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Legitimation Strategies as Valuable Signals in Nonfinancial Reporting? Effects on Investor Decision-Making

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Abstract

Companies disclosing negative aspects in sustainability reports often employ legitimation strategies to present mishaps in a favorable light. In incentivized experiments, we find that nonprofessional investors divest from companies with a negative sustainability-related incident, and that symbolic legitimation (which only evasively explains a negative incident) is not a strong enough signal to counter this divestment behavior. Even substantial legitimation (which reports on measures and behavioral change) mitigates the divestment decisions only if the company reports on concrete remediation actions in morally charged situations, such as social or environmental incidents. We elaborate these results in light of signaling and screening theory, and suggest the conceptual extension of "costly signals" to what we call "valuable signals." We argue that valuable signals need be not only costly for the sender from an economic perspective but also perceived as appropriate by the receiver from a noneconomic perspective.

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Sustainability reporting[1] has become a mainstream issue in corporate disclosure (KPMG, 2015; Shabana, Buchholtz, & Carroll, 2017), and standard setters, such as the Global Reporting Initiative (GRI, 2016), call for a balanced and unbiased presentation of a company's sustainability performance. Furthermore, an increasing number of sustainability reports are externally assured by independent auditors (KPMG, 2015). These trends increase the pressure to provide a true picture of a company's sustainability performance (similar to Amer, 2018), including negative aspects. Other than in the area of financial reporting with its usually legally binding rules following the International Financial Reporting Standards (IFRS) and other accounting frameworks; however, the rules for nonfinancial disclosure are usually less strict. There are mostly no mandatory standards defining the exact content or procedures for sustainability disclosure. Companies referring, for example, to the widespread and detailed GRI standards are free to adapt their reporting content and procedures as the application of the standards is voluntary. The few legally binding rules on the disclosure nonfinancial information, such as the European Directive 2014/95/EU, are usually very broad and vague so that they allow for significant leeway in what and how to report.

Thus, if companies are free to decide what (not) and how to report, they find themselves in a dilemma. A company voluntarily disclosing negative incidents risks its perceived legitimacy if, depending on the perceived severity of the incident, the disclosed incidents are not in line with society's expectations for corporate behavior and performance (Chan & Milne, 1999; Deegan & Rankin, 1996). However, if a negative incident is not proactively disclosed, but is uncovered by independent third parties (such as nongovernment organizations or whistleblowers), this could lead to a public backlash and threaten corporate legitimacy (Reimsbach & Hahn, 2015; Våland & Heide, 2005). In other cases, the disclosure of a negative sustainability-related incident is not entirely voluntary, for example, when a negative sustainability performance could translate into a negative financial performance and an increased stock market risk (Bansal & Clelland, 2004). But even then, companies' disclosure is only loosely regulated, due to the missing binding standards prescribing the exact content or procedures. Against this background, companies use

various legitimation strategies when they voluntarily and/or mandatorily disclose negative sustainability-related incidents to accommodate the pressure of increased sustainability transparency in cases of negative disclosure and "to mitigate the risk of a public backlash following the disclosure" (Hahn & Lülfs, 2014, p. 412).

Although considerable attention has been paid to the presence and content of legitimation strategies (e.g., Lindblom, 2010; Merkl-Davies & Brennan, 2007; Suchman, 1995), less effort has gone into identifying the effectiveness of such strategies. Their relevance in, for example, corporate social media responses (Rim & Song, 2016) and crisis management (Vanhamme & Grobben, 2009) has only recently been discussed. Suddaby and Greenwood (2005), in general, criticized that identifying causal relationships between rhetorical action, such as companies' legitimation strategies in sustainability disclosures, and material outcomes remain empirically underexposed. They further emphasized the prominence of signaling theory in management research while challenging that "scholars have paid inadequate attention to the process by which the use of persuasive language directly affects access to resources, shapes markets, or influences performance" (Suddaby and Greenwood, 2005, p. 62). We approach this issue by shedding light on the following research question:

> How do different legitimation strategies explaining negative sustainability incidents affect investors' decision-making?

To answer this question, we conducted an incentivized experiment focusing on investment decisions of nonprofessional investors in which we manipulated the legitimation strategy chosen by the reporting company. We focus on nonprofessional investors for two main reasons. First, they have become a significant element in worldwide equity markets (Cohen, Holder-Webb, Nath, & Wood, 2011) so that their investment decisions are of practical relevance. Second, using nonprofessional investors is a resource-efficient way to gain insights into investors' sustainability-related judgment and decision-making (also see Reimsbach & Hahn, 2015). The results of this study show that these investors divest from companies with a negative sustainability-related incident, and that symbolic legitimation that only evasively explains a negative incident in sustainability disclosure is, as expected, not a strong enough signal to trigger changes in divestment behavior. However, even substantive legitimation, which reports on concrete measures and behavioral change, influenced the participants' divestment decisions only if the company reported on very concrete remediation actions in morally charged situations, such as social or environmental incidents.

With these results, we contribute to the literature in two important ways. First, we add the investor perspective to the (empirical) literature on legitimation strategies, which, thus far, has primarily focused on the perspective of the reporting company (e.g., Driscoll, 2006; Hahn & Lülfs, 2014; Hrasky, 2011), and was dominated by a conceptual rather than an empirical differentiation between symbolic and substantive legitimation strategies (Ashforth & Gibbs, 1990; Hahn & Lülfs, 2014). Second, the fact that only specific substantive legitimation strategies had an effect in certain situations was not fully in line with our expectations. Consequently, the deviations of the results from some of our hypothesized aspects on the effectiveness of legitimation strategies led us to engage in a theoretical discussion of signal effectiveness. With this, we advance signaling and screening theory by suggesting a conceptual extension of "costly signals" to what we call "valuable signals," which helps to better understand the effectiveness of legitimation strategies. The traditional take on signaling theory emphasizes the economic elements of corporate signals; we suggest extending the picture to more explicitly consider the signal's content from the perspective of the receiver screening for suitable information, and from a noneconomic perspective. With a "valuable" signal, the sender conveys information that carries meaning for the receiver in the message itself, and not merely in the costliness of the message's implementation. In the case of our experiment, nonprofessional investors (the receivers) reward the fact that companies (the senders) actively accept responsibility for negative incidents and explain how they remedy their malpractices (the signal), or in other words, the receivers regard the signals of very concrete remediation actions as "appropriate" (Coombs, 1995; Coombs & Holladay, 1996), especially in morally charged situations of social or environmental incidents. Thus, we specifically argue that the receivers' reactions in this study are as much influenced by the signal itself ("appropriateness"), as by the signaling circumstances ("costly"), which together form the value of a signal for both sides: the sender of the signal and the receiver screening for it. We, thus, emphasize the noneconomic elements of corporate signals.

The rest of the article proceeds as follows. We begin by reflecting on the current knowledge of legitimation strategies in sustainability reporting in the topical literature. Then, we explore the perceptions of these legitimation strategies in a prestudy. Subsequently, we present the main study with experimental evidence for the relevance of legitimation strategies in an investment context. Finally, we discuss the results and implications with a specific focus on our contributions to signaling theory.

