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ORIGINAL ARTICLE

Negative Word of Mouth On Social Media: A Case Study of Deutsche Bahn's Accountability Management

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Abstract The advent of social media and its commodifcation have created a never-ending feedback loop between businesses and their customers. In this context, constant negative Word-of-Mouth (NWOM) may jeopardize a corporate image and cause defensiveness in corporate communication. This paper presents a case study of several customer service accounts of the railway company Deutsche Bahn on Twitter to investigate the management and control of constant NWOM and the impact of accountability strategies on customers' perception of the frm. To this end, a sample of 36,757 Twitter postings was drawn and analyzed by means of sentiment and content analysis techniques. The f ndings suggest that the perceived accountability towards the frm declined in case of an attitude shift towards the user. In contrast, the f rm was being held accountable more insistently after expressed defensiveness, regardless of the f rm's actual accountableness. With this paper, we introduce the notion of accountability management and an accompanying theoretical framework to the literature. This provides a novel perspective on constant NWOM countermeasures for organizations that are part of 'toxic' industries or face unrightfully claimed accusations, i.e., when being held accountable for outer circumstances beyond their control.

Availability of data and materia Data can be disclosed upon request.

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1 Introduction

While publicly expressed opinions and reviews about products and services entail an urge for constant quality improvement, fostered through social media, the balance of power between customers, corporations, and other stakeholders experiences a shift towards the individual (Horn et al. 2015). Customer-generated content in the form of complaints or criticism may represent a corporate threat for overall reputation, legitimacy, or economic performance (Gligorijevic 2012). This urges corporations to master the subtleties of social media communication and equip themselves with countermeasures (Cretu and Brodie 2007). Even though social media constitute an indispensable part of corporate communication, scholars opine that a vast majority of corporations show fundamental shortcomings in this area (Dijkmans et al. 2015). Research in the f eld of corporate communication is considerably focused on corporations' reactions to major scandals or crises (Coombs 2007; Stieglitz et al. 2019; Utz et al. 2013). A salient phenomenon in this context is negative Word-of-Mouth (NWOM), that is, customers sharing negative opinions and experiences about goods and services with others (Hennig-Thurau et al. 2004). NWOM can signif cantly damage organizational reputation, especially when amplif ed through digital channels such as social media. Barhorst et al. (2020), for instance, have renewed a call for more academic research on NWOM in digital environments as they found social media-induced threats to corporations to not be suff ciently addressed in recent debates. In their study, the authors provide evidence that being exposed to NWOM on social media negatively impacts the likelihood of customers to recommend a brand or business to their peers. Another study revealed that businesses may face an array of different types of complainants on social media and that mitigation strategies should be segmented according to complainant archetype (Weitzl and Einwiller 2020). Whereas recent literature has a strong focus on peak experiences of NWOM, such as social media frestorms (Hansen et al. 2018; Herhausen et al. 2019), less is known about the management of continuous hostility towards a corporation. Particularly corporations from high-risk industries or the public sector offering an indispensable service, are prone to be constantly attacked in social media (De Wolf and Mejri 2013). Here, we argue, research is needed that extends the debate about fres torm mitigation tactics by investigating cases of constant NWOM. This is important because the management of constant NWOM might be subject to different mechanisms than the ones that have been theorized in the context of fresto rms. The latter are a result of virality, whereas constant NWOM, in contrast, is subject to ongoing reservations and denunciation of an organization. Therefore, constant NWOM is moderated by how an organization is perceived as accountable over time and the organization or its members react to repeated imputations (Beser et al. 2017).

In addition, within the scientifc debate on NWOM on social media, we observed two salient characteristics of extant research. First, the empiricism of prevalent studies relies on survey data generated from f ctitious NWOM scenarios. Second, extant work does not consider a f rm's possible countermeasures as an independent variable. Rather, it has tested consumer-to-consumer (Barhorst et al. 2020; Laczniak et al. 2001) effects of NWOM communication without explaining the extent to which an organization is able to moderate the effects of NWOM. This study, consequently, incorporates data from real-world social media NWOM communication. By analyzing dialectical consumer-to-business-to-consumer NWOM conversations, we add an unheeded yet important perspective to this body of research.

Moreover, we argue that corporations are oftentimes unrightfully accused by customers due to past experiences or irresponsible judgment. Thereafter, a perceived need to justify one's actions emerges, e.g., among corporate communicators, even though the process of the preceding judgement is fa wed. Accountability theory, helpful as a lens in this regard, more generally explains how the perceived need to justify one's own behavior causes one to question and feel accountable for the process by which decisions and judgments have been made (Tetlock 1985; Vance et al. 2015). Introducing an accountability perspective to the NWOM literature allows for work that establishes new points of reference for building theory and advancing this research stream.

