conflict of interest in transactions to service companies	Ongoing
	Financial	Attempt to unmask misconduct whistleblower	Fine
Customer	Financial	Customers obstructed from moving pensions/savings	Apology
		Application of illegitimate fees for banking services	Refunds
		Large-scale overcharging of customers	Refunds
		Fraudulent diamond selling	Ongoing
	Publishing	Collecting data on customers without consent	None
	Telecomm	Overcharging telecommunications charges (multiple)	Apology/refund
Environmental	Automobile	Diesel emissions test cheating	Ongoing
		Software masking diesel emissions	Ongoing
		Diesel emissions test cheating	Prosecution
	Clothing	Burning of unsold goods	Policy change
	Steel	Delaying clean-up operations after ecological damage	Ongoing
	Travel	Breach of probation for causing environmental damage	Fine
Market	Chemical	Obstructing investigation into anti-competitive practices	Fine
	Digital	Cartel for raising prices and limiting competition	Ongoing
	Electrical	Cartel for raising prices and limiting competition	Ongoing
	Financial	Inclusion in a bond trading cartel	Ongoing
Mistreatment	Courier	Pursued bogus allegations of employee fraud	Legal action
	Technology	Mis-evaluation of disabled people in benefits assessment	Compensation
	Textiles	Bribery of clients	Prison
Money	Financial	Anti-money laundering law breaches	Admittance
		Breaching financial sanctions	Fine
		Lack of systems for detecting money laundering	Fine
		Lax crime prevention systems	Fine
		Handling of suspicious transactions	Ongoing
		Large money flows to suspicious accounts	Ongoing
Other	Security	Serious breach of contract in delivering prison services	Contract loss
Product	Food	Selling expired meals to schools	Ongoing
		Violating advertising codes and misleading consumers	Ongoing
	Groceries	Contamination of food products	Apology
	Medical	Illegally elevated prescription sales	Fine
		Sale of unsafe vaccine	Prosecution
		Sale of unsafe drugs	Product recall
	Outsourcing	Thousands of unsent letters for cancer test invites	Contract review
	Tobacco	Promoting products to children on social media	Ongoing
Tax	Financial	Aiding customers to illegitimately avoid tax	Fine
		Tax fraud for a bank to receive multiple rebates	Ongoing