Theory and Hypotheses

Signaling Through Legitimation Strategies in Sustainability Reporting

Negative sustainability incidents are a potential threat to corporate legitimacy (Suchman, 1995), because they are usually not desirable or perceived as proper in society. Well-known incidents, such as the oil spills of the BP Deepwater Horizon catastrophe in 2010 (Matejek & Gössling, 2014), the criticism of dubious working conditions at Nike's suppliers in the 1980s and 1990s (McHale, Zompetti, & Moffitt, 2007), and the Lockheed bribery scandal in the 1970s (Boulton, 1978), serve as examples. Previous literature has identified and discussed various strategies for dealing with negative incidents in corporate communication.

Scholars have discussed various strategies for *restoring* legitimacy in cases where negative incidents already caused damage to organizational legitimacy, such as in the examples mentioned above (Benoit, 1997; Cho, 2009; Elsbach, 1994; Suchman, 1995). That is, information about these incidents must have been public before restoring strategies are used. However, these strategies are not suitable for a proactive disclosure aiming at *preserving* legitimacy, when an incident has not been diffused in the broader public, but the involved company itself proactively decides to go public. In such a case, legitimation strategies are used to justify corporate actions (Lindblom, 2010; Merkl-Davies & Brennan, 2007). Several studies indicated that companies, for example, blame the external environment for bad news to influence stakeholder perceptions (Clatworthy & Jones, 2003; Smith & Taffler, 2000; Yuthas, Rogers, & Dillard, 2002). In a comprehensive empirical approach, Hahn and Lülfs (2014) derived from company sustainability reports six strategies used to proactively legitimize negative incidents (see Table 1). In general, such forms of legitimation move beyond denial and generally acknowledge the existence of the incident. From a managerial point of view, such legitimation strategies are used to mitigate potentially negative consequences of the incidents the strategies legitimize, such as a loss of reputation and/or divestments. For example, Elsbach (1994) discussed legitimation in the form of acknowledgments as a whole by distinguishing it from denial as a second option, but Hahn and Lülfs (2014) provide a fine-grained picture of corporate reporting reality, so that the identified strategies are the basis for our further discussion.

According to Hahn and Lülfs (2014), *substantive* legitimation strategies provide information on how a company introduces potentially cost-generating changes in corporate aims, structures, actions, or activities in reaction to a negative incident.

Table 1. Legitimation Strategies for Disclosing Negative Aspects in Sustainability Reports (According to Hahn & Lülfs, 2014).

Substantive legitimation	Symbolic legitimation
Corrective action: provision of ideas, intent, or measures on how to tackle or avoid the negative aspect in the future Type 1: imprecise provision of ideas, intent, or measures Type 2: concrete provision of ideas, intent, or measures	Marginalization: rendering negative aspects nonrelevant, unimportant, or negligibly Abstraction: generalizing negative aspects as being prevalent throughout (typically) a whole industry Rationalization: highlighting benefits, functions, or purposes, which excuses the negative incident or emphasizing some form of "normal" or "natural" behavior or development, which indicates an inevitable nature of the negative incident Authorization: referencing to authorities, which excuse the negative incident
Indicating facts: mentioning existence of negative aspect as neither substantive nor symbolic strategy	

Symbolic strategies, however, mainly aim at changing stakeholder perceptions without introducing substantive measures or far-reaching changes. Thus, symbolic strategies are "much less costly or difficult than developing a set of concrete actions" (Cho, Laine, Roberts, & Rodrigue, 2015, p. 82). As illustrated in Table 1, only the strategy of corrective actions provides information about substantive changes in corporate approaches dealing with a negative incident, whereas all other mentioned strategies provide evasive explanations and, thus, are symbolic. Specifically, in a corrective action Type 1 strategy, the disclosing company makes imprecise provision of ideas, intent, or measures for tackling or avoiding the negative aspect in the future, and in a corrective action Type 2 strategy, these ideas are concrete, and to the point, such that specific actions are mentioned. To the best of our knowledge, the question how investors actually react to the different legitimation strategies has not been empirically scrutinized.

Suddaby and Greenwood (2005) posited that persuasive language in such strategies can be used as a signal affecting resources, markets, performance, and so on. Signaling theory was primarily used in previous literature to explain why companies disclose a good sustainability performance to signal that they are doing well (Clarkson, Li, Richardson, & Vasvari, 2008), or in other words, the theory addresses "the deliberate communication of positive information in an effort to convey positive organizational attributes" (Connelly, Certo, Ireland, & Reutzel, 2010, p. 44). Signaling theory (as well as its "counterpart" screening theory; e.g., Riley, 2001; Weiss, 1995) suggests

that in situations of asymmetric distribution of information, one party tries to credibly convey information about itself to a second party (Connelly et al., 2010; Spence, 1973). The sustainability performance of a company can be regarded as asymmetric information, because it is difficult, for example, for parties outside the company to gain credible information about these aspects (Luo, Wang, Raithel, & Zheng, 2015). Thus, despite the focus on good sustainability performance, signaling theory can also be used to explain subtler elements of disclosure. Even a negative sustainability performance could, for example, be used to signal responsible business conduct to regulators and investors (Brouhle & Harrington, 2010) or to prevent scrutiny and possible boycotts by, for example, pressure groups (Reimsbach & Hahn, 2015). Specifically, the choice of a substantive legitimation strategy—as opposed to a symbolic legitimation strategy—might be taken as a costly signal of a firm's efforts to proactively address sustainability issues in an appropriate fashion (Cho et al., 2015), as the reporting company signals its willingness to avoid such negative incidents in the future, thus indicating lower risk.

Recent studies generally indicated that a proactive disclosure can mitigate negative effects on investor perception (Lys, Naughton, & Wang, 2015; Milne & Patten, 2002; Reimsbach & Hahn, 2015), without focusing on how this information was conveyed. Specifically, empirical studies to date have not answered the question of whether different legitimation strategies also affect decision-making in an investment-related context and, thus, whether companies can use different legitimation strategies to protect themselves against damage due to divestments, as we discuss in the following section.

Hypotheses

According to signaling theory, signals that incur costs from signalers indicate that some signalers may be more capable to cope with the associated costs than others (Bird & Smith, 2005; Connelly et al., 2010; Spence, 1973). The concept of costly signals is a key element of signaling theory (Connelly et al., 2010; sometimes even referred to as "theory of costly signaling"; e.g., Bird & Smith, 2005). This concept mainly implies that a signal possesses credence in the eyes of the receiver, if the signal is costly to implement for the sender (Connelly et al., 2010; Spence, 1973). A receiver interprets a costly signal as more credible or honest in the signaler's claim to possess a certain quality compared with a noncostly signal. However, the signaling company does not necessarily possess the underlying quality associated with the signal, in our case, the ability to sufficiently deal with the respective sustainability incident. If a company, nevertheless, "believes the benefits of signaling outweigh the

costs of producing the signal, the signaler may be motivated to attempt false signaling" (Connelly et al., 2010, p. 45), in which the signals do not correlate well with the signaler's unobservable quality (Busenitz, Fiet, & Moesel, 2005; Zhang & Wiersema, 2009).