In this study, consequently, we address the NWOM phenomenon and its management on social media by drawing on the concept of accountability and how it adds a valuable perspective to the NWOM literature. Following an explorative approach, we analyze the Twitter service communication pertaining to the Deutsche Bahn (DB), the largest railway operator in Europe. DB regularly faces NWOM and is being held accountable for outages or missing service, regardless of their actual accountableness (Conolly 2018). Accountability theory provides distinct strategies to cope with NWOM, which this study aims to scrutinize testing their applicability in a NWOM context. Our work is guided by the following research question:

RQ: *How do accountability strategies curb NWOM towards a corporate communicator on social media?*

To provide a suff cient answer to this question, we collected 36,757 Twitter postings authored towards various service accounts of DB and subsequent dialogues, involving the reactions of the f rm. We applied sentiment analysis measures to identify public conversations of constant NWOM and qualitative content analysis to categorize DB's communication with regards to existing accountability strategies. From this, we extrapolate how those strategies affect perceived accountability how it differs from the actual accountability of the f rm. Resulting insights on how accountability issues in corporate social media communication unfold and how to manage them will accentuate our knowledge in the f eld of corporate communication and contribute to the theorization of accountability in the f eld of tension between constant NWOM and situational crisis communication. This adds to our theoretical understanding of constant NWOM and f restorm management including a ref ection of peculiarities and overlaps of both phenomena. With this paper, we offer the notion of accountability management to the corporate communications literature and

introduce a framework that musters the theoretical relationships of accountability management variables ("The Accountability Management Cycle"). As our approach relies on an explorative case study methodology, we can provide a theoretical contribution through abductive reasoning. By additional propositions that mirror the effects we found of single accountability strategies, we provide a sound basis for future work on accountability management and subsequent quantitative testing. Our results will further be of high value to practitioners who seek to manage constant NWOM and to mitigate perceived accountability through strategic social media communication.

The paper is structured as follows. In Sect. 2, we provide a literature review on NWOM management and explain relevant cornerstones of the accountability theory (Sect. 2). Subsequently, we outline our research design (Sect. 3), report our fn dings (Sect. 4), and discuss theoretical and practical implications (Sect. 5). We conclude the study with a summary, limitations, and recommendations for further research in Sect. 6.

2 Theoretical Background

2.1 Managing NWOM on Social Media

A widely researched feld within corporate communication dealing with the management of negative customer engagement is corporate crisis communication. It looms large when a specif c event threatens a corporation's future operations and poses a threat to sales and reputation (Deephouse and Suchman 2008; Zerfass and Viertmann 2017). Seminal work on this matter resulted in the Situational Crisis Communication Theory (SCCT) (Coombs 2007; Coombs and Holladay 2002). It posits that different types of crises, situationally, require different crisis response strategies. Even though Coombs also coined the notion of 'ongoing crisis communication', his argument is targeted at the constant preparation, prevention, and analysis of former and future crisis event, rather than addressing an experience of constant negative customer engagement (Coombs 2011). Therefore, in this study, we differentiate between crisis communication and WOM. The latter was coined by Arndt (1967) as an oral, person to person communication between a communicator and a receiver, regarding a brand, product or service. Scholars have been researching WOM in a corporate context (Buttle 1998), and even def ne WOM as integral to the overall performance of a company (Haywood 1989). WOM may also happen virtually through electronic devices. In this regard, the underlying patterns of electronic WOM function analogously to face-to-face WOM. It is def ned as *"any positive or negative statement made by potential, actual, or former customers about a product or company, which is made available to a multitude of people and institutions via the Internet"* (Hennig-Thurau et al. 2004, p. 39).

In this paper, we focus on negative WOM (NWOM) because this narrower notion helps us to better describe the subject of scrutiny and, additionally, is better suited to describe a state of constant exposure to negative opinions while not experiencing a major crisis. At the same time, however, constant NWOM could be a precursor to

a f restorm or major crisis, and therefore, are interrelated. Firestorms and NWOM constitute two types of symptoms, that is, short-term outburst (fres torms) and long-term smoldering (constant NWOM) (Matook et al. 2022). Through amplif cation on social media, NWOM may signifcantly harm the reputation of an organization (Beser et al. 2017). In addition, NWOM can negatively inf uence consumers' purchasing behavior. However, there is no consensus whether NWOM has a higher and more signif cant impact than positive or neutral opinions about an organization (Barnes 2014). Beser et al. (2017) found that factors such as the aging of messages, different kinds of markets, and the content inf uence the spread of NWOM. A message with weak arguments will hardly spread in individualistic markets, even with the message being always up to date. In contrast, the outcome may be different in collectivistic markets. Inadequate responses to dissatisf ed consumers during post-purchase evaluations account for approximately 58% of NWOM (Sundaram et al., 1998). Even though not all complaining consumers are dissatisf ed and not all dissatisfed consumers complain (Nazemian & Taghiyareh, 2012), it is more likely for consumers who have a negative perception of their purchase to share their experiences and contribute to NWOM (De Matos et al., 2007; Sundaram et al., 1998). Recent work in marketing and service recovery literature has put emphasis on the detection and management of online f restorms, that is, NWOM amplif ed by other customers over a short period of time (Hansen et al. 2018; Herhausen et al. 2019). Research has covered a variety of strategies to encounter social media f restorms, from quick responses and 'f ghting' back (Scholz and Smith 2019) to absolute silence (Stieglitz et al. 2019). This study delves into a related phenomenon, which differs from f restorms and has been rather neglected so far. Constant NWOM, we argue, comprises a valuation of a corporation's actions and mirrors the extent to which an organization is continuously held accountable for certain outcomes. Hence, being perceived as accountable for negative outcomes, eventually harms the organization and requires it to undertake measures that help to actively manage perceived accountability.