Symbolic legitimation can be regarded as such a misleading signaling, as this type of legitimation provides a vague explanation, and does not disclose information about concrete measures and behavioral changes as a response to a negative incident. Instead, symbolic legitimation deals evasively with the respective incident by building organizational façades (Cho et al., 2015) through which companies might try "to resist substantive change to business-as-usual" (Tregidga, Milne, & Kearins, 2014, p. 478). Consequently, signaling through symbolic legitimation might not correlate well with the signaler's true but unobservable quality to sufficiently deal with the respective sustainability incident. If, however, the receiver of the signal nevertheless believes that the signal correlates well with the signaler's true but unobservable quality, false signals might still be effective. Previous research in other domains, however, has illustrated that signal receivers are not easily deceived by such vague signals (Lee, 2001). Building on arguments from screening theory, receivers discount such signals, which they deem inappropriate to serve their information needs (Riley, 2001; Sanders & Boivie, 2004). Symbolic legitimation strategies may even diminish credibility if they are perceived as simple excuses. Given that information about negative sustainability performance in an investment context may per se induce divestments (Chan & Milne, 1999), we expect that symbolic legitimation is an ineffective signal and will not be able to countervail this effect. Therefore, we posit the following:

> **Hypothesis 1 (H1):** Symbolic legitimation of a negative incident has no mitigating effect on the divestment decision compared with the indication of facts.

Substantive legitimations are more costly to implement than symbolic strategies as they tie up resources in dealing with the disclosed incident. From an economic perspective, substantive legitimations should, thus, be effective signals as their costliness increases credence in the eyes of the receiver. In an investment-related context, substantive legitimations fulfill the needs of the receivers (in our case, investors) of risk mitigation through proactively dealing with a pressing sustainability incident. Consequently, substantive legitimations should be better suited than symbolic legitimations to influence investors' decision-making (for the role of legitimacy in stakeholder decision-making, also see Puncheva, 2008).

Hummel and Schlick (2016) showed that companies with superior sustainability performance engage in high-quality sustainability disclosure to signal their superiority to the market, and we argue that a substantive legitimation strategy is such a form of high-quality disclosure. The signal sent by the substantive legitimation has two quality components: First, it is a signal that sustainability matters to the firm, addressing investors' sustainability concerns. Second, it is also a signal of general competence in dealing with problems and incidents. Thus, it is a signal to investors who consider sustainability information solely from a (financial) risk and return perspective. In both cases, the substantive legitimation of an incident should increase the propensity to invest or to remain invested in the firm in which the incident occurred.

Moreover, we argue that the notion of the costliness of a signal also illustrates differences in the corrective action strategy (Type 1 vs. Type 2). Receivers of the information might subjectively perceive the concrete Type 2 actions as more costly than the Type 1 actions, so that the receivers assign different perceived strengths (Lee, 2001; Park & Mezias, 2005) to the signals. In particular, nonprofessional investors might be more easily able to monetarize a concrete action, such as compensation, compared with a less concrete measure, such as improved monitoring. Therefore, the interpretation of the signal by the receiver—and thus its effectiveness—might differ from the intended meaning of the signal as deployed by the sender (Connelly et al., 2010). Furthermore, a corrective action Type 1 might be more difficult for people outside the respective company to observe, compared with a corrective action Type 2. Gomulya and Mishina (2017) suggest from a screening theory perspective "that when the credibility of the signaler is compromised, stakeholders may shift their relative reliance to signals that are less susceptible to errors and manipulations because signaler credibility affects signals differently" (p. 579). We argue that the concrete actions illustrated in a corrective action Type 2 strategy are an example of such less susceptible signals. A corrective action Type 1 message, however, tends more to decouple and, thus, is perceived as less credible by the receiver (Bromley & Powell, 2012; Connelly et al., 2010; Hahn & Lülfs, 2014; Jain, 2017). In sum, the impact of a costly signal in the form of a corrective action Type 1 CA signal might be lower than that of a corrective action Type 2 CA signal. Thus, we expect per se a countervailing effect of substantive legitimation strategies on negative incident-related divestment tendencies. However, we also expect subtle differences in the corrective action strategies. Consequently, we hypothesize the following:

Hypothesis 2 (H2): Substantive legitimation of a negative incident in the form of a corrective action Type 1 has a stronger mitigating effect on the

divestment decision compared with the indication of facts than a symbolic legitimation.

Hypothesis 3 (H3): Substantive legitimation of a negative incident in the form of a corrective action Type 2 has a stronger mitigating effect on the divestment decision compared with the indication of facts than a corrective action Type 1.

Method

There is increasing evidence that investors consider nonfinancial criteria when making investment (or divestment) decisions (see, for example, Busch, Bauer, & Orlitzky, 2016). Thus, to investigate to what extent the different legitimation strategies mitigate divestments from a company in which a sustainability-related incident occurred, we conducted an incentivized experiment, in which participants had to trade off information about incidents, financial returns, and legitimation strategies.

Prestudy on Perceptions of Legitimation Strategies

In a prestudy, we tested the impact of different legitimation strategies on potential investors' attitudes toward the reporting entities' disclosure in an online survey using semantic differentials. The aim of this prestudy was twofold: First, we used it as an ex ante manipulation check for our main study, the incentivized experiment. For legitimation strategies to (potentially) have an effect on investment decisions, the strategies must be perceived as different in the first place. Only then, they can be effectively manipulated in an experimental setting. We deliberately placed the manipulation check in a prestudy, to avoid confounding effects and inducing reactions due to the demand effect in the main experiment. Second, the prestudy also allowed us to test whether the conceptual classification into symbolic and substantive legitimation strategies introduced above is empirically reproducible and, thus, appropriate as the manipulation for the main experimental study. Table 2 illustrates the scenarios in this pretest with legitimation strategies for incidents in the themes of environment, society, and governance for major or minor incidents, respectively.

The survey was conducted with 587 students[2] in business-related programs at several German universities and anticipated the participant structure of the main study. To capture perceptual differences regarding the company's reporting behavior, we chose the semantic differential method (Osgood, 1964). Respondents evaluated fictive excerpts from corporate sustainability reports that contained the incident and the legitimation strategy following

Table 2. Incident Scenarios and Legitimation Strategies.

Theme	Scenario	Legitimation strategies
Environment	In an incident in the production, a *small amount (500 L)/large amount (500,000 L)* of crude oil was spilled uncontrolled into the environment.	Indicating facts: *No further statement beyond the incident was given* Marginalization: This was a singular incident, which is negligible when looking at our entire company. Abstraction: Similar incidents occur regularly in the entire industry. Rationalization: This was inevitable, because we recently increased our production capacity, which is initially difficult to monitor. Authorization: A scientific study shows that an incident of this type and extent will not have long-term consequences for the ecological environment. Corrective action: As a consequence, we immediately increased our monitoring efforts and further improved the processes through supernumerary quality audits.
Social	There was a *small number (five cases)/a significant number (50 cases)* of child labor as defined by the UN Convention on the Rights of the Child in the value chain.	Indicating facts: *No further statement beyond the incident was given* Marginalization: These were singular incidents, which are negligible when looking at our entire value chain. Abstraction: Similar incidents occur regularly in the entire industry. Rationalization: This was inevitable, because we recently increased our production capacity, which is initially difficult to monitor. Authorization: Governmental officials confirm that incidents of this type and extent will not have long-term consequences for the development of the children. Corrective action: To avoid future incidents, our internal control mechanisms have been strengthened. We will provide the affected children with education.
Governance	In the course of the expansion in Asia, unauthorized payments of *insignificant value (€10,000)/significant value (€1,000,000)* were made directly to government officials.	Indicating facts: *No further statement beyond the incident was given* Marginalization: This was a singular incident, which is negligible when looking at the entire revenues in the region. Abstraction: Similar incidents occur regularly in the entire industry. Rationalization: This was inevitable, because new business areas are initially difficult to monitor. Authorization: Scientific studies show that the type and extent of such payments will not have long-term consequences for the proclivity of corruption in the region. Corrective action: As a consequence, we contracted an independent auditor for investigations and extended the internal incentive schemes, which aim at avoiding such misconduct.