2.2 Accountability Theory

To better understand NWOM countermeasures for corporate communication on social media, turning to accountability theory presents a novel, yet helpful effort. When using the metaphor of NWOM being a symptom, accountability, we argue, is the theoretical entry point to the cause. Generally, accountability represents an integral part of everyday decision-making environments (Tetlock 1985). Humans tend to hold other individuals or organizations accountable for their actions and constantly re-evaluate their judgement (Jos and Tompkins 2004). The notion of accountability may be grasped as a process that functions as a link between individual thinkers and the social system to which they belong (Tetlock 1985). In this sense, accountability also refers to the implicit or explicit expectation that one may be called on to justify one's beliefs, feelings and actions to others (Lerner et al. 1998; Lerner and Tetlock 1999). At the same time, however, accountability implies being monitored and attempting to protect the self-image and/or maximize economic gains (Tetlock 1983). Lerner and Tetlock (1999) identif ed four main components

Table 1 Accountability sub-concepts based on Lerner and Tetlock (1999)

Domain	Term	Subdivision	Def nition
External	Perceived accountability	–	Accountability based on one's interpretation of the social system in which one is embedded, and its attribution to oneself or others
Internal	Self-accountability	Predecisional accountability	Commitment in the process by which decisions are being made rather than the outcomes of the decision process
		Postdecisional accountability	Accountability for the outcomes of a decision

of accountability. First, the *mere presence* of two or more actors who are expected to observe each other. Second, the *identifiability* of organizations or humans with respect to what they say and do. Third, the *evaluation* of such actions or expressions and their consequences. Fourth, the feeling of actors to be obliged to *reason-giving* for their saying and doing. Additionally, the same authors ref ned the concept of accountability in a threefold manner that helps us to understand the emergence of accountability as a process rather than a fx ed ratio. The three sub-concepts which evolved from this are (1) perceived accountability, (2) predecisional accountabilty, and (3) postdecisional accountability. Table 1 provides an overview of these terms.

The above representation further demonstrates the distinct domains that apply to the concept of accountability. Interpretations inside the social system entail perceived accountability in the external domain. The higher the perceived accountability, the higher the need to justify oneself (Tetlock 1985). While perceived accountability primarily deals with the evaluation process of others, pre- and postdecisional accountability refer to the construction of a decision process, e.g., inside an organization. Together, they form the self-accountability in the internal domain. Moreover, accountability is often referred to as an exchange between parties. Bergsteiner and Avery (2010) clarify that "*an accountee is the entity that has to account to an accountor, or multiple accountors, for having caused, instigated or contributed to some outcome*" (p. 3). In the context of this study, the accountee is represented by the frm, whereas customers on social media constitute multiple accountors. This dialectic interpretation, consequently, opens possibilities to f ll this room for maneuver of an accountee with strategies to impinge on the formation of accountability in both domains.

2.3 Accountability Strategies

How does a corporate actor cope with high perceived accountability and low self-accountability? If organizations fail to deliver or do so in the eyes of its stakeholders, e.g., customers, negative outcomes are the likely consequence. Osborne and Plastrik (2000) address this matter by establishing two directions of accountability. To be held vertically accountable means one is being held accountable to superiors in the organizational hierarchy. Opposingly, the horizontal direction signif es the collective accountability of an organization towards outsiders. When communicating faults or incidents via social media, for example, perceived accountability towards

Table 2 Accountability strategies basedDB applying strategic attitude on Tetlock et al. (1989)

Strategy	Attitude of the audience	Def nition	Example for NWOM communication
(1) Strategic attitude shift	Known	Gravitating one's attitude toward the audience's attitude	A corporate communicator reacts to a customer complaint by agreeing with their position (regardless of the true accountableness of the situation)
(2) Preemptive self-criticism	Unknown	Anticipating objections against one's own position through self-criticism	A corporate communicator reacts to a customer complaint with unknown accountableness by assuming accountability; often followed by a prophylactic apology
(3) Defensive Bolstering	Known/unknown	Providing arguments to defend one's own position	A corporate communicator reacts to a customer complaint with denial and by arguing in favor of the organization

an organization by stakeholders, media, or politicians is high. Literature from social psychology provides a set of strategies for coping with accountability. These strategies have been developed in a series of psychological experiments in which researchers manipulated the accountability of participants (the expectation to justify one's views). We draw upon these strategies to explain organizational behavior when facing high perceived accountability. According to Tetlock et al. (1989), one is able to use (1) *strategic attitude shifts* when the stance of an audience is clearly known. If one's attitude gravitates towards the expected values, it may affect perceived accountability. Second, (2) *Pre-emptive self-criticism* is practiced, when the attitude of the audience is unknown. This way, objections to one's own position can be anticipated. Last, (3) *defensive bolstering* is primarily used when communication revolves around one's own position and is peppered with arguments in favor of one's own opinion (Table 2).