Note. Minor and major versions of the incident included in italics.

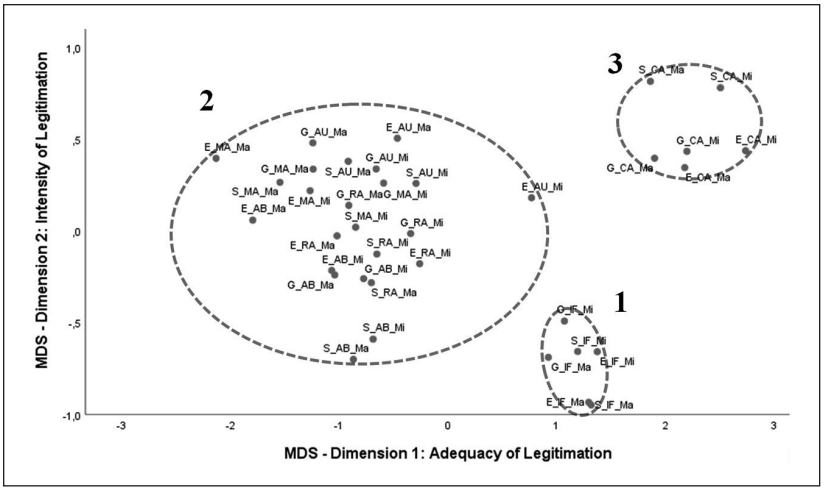

Figure 1. Perceptions of legitimation strategies.
Note. The first letter indicates the theme, for example, "E" for environment, the second letter indicates the strategy (see next sentence), and the third letter indicates the magnitude of the incident, "Mi" for a minor incident and "Ma" for a major. The abbreviations for the legitimation strategies are as follows: IF = indicating facts; MA = marginalization; AB = abstraction; RA = rationalization; AU = authorization; CA = corrective action.

nine criteria.[3] We aggregated the evaluation for each of the nine criteria and used multidimensional scaling (MDS) to obtain information about (dis)similarities in participants' perception of the reports. We inquired into the number of latent dimensions underlying the evaluations and into the positions of each report in the space constituted by the latent dimensions (see Borg & Groenen, 2005; Kruskal & Wish, 1978).

Results indicated that a two-dimensional solution is the optimal trade-off between the number of dimensions and the stress involved by this solution.[4] As illustrated in Figure 1, an MDS positions objects—in this case, the reports—in a multidimensional space, based on how similar they are.

For Dimension 1, the two extremes are depicted by the corrective action strategy for a minor incident (CA_Mi) and the marginalization strategy for a major (MA_Ma) incident. Given the scaling of each criterion from a positive to a negative verbalization, participants seemed to consider the corrective action strategy the best and the marginalization strategy the least favorable option. Marginalizing the incident is perceived to be even worse than just reporting it by indicating facts. Thus, we denote Dimension 1 as "Adequacy of Legitimation," that is, the extent to which the respective strategy is considered satisfactory for legitimizing the relevant incident. On

this dimension, the symbolic legitimation strategies clearly differ from the substantive strategy.

Dimension 2 stretches from the indicating facts strategy to the corrective action strategy. Given this pattern, the content of Dimension 2 seems to be legitimation in a narrow sense. Reports that indicate facts merely disclose what happened without putting any further effort into excusing or explaining the incident. All other reports somehow include a legitimation, even if it seems to be a symbolic explanation. Thus, we denote this dimension as "Intensity of Legitimation."

In sum, three types of legitimation strategies can be distinguished (see Figue 1): (1) indicating facts as a basic disclosure strategy without any specific legitimation efforts, (2) a cluster of symbolic legitimation strategies, and (3) corrective action as a substantive legitimation strategy. Furthermore, for the substantive legitimation of corrective action, it seems as if the legitimation in the case of the social incident is perceived as different in terms of the intensity of the legitimation, compared with the environmental and governance incidents. These results mirror the (qualitative) insights provided by Hahn and Lülfs (2014), as the legitimation includes some form of direct compensation for the incident caused by the company only for the social incident disclosure ("We will provide the affected children with education"; see Table 1). Thus, the strategies E_CA and G_CA represent abstract corrective action Type 2 legitimations; strategy S_CA represents a concrete corrective action Type 1 legitimation.

Overall, the results of this prestudy empirically emphasized the necessity to differentiate between symbolic and substantive legitimation approaches, as discussed in previous work (Ashforth & Gibbs, 1990; Hahn & Lülfs, 2014; Hrasky, 2011; Kim, Bach, & Clelland, 2007; Milne & Patten, 2002). Thus, we now turn to the question whether investors take legitimation strategies into account when making investment decisions.

Experimental Task and Manipulations

As the main study, we conducted a laboratory experiment, in which participants made three subsequent and independent investment decisions with real money at stake.[5] In each of the three decisions, participants had to allocate a budget of "virtual" €3,000 (equaling €3 in real money) between the stocks of two companies. The participants were informed up front that the three investment decisions were independent from each other, which was further represented by differently denoting the randomly presented pairs of two companies as "Companies 1 and 2," "Companies A and B," and "Companies I and II." Participants were also informed that each investment decision

would influence their payoff (apart from a guaranteed show-up fee of €3), and that the investment could increase and decrease depending on the ex ante unknown future development of the stock prices. Furthermore, participants were informed that future stock prices in the experiment would be based on an algorithm incorporating all available information about the investments.

Thus, this setup mirrored a real-life situation in which investors also do not know ex ante how exactly a negative sustainability-related incident and the corresponding disclosure are perceived by the market, so that they have to make decisions based on the investors' own considerations. Although we were interested in the reaction to legitimation strategies, participants' considerations might also have been influenced by trade-offs among the risks (influenced by the nature and magnitude of the incident, and the legitimation as a signal of [in]competence; also see Bundy, Pfarrer, Short, & Coombs, 2017) and the expected financial returns. Therefore, the experimental design disentangled these factors by controlling for the effects of financial return, as well as the nature and magnitude of the incident.

The investment decision—that is, the allocation of the budget between the two companies—was the dependent variable. When studying determinants of investments, two types of decisions may be examined: the decision to invest based on the information available and the decision to adjust an investment when new information becomes available. As we were interested in the effect of upcoming information (i.e., a negative sustainability-related incident), we chose a design in which participants make an initial investment decision, which they could revise in response to the information about incidents and legitimations they were then given (for this sequential proceeding, also see Brown-Liburd, Cohen, & Zamora, 2018).

At the beginning of each of the three investment rounds,[6] participants were explicitly informed that the two companies were from the same country and industry and had an ex ante identical risk profile. Furthermore, the participants received information about the initially expected returns of the two company stocks. Then, the participants were asked to allocate their budget between the two companies by placing a slider on a 13-point scale that linked the two companies as end points (t_1 in Table 3). In this way, the participants set an anchor based solely on financial considerations without additional sustainability-related information. After this initial investment decision, participants received an extract from the corporate sustainability report (t_2). Companies use sustainability reports as a relatively structured channel of information to explain their sustainability management and performance. Thus, this mode of information self-disclosure is suitable for analyzing a company's legitimation strategies and their influence on nonprofessional

Table 3. Experimental Setup and Manipulations.[a]

	First company	Second company	Sequence
Expected return	5%	*10% /3 0%*	t_1
Initial investment decision	100% First company	50% / 50%	100% Second company
Incident ("Environmental scenario")	Company I had no negative sustainability-related incidents in the last fiscal year.	Company 2 had an incident in which *5,000/500,000 L* of crude oil were spilled uncontrolled into the environment.	t_2 (three consecutive and independent investment decisions, one for each scenario; random order of scenarios as well as random allocation of magnitude of incident manipulation and of legitimation strategy manipulation)
Incident ("Social scenario")	Company I had no negative sustainability-related incidents in the last fiscal year.	Company II had *5/50 cases* of child labor as defined by the UN Convention on the Rights of the Child in the value chain.	
Incident ("Governance scenario")	Company A had no negative sustainability-related incidents in the last fiscal year.	Company B made unauthorized payments of *€10,000/1,000,000* directly to government officials in the course of the expansion in Asia.	
The company writes in its annual report:	"There were no negative sustainability-related incidents in the last fiscal year."	*Indicating facts*: The company reports the incident. *Symbolic, substantive Type 1, substantive Type 2*: The company reports the incident ("indicating facts") and adds one of the legitimation strategies. *For legitimation strategies, see the respective scenario in Table 2*[b]	
Revised investment decision	100% First company	50% / 50%	100% Second company

[a]Manipulations are highlighted in italics.

[b]For the substantive corrective action strategy, Table 2 includes a Type 1 strategy for the environmental and for the governance incident and a Type 2 strategy for the social incident. The additional Type 2 legitimations add the following substantive reasoning to the text of a Type 1 legitimation: for the environmental case, "We are carrying out renaturation measures to completely repair the damage caused"; and for the governance case, "We also support a local organization that is actively engaged in the fight against corruption with an amount equal to the amount of the illicit payments." The additional Type 1 strategy for the social case does not include the measure of providing education for children and, thus, reads "To avoid future incidents, our internal control mechanisms have been strengthened."

investors' decisions. After receiving the additional information, participants could revise their decision based on their updated expectations. In this setup, we manipulated three aspects: (a) the legitimation strategy used, (b) the initially expected return spreads between the two companies, and (c) the nature and magnitude of the reported incident. Before the final experiment, we conducted an incentivized pretest with 45 participants, which helped to test the payout, and led to minor changes in the final experimental design and material, as presented below:

1. Based on the results from the prestudy, we expect that investors may infer from the legitimation strategy a signal of (in)competence. We used the two extremes of corrective action (divided into Type 1 and Type 2), and marginalization as manipulations for substantive and symbolic legitimation strategy, respectively, as well as indicating facts as a baseline option for a company that merely discloses an incident, but does not legitimize it any further. Each participant made three investment decisions (one each for the environmental-, social-, and governance-related themes in random order) and, thus, received a subset of the potential legitimation strategies.
2. The ex ante expected return (i.e., before presenting any sustainability information in t_1) for the first company (without incident) was always lower than for the second company, for which an incident was reported later. The underlying rationale was the following: If the ex ante expected returns were identical, and given the ex ante identical risk profile, investing in the first company in t_2 (where no incident was reported) would be the dominant alternative for a rational risk-averse investor, according to the dominance principle. Furthermore, although many people claim to value sustainable and responsible business conduct, it seems that few investors are willing to make a trade-off between financial returns and ethical concerns (Berry & Yeung, 2013; Rosen, Sandler, & Shani, 1991). To provide indications of how much larger an expected return needs to be to outweigh other considerations, such as sustainability issues, we included two different spreads of expected returns for the two companies, as manipulations (5% for Company 1/A/I vs. 10% or 30% for Company 2/B/II; see Table 3, first row; these spreads were pretested as mentioned above).
3. The nature of the incident concerned prominent examples of environmental, social, or governance issues. We chose to include all three types, because investors may, for idiosyncratic ethical reasons, decide against investing in companies where an incident of a certain nature occurred. For instance, an investor with a highly ethical persuasion

may refuse to invest in a company where cases of child labor have occurred, regardless of the return offered by the investment opportunity. The very same investor may be more tolerant of environmental incidents or incidents resulting from poor organizational governance. The sequence of the themes in the three investment decisions was randomized to avoid order effects.[7] Furthermore, as a negative incident of a larger magnitude is presumably more severe and, thus, has a greater impact on the company's performance than that of a smaller magnitude, we included this aspect as another manipulation (minor vs. major incident).

In summary, a round in the experiment was defined by the nature and magnitude of the incident, the spread in the expected return between the two companies, and most importantly, the legitimation. Following the decisions, participants could comment on the reasons for their decisions. The participants who commented on their decision-making regularly referred to the three manipulated factors. This qualitative ex post manipulation check is in line with the results of our ex ante manipulation check included in the prestudy as illustrated above so that we are positive that the manipulations were successful. The experiment concluded with questions about demographics and personal values in the domains of corporate social responsibility, risk acceptance, and social desirability, which were used to test the success of the randomization. After the experiment, participants were debriefed and remunerated. Participants' individual payoffs were calculated based on the algorithm that simulated the market mechanism for the companies with and without incidents. Table 3 illustrates the overall experimental setup.

Sampling and Participants

Following previous experimental research on financial and nonfinancial disclosure (Elliott, Hobson, & White, 2015; Elliott, Jackson, Peecher, & White, 2014; Reimsbach & Hahn, 2015), we used students in advanced business-related programs at three German universities as participants. Although student participants are not always a suitable target group, they have been shown to be a good proxy for reasonably informed nonprofessional investors (Elliott, Hodge, Kennedy, & Pronk, 2007). Libby, Bloomfield, and Nelson (2002) even caution against the use of professionals, unless it is necessary to achieve the research goal. Using student participants, thus, provides a resource-efficient way to gain insights into the investment behavior of nonprofessional investors, who have become a significant element in worldwide equity markets (Cohen et al., 2011).

In the experiment, 359 students (52% male) participated (average age of 22.6 years and about 1 year of work experience, typically in the form of an internship), with an equal distribution of about 90 participants per condition, who received information about the incident only (indicating facts) or about symbolic (here, marginalization) or substantive legitimation (differentiated in corrective action Type 1 and Type 2). We tested the success of the randomization by running logistic regressions using membership in a particular experimental condition as the dependent variable, and demographics as explanatory factors. In the case of the symbolic condition, participants were slightly older than those in all other conditions. However, age was irrelevant for the decisions made. All experimental conditions were independent by design.

Results

To test our hypotheses, we apply regression analysis. Due to the inherently different content of the three incident scenarios (environmental, social, and governance), we report separate regressions for each theme. The calculated effects for our manipulations are, thus, conditional on the theme.[8] As we are interested in the countervailing effect of the legitimation strategies on an incident-related divestment decision, a statistical model that simultaneously allows to compare the initial with the revised investment is needed. Comparing the intercepts of a regression analysis and observing the regression coefficients estimated for the manipulations allow for such evaluations so that we report unstandardized regression results. Methods for interval scales can be used, because the dependent variable in all analyses is the allocated investment amount on a 13-point scale.