Prior studies (Cornelissen 2012; Jos and Tompkins 2004) have tested the above strategies in the context of vertical accountability, i.e. inside an organization and found evidence that using strategic attitude shifts work best when being unrightfully held accountable. As those f ndings have been derived in the context of internal communication, we aim to add to this knowledge by exploring the role of accountability in a scenario of public constant NWOM on social media. This means that the empirical part of this study will use the accountability strategies as a lens to categorize the NWOM response activities of our case organization on Twitter. An accountability management approach is different to existing work concerned with NWOM/fresto rm mitigation as it sets in at the "root" rather than the "symptom". Consequently, we will be able to theorize our f ndings against the backdrop of what we know from both corporate communication literature and accountability theory.

3 Research Design

3.1 Data Collection

To obtain relevant data, we collected publicly accessible social media postings from Twitter. Due to its velocity and publicness, as well as its prominence for being a service channel for customers (Kwak et al. 2010; Shariff et al. 2017), Twitter serves as an eligible data source for investigating corporate communication in this context. For the entire process of data collection, preparation, and analysis, we refer to the social media analytics framework by Stieglitz et al. (2014). We chose the DB as a case worthwhile to examine as the company regularly faces disruptions in their operating process due to major disruptions that entail a high amount of service requests, customer complaints, and NWOM. A single case study design was chosen to achieve a deep level of detail and understanding about the phenomenon on hand. We argue for this choice due to interest in the DB case, not by the used methods of inquiry. We believe that the NWOM DB faces is specif c, unique, and part of a bounded system. The reason for investigating Twitter is that it constitutes the primary social media channel the DB uses to communicate disruptions, delays, or cancelled trains. By means of a self-developed Java crawler and the open-source library Twitter4J, we captured a total of sixty-six days of Twitter communication from April 18th, 2019 (0:00 UTC) to June 23rd, 2019 (23:59 UTC). The crawler was set to gather data provided by an account-based search query, including the following Twitter accounts: @DB_Bahn @streckenagent_M, @Regio_NRW, @DBRegio_SH, @DB_Presse, @DB_Info, @DBRegio_NDS, @streckenagentNB, @streckenagentFR, @streckenagent_N, @streckenagentAS. The selected accounts comprise all off cial nationwide channels of DB as well as the largest regional service accounts in terms of followers. Collected tweets are either authored by this account or directed at it (@-mentions and replies). We further added the specif c keywords “DeutscheBahn”, “db”, “bahn” to detect additional NWOM not directly addressed to off cial DB accounts. The keywords were chosen to limit the content to tweets revolving around the DB. We further limited the search to tweets with German (lang:de) language settings. Extracted data was stored in a MySQL database for further preprocessing. In this step, we excluded retweets to receive a sample of only original postings ($n = 36{,}757$).

3.2 Data Analysis

Sentiment Analysis To identify NWOM and other negative communication directed at DB, we applied sentiment analysis measures to the tweet sample. Several studies and use cases turn to this technique to understand what customers think about a product or service (Chamlertwat et al. 2012; Stieglitz et al. 2018). Moreover, it may be used to categorize corporate communication and divide it into phases of peak and quiet communication (Stieglitz et al. 2019). On the most basic level, sentiment analysis is a dictionary-based approach that automatically assigns a value to a text-based expression. We used the tool “SentiStrength”, which provides a polarity scale of –5 (most negative) to +5 (most positive). Sentiment analysis can be applied on

a document-, sentence- or aspect-level. The document level is the simplest form, since it is assumed that one document (e.g. one tweet) contains one sentiment regarding a single object (Medhat et al. 2014). In our case, each tweet from the sample is equipped with a sentiment value based on the mean value of its positively and negatively connoted words.

As a next step, however, we used the results of the sentiment analysis as selection criteria to build a subsample sample for further analysis. This approach enables us to 1) identify conversations that are of negative sentiment concerning the DB, i.e., NWOM, 2) determine if responses of the DB affect the sentiment in subsequent communication. Conversations on Twitter are tweets that are connected to each other with the @-mention feature. To export the conversations from the raw data, we used *Python* to flter all @mentions that started with a –3 or –4 sentiment value and consisted of at least 3 tweets. The f nal subsample consisted of 2148 tweets that spread across 425 conversations. We validated the sentiment annotation of SentiStrength for this sample by two authors manually coding 200 random tweets (roughly 10%). However, for the manual coding, we did only use the annotations of negative, positive, and neutral and compared the results to the –5 to –1 (negative), 0 (neutral), and +5 to +1 scores provided by SentiStrength. The accuracy was 0.8525, which is above the recommended threshold of 80% (Berger et al. 2020). The fact that each tweet in the conversations that constitute the subsample had a sentiment value attached to it, we could then investigate how accountability strategies affected the subsequent customer tweets in each conversation. To do determine whether one or more accountability strategies were present in a conversation, we approached them with a manual content analysis.

Content Analysis Based on the subsample resulting from the NWOM conversation identifcatio n process, single-labelled classifcatio n will be applied to categorize the tweets of the DB (Mayring 2014). Those NWOM response tweets of DB were deductively categorized as one of the three accountability strategies *strategic attitude shift, pre-emptive self-criticism*, and *defensive bolstering, no strategy*, and *no response*. The coding process is illustrated in Fig. 1.