Before turning to the test of hypotheses, we first analyze participants' initial investment decision before receiving information on the sustainability-related incident. We find that in all scenarios, this decision is predominantly guided by the expected return, as can be seen from the average investments of 10.26, 10.10, and 10.20 in the environmental, social, and governance "Initial" columns in Table 4, respectively (1 = *fully invested in the first company*, 13 = *fully invested in the second company*). The budget is almost fully invested in the company with higher expected returns.

We then assessed whether a negative incident per se led to a divestment from the company in which the incident occurred. The answer can be obtained from comparing the intercept-only models in Table 4. The "Revised" column gives the decision after participants received the information about the incident and the legitimation, pooling all experimental conditions. In all three cases, the incident led to a divestment from the reporting company, compared

Table 4. Regression Analysis of the Effects of Negative Incidents and Legitimations on Investment Decisions.

Incident theme	Environment			Social			Governance		
Variables[a]	Initial	Revised	Strategy	Initial	Revised	Strategy	Initial	Revised	Strategy
Return_high			0.537			0.334			1.311***
			(1.534)			(0.906)			(3.769)
Incident_major			−0.890**			0.479			−0.041
			(−2.577)			(1.302)			(−0.119)
Symb_Strategy			0.190			−0.433			0.188
			(0.387)			(−0.834)			(0.383)
Sub_Strategy_Type1			0.188			0.424			−0.037
			(0.386)			(0.808)			(−0.075)
Sub_Strategy_Type2			0.840*			1.091**			0.123
			(1.701)			(2.091)			(0.247)
Constant[b]	10.262***	7.323***	7.205***	10.095***	6.521***	5.842***	10.192***	7.415***	6.720***
R^{2c}	.000	.000	.035	.000	.000	.033	.000	.000	.040
N	359	359	359	359	359	359	359	359	359

(continued)

Table 4. (continued)

Note. *t* values in parentheses.

[a]The variables report differences in investment allocation on a 13-point scale between Company 1 (without incident) and Company 2 (with incident) as follows (see Table 3):

- "*Return_high*" comparing a high (30%) vs. a low (10%) expected return for Company 2.
- "*Incident_major*" comparing a major vs. a minor incident.
- "*Symb_Strategy*" comparing a symbolic legitimation strategy with the baseline scenario of indicating facts.
- "*Sub_Strategy_Type1*" comparing a substantive legitimation strategy of Type 1 with the baseline scenario.
- "*Sub_Strategy_*Type2" comparing a substantive legitimation strategy of Type 2 with the baseline scenario.

[b]Gives the constants in the regression analyses, indicating the baseline average investment allocation between Companies 1 and 2 on a 13-point scale (1 = fully invested in Company 1, 13 = fully invested in Company 2). The baseline average is given for the following constellations:

- "*Initial*": average allocation among Companies 1 and 2 before any information on incidents and legitimation strategies was provided.
- "*Revised*": revised average allocation after information on incident and legitimation strategy was provided. No information on the magnitude of the incident, the return, or the legitimation given was taken into account in the analysis.
- "*Strategy*": revised average allocation after information on the incident and legitimation strategy was provided, and when information on the specific nature of the magnitude of the incident, the firm, or the legitimation was taken into account in the analysis. In this constellation, the constant refers to the average allocation found among participants who were presented with a minor incident, low return, and received no legitimation at all.

[c]R^2 in the intercept-only models ("Initial" and "Revised") is necessarily zero. We only estimate the intercept, which gives the mean for this constellation and allows to see how the decisions change on average. As we have no explanatory variables in these models, there is no explanatory contribution.

*$p < .1$. **$p < .05$. ***$p < .01$.

with the initial investment made in t_1. The average investment decreased, from initially 10.26, 10.10, and 10.20 in all three decisions before the incident was presented to 7.3, 6.5, and 7.4 (environmental, social, and governance incidents, respectively). *T* tests indicate that all reductions are statistically significant ($p < .001$). This finding is not surprising, as the only change from t_1 to t_2 was the occurrence of a negative incident. Nevertheless, this analytical step and the confirming results are important for our further analysis, because it shows that participants reacted to the given information in the expected direction (i.e., with a divestment), which is a prerequisite for analyzing the potential influence of different legitimation strategies. The results, in particular the difference in the magnitude of the response, indicate that participants saw and treated the themes (i.e., environmental, social, and governance) differently, and the effects of the incidents and legitimations are conditional on the theme.

To disentangle participants' consideration and trading off of information about incidents, returns, implied risks, and legitimations, we regressed the participants' second decision (i.e., the revised investment decision) on the experimental manipulations of this experiment, asking how changing from one experimental condition to the other (i.e., specific information about the financial return, the magnitude of the incident, and the type of the legitimation given) affects the decision. Although the incident's theme matters, as shown above, we see a statistically significant effect ($p < .05$) of the incident's magnitude only for the environmental scenario ("Incident_major" row in the "Strategy" column in Table 4). A major environmental incident led to a divestment from the company where this incident occurred, compared with a minor incident by −0.89 points on the 13-point scale. In the two other themes, the investment behavior of the participants in the major incident condition does not differ statistically significantly from that of the participants in the minor incident condition. We can conclude that participants reacted primarily to the very existence of an incident and its theme, but much less to its magnitude. Furthermore, the expected return partly equalizes participants' tendency to divest in response to the incident (see Table 4, the "Return_high" row in the "Strategy" column). In the case of a higher expected return for the outperforming company, the divestment from this company in reaction to the reported incident is slightly smaller compared with the case of lower return differences among the two companies. Although this effect is present in all cases, it is statistically significant ($p < .01$) only for the governance case (a difference of 1.311 on the 13-point scale; see "Return_high" row in the "Strategy" column in Table 4).

We now turn to the test of our hypotheses. In H1, we expected the symbolic legitimation of a negative incident to have no mitigating effect on the

divestment decision compared with the mere indication of facts, which provides no legitimation. Given the observed divestment effect of the negative incident illustrated above, thus, a symbolic legitimation should not counterbalance this effect. The analysis in Table 4 confirms that this is the case, as the coefficients for "Symb_Strategy," which indicate differences compared with the baseline strategy of indicating facts (i.e., no legitimation), are small, and not statistically significant in any scenario ($p > .1$).

H2 stated that a substantive legitimation in the form of a corrective action Type 1 should have a stronger mitigating effect on the divestment decision compared with the indication of facts than a symbolic legitimation. However, similar to symbolic legitimation ("Symb_Strategy"), we determine again that the coefficients are not statistically significantly different from zero ($p > .1$, see the "Sub_Strategy_Type1" row in Table 4). Thus, the effect of a substantive Type 1 legitimation strategy is not different from giving either a symbolic or no legitimation at all, and H2 is not supported.