We then analyzed how the users continued the conversation within the subsample after being exposed to a tweet of the DB containing an accountability strategy. More-

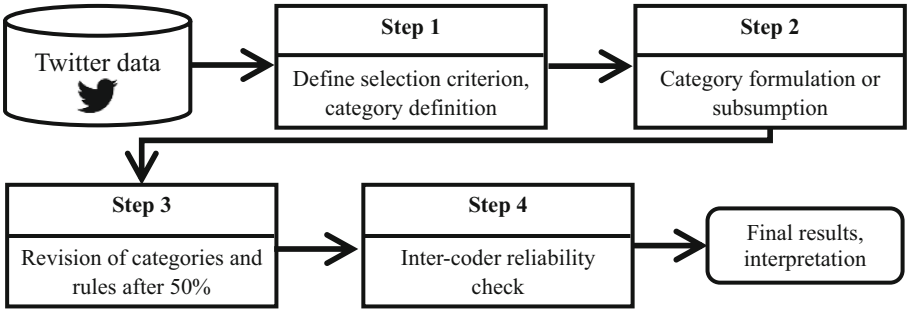

Fig. 1 Category development and sample coding procedure based on (Mayring 2014)

over, we remained open to possible surprising findings and abductive inferences. We re-evaluated after coding 30% of the subsample. All tweets were classified independently by two researchers. The interrater reliability (Fleiss' Kappa) showed substantial agreement between the coders ($K = 0.76$) (Landis and Koch 1977).

4 Results

Based on the content analysis, we identified 142 conversations in which the DB applied accountability strategies. Those conversations ranged from 3 (shortest) to 21 (longest) tweets. In 90 cases, a DB employee performed a strategic attitude shift. Pre-emptive self-criticism occurred 7 times, and defensive bolstering 45 times. In the remaining NWOM conversations, no accountability strategy could be detected. Figure 2 provides an overview of the frequency of strategies.

To better understand how the DB responses containing an accountability strategy affected the conversation, we labelled the tweets according to which responses were used and compared the mean sentiment value of the customer tweets following the strategy with the initial sentiment of the customer complaint. We then got a value for each conversation, to what extend the strategy improved (or impaired) the sentiment. We then calculated the mean change for all the three strategies (Table 3).

The data suggests that pre-emptive self-criticism can be most effective but is by far the least applied strategy. Strategic attitude shifts were most often applied and were found to be the second most effective strategy. Defensive bolstering was the least effective strategy, although the differences are marginal. Defensive bolstering was the only strategy that could have a "backfiring" effect, which impaired the sentiment. This was the case in 2 out of the 45 conversations.

We then coded the conversations inductively to find out if the applied strategies have different effects with regard to the actual accountableness of the DB. The results suggest that DB was more often still being held accountable after using defensive bolstering (48.88%), as opposed to using strategic attitude shifts (36.66%) and pre-emptive self-criticism (14.29%). Whereas the descriptive statistics of our results paint a picture of what we found in the data, it rests upon the qualitative assessment

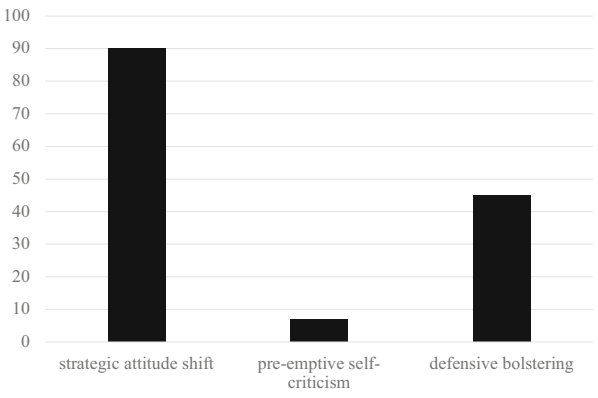

Fig. 2 Frequency of accountability strategies used by DB

Table 3 Mean change in sentiment after applied accountability strategy

Accountability Strategy	Mean change in sentiment
(1) Strategic attitude shifts	3.04
(2) Pre-emptive self-criticism	3.29
(3) Defensive Bolstering	2.64

of the conversations. To make these results more transparent, we showcase two instances from our conversation sample and use them as a proxy for our qualitative analysis. Table 4 shows a Twitter conversation of the @DB_Bahn service account that shows the application of a defensive bolstering strategy (highlighted).

In the above instance, the customer perceives the firm as accountable as the departure time of the train changed without notification. The corporate response seeks to repel the accusation by pointing out the responsibility of customers to check itineraries prior to departure. Even though the service account states *"It is not your fault"*, it implies exactly this by criticizing the customer's lacking ability to inform herself properly. In this instance, self-accountability of the corporate actor (acountee) is low. However, the applied type of defensive bolstering does not lead to perceived accountability being reduced over the course of the public conversation.

When using a strategic attitude shift as a response to customer complaints, however, the likelihood of users to change their perceived accountability may be increased. Table 5 shows an exemplary conversation in which DB is supported by other users after an attitude shift (highlighted).