H3 predicted that a substantive type legitimation strategy has a mitigating effect on the divestment decision compared with the indication of facts, and that this effect is stronger than the effect of a substantive Type 1 legitimation. The analysis shows a differentiated picture. For the governance scenario, again, a Type 2 strategy has no effect compared with the baseline strategy of indicating facts (i.e., no legitimation), as the coefficient is small, and statistically not significant ($p > .1$, see the "Sub_Strategy_Type2" row for the governance scenario in Table 4). For the environmental ($p < .1$) and social ($p < .05$) incident cases, however, there is a positive and statistically significant coefficient, indicating that this form of legitimation compensates the divestment effect of the negative incident by about 1 point on the 13-point scale (0.840 in the environmental incident case and 1.091 in the social incident case). Consequently, this strategy has a stronger mitigating effect on the divestment decision than giving no or symbolic legitimation in these two scenarios. Thus, H3 is partly confirmed.

Finally, participants could provide comments after they made their investment decisions. Overall, 25% of the participants who received legitimation also actively referred to it when commenting on their investment decision. Rerunning our analysis with this subsample yielded qualitatively equivalent results to those stated above[9]: Only the substantive Type 2 strategy matters, but only in the environmental and social incident cases.

In addition, the qualitative answers provide further insights into the aspects of risks and ethics. Around 40% of the participants mentioned expected risks as a reason for their decision. Unsurprisingly, these participants were statistically significantly more likely to divest from this company. Participants who mentioned ethical considerations influencing a particular decision reduced

their investment in the company with the incident to a larger degree than those who did not mention anything. In line with the results above, the reference to ethical considerations is theme specific: In the case of the governance incident, only 16% mentioned ethical considerations. This share was higher in the case of the social incident (30%) and the environmental incident (23%). In sum, the additional qualitative analysis emphasizes the quantitative results, and indicates that the experimental manipulations were (either consciously or unconsciously) considered by the participants.

Discussion

The results of the prestudy showed that substantive legitimation strategies are perceived as more adequate in reacting to the respective incident than symbolic strategies, which is in line with Ashforth and Gibbs (1990), who distinguished theoretically between substantive and symbolic practices. More recently, Hahn and Lülfs (2014) and Hrasky (2011) empirically illustrated the existence of different strategies in the area of sustainability-related reporting from the perspective of the reporting company. Adding an investor perspective to these findings, the results of the prestudy empirically confirm that the different strategies are also perceived as different in their meaning. When these initial perceptions are compared with actual investment behavior in the main study, however, some relevant differences surface.

The incentivized experiment showed that participants reacted to the reporting of negative incidents with divestments from the respective company. Furthermore, and in line with H1, the results showed that symbolic legitimation is not a strong enough signal to mitigate this divestment tendency. As expected, symbolic legitimation was apparently not perceived as a costly and informative signal (Cho et al., 2015; Connelly et al., 2010). However, in our experiment, even substantive legitimation mitigated the divestment tendency only in specific cases despite the pronounced perceived differences unveiled in the prestudy. Contrary to the expectations in H2, a substantive Type 1 legitimation (i.e., the general, albeit imprecise, disclosure of actions related to the negative incident) did not have a statistically significant mitigating effect on the divestment decision, so that in the study setting, the disclosure was not different from giving either a symbolic legitimation or no legitimation at all. Furthermore, substantive Type 2 legitimation (i.e., describing very concrete actions; in this case, for example, providing education for children in the social incident) had a mitigating effect on the observed divestment tendency in two cases (i.e., related to social and environmental incidents), which partly confirmed H3. In the following, we propose an

extension of signaling theory, by enhancing the concept of costly signals with the element of appropriateness of the signal, to explain these results.

First, the ineffectiveness of substantive Type 1 legitimation (in this case, improved internal control mechanisms, monitoring efforts, quality audits, etc.) might be due to difficulties for unexperienced and nonprofessional investors in evaluating and verifying the signals' content. The scope and consequences of the measures are difficult for laypeople to comprehend, which adds considerable noise to the signal (Gomulya & Mishina, 2017). This noise (in our case, the complexity of the signals content from a layperson's perspective) might have led to a discounting of the costliness of the signal during the screening process of the participants. Consequently, "if actions insiders take are not readily observed by outsiders, it is difficult to use those actions to communicate with receivers" (Connelly et al., 2010, p. 45), and the substantive Type 1 legitimation signal is not more effective than symbolic legitimation.

Beyond this, we add another explanation for the ineffectiveness of substantive Type 1 legitimations, as well as for the ineffectiveness of a substantive Type 2 legitimation in the governance case in this experiment. In all cases of a substantive Type 2 legitimation, we can assume that the respective actions mentioned in the legitimation (i.e., providing education for children, repairing the environment, and donating bribe money) are similarly observable and comprehensible even for nonprofessional investors. Thus, we argue that the (different) nonprofessional investor reactions are driven not only by elements of the signal in the legitimation but also by the nature of the incident itself.

A key point in signaling and screening theory is that the information receivers "stand to gain . . . from making decisions based on information obtained from these signals" (Connelly et al., 2010, p. 45). Usually, such a gain is assumed to be a personal (and economic) gain, for example, "shareholders would profit from buying shares of companies that signal more profitable futures . . . [or] customers would gain from purchasing goods and services that are associated with signals of high quality" (Connelly et al., 2010, p. 45). In the case of nonprofessional investors, an underlying assumption of the hypotheses was that substantive legitimation reduces the perceived risks associated with the respective investment, because the actions described in this strategy could mitigate potential consequences resulting from the negative incident (Bansal & Clelland, 2004). Apart from a risk perspective, however, the gain for information receivers could also have a moral dimension. Educating children otherwise struck by poverty and repairing the damaged ecological environment are morally charged issues (Lamin & Zaheer, 2012; Menzel & Wiek, 2009), which might provide a noneconomic gain to

nonprofessional investors in terms of a positive feeling when they remain invested in the respective company. A company donating money to offset damage from corruption, however, might not be perceived as an important moral issue for most nonprofessional investors, because corruption or bribery is often still perceived as a "victimless crime" (Ruggiero, 2001). Many people do not see the larger consequences of a complex topic such as corruption, especially when they were not previously exposed to its consequences themselves (Friesenbichler, Selenko, & Clarke, 2017), as can be assumed for most participants in this experiment.

These differences in the perception of the social and environmental versus the governance incident also surfaced in the participants' qualitative answers. The added moral value of providing education for children or of cleaning up oil spills was large enough for the participants to have a statistically significant effect on their divestment decision. However, the potential costliness of the signal alone was not sufficient to induce changes in divestment behavior, as illustrated by the ineffectiveness of substantive Type 1 legitimation strategies. Thus, we doubt that the costliness of a signal for the signal sender alone, as put to the focus by the traditional signaling theory, adequately captures and explains the entire behavior of the participants in this experiment. Taking again the perspective of screening theory, even a costly signal might not be worth much for the sender, if the receiver does not appreciate the core content of the information (apart from its characteristic of being costly). Gomulya and Mishina (2017) illustrate how stakeholders "adopt a rather sophisticated approach to utilize quite wisely any information that can be extracted from a signal, and change their decisions if needed" (p. 555), and the signaling and screening literature indicates that receivers give different weight to signals depending not only on the signal itself but also on other factors (Connelly et al., 2010). We suggest that the normative interpretation of (a) the signal from the perspective of the receiver (providing education to children vs. donating for anticorruption causes) and (b) the related signaling circumstances (child labor vs. corruption) are such factors.