The above conversation shows that self-accountability of the corporate actor is high, and an apology is expressed. Over the course of the conversation, the customer softens his or her tone and perceived accountability is reduced. On top of that, another user steps in and takes the side of the corporate communicator by pointing out advantages of the discussed feature. Incidents like this suppress NWOM and

Table 4 DB applying defensive bolstering, result: user holding DB still accountable

Customer complaint	DB response
How can it be @DB_Bahn that a train leaving HH-Altona at 11.30 a.m. simply leaves half an hour earlier without any information? I would like my money back!	*The IC 2027 left Altona on schedule at 10.56 am. What is the departure time on your ticket?*
11:30. The plan was apparently changed yesterday, but there was neither a mail nor an info in the Navigator app nor a notice at the station. All following trains are fully booked. I am also not alone with the problem	*Then there was a change in the timetable after you booked. If the delay alarm is set up, you should also be notified by e-mail or push message.* ***Please always inform yourself about the connection before you start your journey***
Neither one nor the other happened. And in the end, of course, it's the customer's fault. But thank you	*It's not your fault. However,* ***it is also displayed on the ticket to inform yourself again shortly before the trip****, as short-term changes cannot be ruled out*
Right, and when I look at the app, it says 11:30. The next time I just come on suspicion one hour before and ask at the counter if one has considered at short notice to let the train run earlier. Today there was only a shrug of the shoulders	*In the app the train is also displayed for 10.56 am. Please do not look at the itinerary, as these dates do not change after the event. Please use the travel information*

Table 5 DB applying strategic attitude shift, result: no answer; support provided by other user

Customer complaint	**DB response**
Considering the @DB_Bahn Advertising spots, I always asked myself how the check-in process works. I tried it this weekend and the answer: Not at all. Was grunted at both times by conductors. Cool feature	*Hello K*****, **I'm sorry it didn't work out.** Despite the convenience of a check-in, random checks are carried out or the train attendant had **no knowledge** that you had already checked in. Many greetings*
	User response
Long reserved, all normal. But all in all, the question remains why does the app say I should check in if the conductor asks anyway	*It got better with time. And it has the advantage that I no longer have to show the BahnCard, so I save a manual step. Whereby, I drive 9/10 bahncomfort without check-in*

Table 6 DB applying pre-emptive self-criticism, result: reduction of sentiment; humoristic response

Customer complaint	DB response
Arrival in Dortmund, 18:09. But he was just running his usual delay. For whatever reason. And you still don't get the announcements right, even though it happens almost every day. Well	*I would like to apologize for the circumstances*
*For the circumstances today in the opposite direction from Witten then certainly also, right? And for the next days also **provisionally?***	**Of course!**
Thank you very much. That is somewhat helpful. Is there anywhere I can trade the apologies I've collected for something really useful?	*Not that I know of. **But I don't know everything either***

can be put down to the initial response, i.e. a strategic attitude shift. Hence, our analysis suggests that regardless of the DB being rightfully held accountable or not, strategic attitude shifts seem to mitigate perceived accountability among users after a response tweet (Table 6).

In this case, the DB employee apologized for any past and future mistakes and admitted that he or she does not know everything. This self-criticism led to the conversation drifting away from the original problem (which could not be resolved anyway) to a humoristic exchange of tweets. The customer was still not happy with the situation, but the strategy lowered the customer's anger. Subsequently, we discuss our findings with regards to our leading research question.

5 Discussion

5.1 Reducing Constant NWOM through Accountability Management on Social Media

In our sample, we found that in many conversations containing NWOM, users unrightfully held DB accountable. According to Lerner et al. (Lerner et al. 1998) the need to project accountability is high in a state of anger or frustration. Our sample does not reflect an outright negative sentiment as in comparison to a corporate crisis (Stieglitz et al. 2019). As literature is disunited what to classify as NWOM, we

focused on negative tweets in comparison to others and were able to form a suffcien t sample of customer complaint conversations that represent constant NWOM.

Most complaints were related to missing and delayed trains, a lack of information or technical errors. In tweets that unrightfully hold DB accountable, we discovered that DB mostly did not answer the tweet of the user at all, or they manifested their position with defensive bolstering. In this case, this means denying that they were accountable for the issue. According to Jos and Tompkins (2004), DB should have instead used more strategic attitude shifts or pre-emptive self-criticism instead of defensive bolstering. Our results support this claim for the context of social media. Moreover, DB lowered the frequency of strategic attitude shifts when they were unrightfully being held accountable. Not responding could be found to entail negative effects, which supports existing literature (Horn et al. 2015).

Regarding the sentiment of what we categorized as NWOM, we discovered that the sentiment strategic attitude shifts were used when the sentiment of the tweets was higher and defensive bolstering was used when the sentiment was lower. This leads to the conclusion that a higher negative sentiment provides some margin for DB to shift their attitude and calm the user's disposition. We discovered that DB intentionally leaves questions unanswered when the tone of the tweet lacks objectivity, were insulting or used inappropriate language. Our results stress the point that defensive bolstering leads to 1) increased customer interaction, and 2) less decrease of perceived accountability in comparison to strategic attitude shifts and pre-emptive self-criticism. If one's attitude gravitates towards what is socially expected, rightfully or not, perceived accountability is more likely to decrease. It is also worthwhile to mention, that pre-emptive self-criticism was least applied by DB, although the data suggests that this strategy can be quite effective.

Our study demonstrates how applying an accountability lens to corporate communication helps to better assess constant negative communication and devise goal-oriented strategies that aim at one basic motivator of NWOM, which is challenging corporate agents to account for their actions. With this work, we aim at the introduction of accountability as a useful approach next to established theoretical pillars of dealing with constant NWOM. Accountability management, as our explorative study showcases, might be a useful approach to encounter NWOM mechanisms that are different from social media fresto rms (Herhausen et al. 2019), and provide a framework for organizations in "toxic" industry that are prone to constant NWOM. Moreover, our results suggest that accountability strategies applied in public opens conversations to add supporters that help to repel NWOM (De Matos et al. 2007). Strategies such as defensive bolstering may also have a backfring effect and attract additional feisty customers. Accountability differs from more prevalent concepts such as reputation or legitimacy. The latter, for instance, manifests a long-developed self-conception of a frm in a societal setting, which needs a fully-fedged crisis to be challenged, e.g. 'Dieselgate' and VW (Stieglitz et al. 2019). Reputation, as the probably most common notion for a f rm's standing, covers an intermediate-term horizon for value creation (Zerfass and Viertmann 2017). Accountability, in contrast, constitutes a quality that is re-calculated in much shorter increments. Therefore, it is most useful for constant NWOM on social media, which consists of numerous loops of single conversations. Over time, the process of constant and dispersed

accountability assessment may impact reputation or even legitimacy. Therefore, corporate communications literature can gain value from a theoretical reference point for accountability management.

5.2 Corporate Accountability as a Collective Process

Corporate accountability is a collective evaluation process that comprises numerous building blocks that contribute to its perceived extent. When it comes to managing constant NWOM, accountability is being dealt with by individuals. In our tweet sample, most DB responses were provided with the initials of the staff member dealing with the complaint (or the post-decisional accountability). This opens up the matter of accountability management for paradoxical outcomes (Jos and Tompkins 2004). According to the authors, an individual might sense the urge to held oneself accountable even though the process which determines the accountability assessment (or the pre-decisional accountability) is not based on the actions of this individual. Simply put, individual DB employees are hardly ever accountable for what they are asked to manage. Therefore, it is imperative to as far as possible detach the individual from a collective, corporate accountability. Personifying service replies of corporate Twitter communication rather reinforces this paradox.

By drawing on Tetlock's concept of self-accountability and perceived accountability (Tetlock 1983, 1985), we argue that corporate accountability management, especially in online spaces, should cautiously distinguish between the internal and external domains of accountability. Hence, we put forward three central propositions based on our results that aim to transfer the concept of accountability to the f eld of corporate online communication:

1. Perceived accountability should be addressed without the actual accountability in mind

In the external domain, trying to mitigate perceived accountability resulting from NWOM should not be approached based on a corporate actor's own evaluation of actual accountability. As our fndings suggest, defensive bolstering is more likely to be applied when actual accountability is high. Strategic attitude shifts have proven to be effective in any situation but were primarily used when actual accountability was low. Addressing perceived accountability based on the actual accountability seems intuitive but yields inferior results. Therefore, perceived accountability should be approached with sensitive communication and acknowledgement, even in the absence of actual accountability, i.e. one is wrongfully accused.

2. Pre-decisional accountability should not be shouldered by individual professionals

In the internal domain of accountability, the processes of how decisions are made is collectively designed, i.e. individuals such as service employees who face post-decisional accountability should not feel the urge to justify the defnition of pre-decisional processes. Hence, it is imperative for corporations to avoid deploying single identities as a buffer to moderate pre-decisional accountability. Therefore,

corporate and personal responsibility should be clearly and visibly distinguished when managing accountability in social media.

3. Post-decisional accountability should entail attitude shifts instead of opinion bolstering

Accountability management in the internal domain further requires that post-decisional accountability is understood as the dealing with actions that already have been made. Individuals tend to resist changing their viewpoint when they are convinced to be right (Lerner and Tetlock 1999). On social media, sighting reliable evidence for who is right or wrong is impractical. Consequently, post-decisional accountability in a corporate context should be handled with appreciative attitude shifts instead of insisting on one's right. Defensive bolstering, opposingly, entails a less tranquilizing effect.

To cast these findings in a theoretical concept, we draw upon existing sub-concepts of accountability we found to be useful for the scrutiny of corporate communication on social media (e.g. Lerner and Tetlock 1999; Bergsteiner and Avery 2010). In addition, we abstracted the empirical findings of this study and offer the notion of *accountability management* to the field corporate communication (Fig. 3).

The accountability management cycle considers that both perceived accountability in the external domain and self-accountability in the internal domain are malleable rather than crisp. This means that accountability is governed by a constant loop of initiation, assessment, response, and adjustment of behavior. Such cycles may underlie a variety of different conversations between accountors and an accountee (or its representatives). Individual approaches to each of the accountability cycle may lead to vastly different outcomes, i.e. postdecisional accountability. Therefore, it is imperative to understand the circular mechanism behind accountability in corporate communication and to align available strategies for coordinated accountability management.

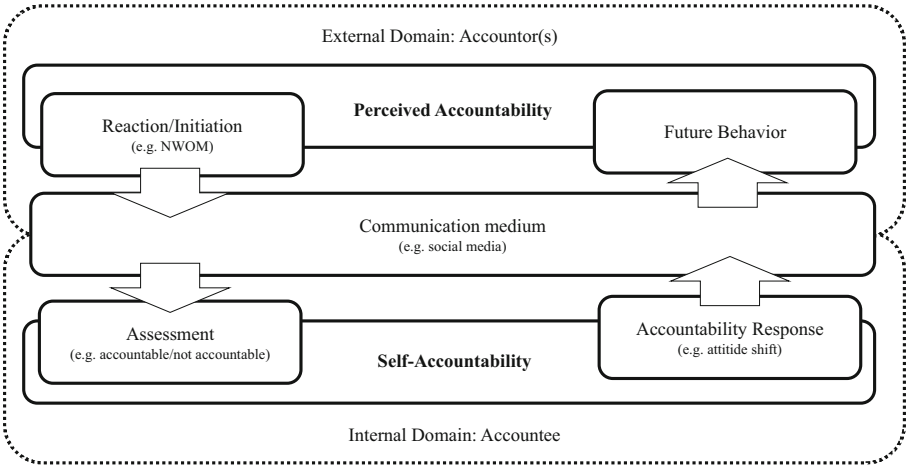

Fig. 3 Accountability Management Cycle of Corporate Communication

6 Conclusion and Further Research

In this paper, we analyzed a dataset of corporate communication on Twitter and identifed a sample of NWOM by means of sentiment analysis. Subsequently, we conducted a qualitative analysis to the sample while applying the lens of accountability theory. Our results suggest that the respective corporation, DB, used a defensive bolstering attitude to manage NWOM in most cases. Strategic attitude shifts, which were used less frequently, could be found to yield more goodwill among complaining customers after responses of DB. When DB was being held unrightfully accountable, this effect was even more apparent. Strategic attitude shifts, to a large extent, resulted in a positive outcome for DB, regardless of their actual accountability. Preemptive self-criticism could not be detected in the data.

From a theoretical standpoint, this study marks a starting point for accountability theory to be used to explain how NWOM is characterized and gets in lane with corporate communication in social media. We formulated propositions about the role of accountability strategies in this context to stimulate quantitative testing. To do so, we encourage researchers to use the propositions we set forth in the discussion section to build a research model based on NWOM literature and measurable constructs provided by accountability theory (e.g. perceived accountability, pre-decisional accountability, post-decisional accountability). In addition to survey designs that test such models, we encourage researchers to conduct natural experiments with social media trace data as NWOM mitigation, fres torms responses, and accountability management are made increasingly transparent by public social media communication. Apart from investigating customer service prof les on Twitter, quantitative case studies of constant NWOM and f restorm response actions will benef t this research stream. Moreover, this work may be an exemplar to position electronic NWOM more prominently in the f eld of corporate communication as crisis communication is ‘ongoing’ but also situational. NWOM, however, requires constant monitoring, management, and delicate strategizing.

Practitioners can be informed by this work regarding the above-mentioned disciplines. More precisely, practitioners are advised to monitor NWOM, and react with strategic attitude shifts towards customers to mitigate negative outcomes when evidence is unaccounted for. Furthermore, a transparent actualization of corporate accountability may help to train employees in customer service but also managerial staff to grasp the underlying processes of decision making and to detach individual accountability from a more collective interpretation of corporate accountability.

There are limitations to our study. First, we investigated only a small sample which ref ects a snapshot of corporate communication in social media. Choosing Twitter, however, has proven to be helpful to identify NWOM, as this social media platform is predestined for customer service. Prospectively, it is imperative to investigate a larger data base among different companies to better distinguish nuances inside NWOM and respective responses. Second, we are aware of the weaknesses of sentiment analyses. However, as we utilized the technique primarily to create a meaningful sample, our results sparsely rely on the accuracy of this method. Third, rail-based public transportation companies such as the Deutsche Bahn represent a rather “toxic industry”, which heavily attracts NWOM. Here, customers might

act based on past experiences. This might affect the transferability of our results to other sectors. Moreover, the fact DB holds a quasi-monopolistic position in Germany, the effectiveness of accountability strategies might be affected by customers sometimes not having a choice to choose an alternative.

Further research is needed to address interpersonal differences in corporate communication concerning NWOM. Interdisciplinary research may shed light on the question how corporate accountability is intertwined with individual identity and how this linkage is mediated by technology. Moreover, we call for research informed by hypothetico-deductive methodologies to test our propositions about the accountability strategies. Cross-sectoral studies and those involving multiple frms might investigate whether there are differences between f rms from "toxic industries" and other frms regarding their use of accountability strategies and their effectiveness in different markets.

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