Therefore, we suggest complementing the concept of costly signals with the issue of the perceived appropriateness of signals, as discussed in the crisis communication literature (for an overview, see Bundy et al., 2017). Crisis communication is similar to our topic, insofar as one stream of the related literature focuses on stakeholder perceptions of a crisis during the crisis management stage. Scholars have developed different typologies that capture organizations' responses to crisis events, which are similar to the legitimation strategies on which this article builds. Crisis communication focuses on ad hoc communication following an incident (Bundy et al.,

2017), but our setting focuses on regular (usually annual) communication channels (as in sustainability reporting). Despite these different backgrounds, there are certain similarities between the two literature streams, so that borrowing ideas from crisis management might help in the interpretation of the present results. Crisis response studies, such as those by Coombs (1995) and Coombs and Holladay (1996), focused on the question under what circumstances a certain response strategy is perceived as "appropriate." The appropriateness of the signal (i.e., the response strategy) is mainly derived from psychological arguments and, thus, lies in the eyes of the signal receiver. Although this perspective is clearly helpful, as it moves the focus toward the signal receiver, it falls short of incorporating the economic dimension of costliness, as in the traditional signaling approach. Thus, we propose a new perspective on signaling, by combining elements from traditional signaling theory and crisis communication.

We suggest thinking of "valuable signals" in legitimation strategies as a combination of costly signals and appropriate signals. Ramaswami, Dreher, Bretz, and Wiethoff (2010) described signal strength as how important, or salient, the signal is for the *signaler*. Consequently, the costliness of the signal takes the sender's perspective and asks how easy or difficult (i.e., costly) it is for the sender to truly implement the signal. We now build on Ramaswami et al.'s (2010) argument and extend it to the *receiver* of the signal. We argue that valuable signals also need to be perceived as appropriate by the receiver, from a noneconomic perspective. Referring back to the substantive Type 1 and Type 2 legitimation strategies in this study, both strategies are costly for the sender to implement, as the measures imply resources to be devoted to managing the respective incidents. However, only substantive Type 2 legitimation strategies were further perceived as adequate by the receivers, in the case of the social and environmental incidents, so that these strategies represented what we call "valuable signals."

Finally, although we see our main contribution on the theoretical level, these results also reveal insights that are relevant to corporate practice. The concept of "valuable signals" that we introduce, is, for example, important for companies and their managers aiming to legitimize negative incidents in their corporate reporting. Here, the reporting company (the "sender") should be aware that only such valuable signals can potentially prevent or mitigate divestments from the company. These explanations on the effectiveness of signals also imply a shift in managerial attention to the investor base, as the receiver of the legitimizing disclosure. Because the noneconomic appropriateness lies in the eye of the receiver, managers are called to pay close attention to the characteristics and potential differences in the investor base, so that costly signals will also be perceived as appropriate.

Conclusion

In this article, we address the effects of legitimation strategies in corporate disclosure as a reaction to negative sustainability-related incidents in an investment-related context. The results of a prestudy, an online survey using semantic differentials, indicate that participants distinguish between substantive legitimation strategies (which report on concrete measures and behavioral change) and a set of symbolic legitimation strategies (which only evasively explain a negative incident in sustainability disclosure). The following incentivized experiment, however, showed that even costly signals of substantive legitimation strategies do not necessarily influence the investment behavior of nonprofessional investors. We argue that this (missing) effect is due to a missing element in some substantive legitimation strategies, and we suggest expanding the concept of costly signals in signaling theory to what we call "valuable signals" by adding the perceived appropriateness of the respective signals from the perspective of the receiver of the signal. Overall, the present study contributes to a more fine-grained picture of the immediate perception and the more distant investment-relevant effects, of legitimation strategies, leading to interesting deliberations on the cost and appropriateness, as two elements of the value of signals.

Future research could build upon these insights and scrutinize further aspects of the signaling environment. The present studies, for example, specifically focused on the signal itself (i.e., the legitimation strategy) and the reactions of the signal receivers (i.e., nonprofessional investors) in a comparably realistic, yet still artificial, setting. Due to possible confounding effects, it will be difficult to move beyond the setting of an online or laboratory experiment. If this were possible, however, it would be interesting to analyze similar effects of legitimation signals in the setting of a natural experiment, or in event studies. Furthermore, future studies could focus on the characteristics of the signaler or the signaling environment, which we kept constant or hidden in this setup. For example, organizational characteristics (such as firm size, visibility, market position) or environmental characteristics (such as industry affiliation, peer performance, or interfering signals) might have a moderating influence on the effectiveness of certain signals (see, for example, Schreck & Raithel, 2018).

Further opportunities for future research lie in the element of signal receivers. The small group of "ethical" investors (see, for example, Friedman & Heinle, 2016; von Wallis & Klein, 2015) in this sample was even willing to invest—or to stay invested—in a company that acted proactively when dealing with a negative incident, knowing that this might decrease their financial return. For this group, the strength of the substantive Type 2 signal might

have been even higher than for the other participants (see, in general, also Branzei, Ursacki-Bryant, Vertinsky, & Zhang, 2004). Future research could build upon theoretical concepts from psychology, to scrutinize whether and how such different perceptions are influenced, for example, by behavioral determinants at the individual level (see, for example, Koonce, Seybert, & Smith, 2011, for initial suggestions of such theoretical avenues).

Finally, some methodological thoughts are in order. Previous research often indicated an influence of legitimation strategies on different outcome variables. Milne and Patten (2002), for example, showed in an experimental study that legitimation, in general, has a positive influence on an organization's legitimacy, and Kim et al. (2007) found differences in the effects of various legitimation strategies. We found such effects on the perceived adequacy of different legitimation strategies in the prestudy, as well. The studies by Milne and Patten (2002) and Kim et al. (2007), as well as this prestudy, however, did not focus on an investment decision context. Furthermore, Milne and Patten (2002) conducted a *non*-incentivized experiment that could be prone to intention–behavior gaps at the participant level (Sheeran, 2002). In the present main study, subsequent effects on investment behavior materialized only in certain cases and forms, as discussed above. These results illustrate the importance of the specific perspective of the research question, and a corresponding research method, when looking at these results.

The present findings come with several limitations. We have to acknowledge that it is not very common to formulate and test a null effect (as in H1). However, it best fits our theoretical considerations to expect the absence of an effect: in our case, the absence of a divestment mitigating effect of symbolic legitimation (compared with the indication of facts). We still encourage that the associated interpretation should be treated with caution. Furthermore, we characterize a "valuable" signal as one which carries meaning for the receiver in the message itself, and not merely in the costliness of the message's implementation. From a receivers' perspective, this "value" may by rooted in different factors, which we cannot completely disentangle given the design of our study. We thus encourage future research to delve more deeply into the factors that make signals valuable from a receiver's perspective. Also, with regard to the design and methods applied, experimental designs such as ours specifically aim at internal validity, which often comes at the cost of external validity. In this case, the amount of information provided to the participants was limited to avoid confounding factors, and to limit the participants' cognitive effort. In real-life investment decisions, the amount of information processed by potential (nonprofessional) investors is usually much more extensive, reducing the relative attention paid to each piece of information. Furthermore,

although sustainability reports provide a relatively structured channel of information for companies, this form of communication might not be the primary source of information for potential investors. Nevertheless, corporate legitimation strategies can, for obvious reasons, be examined only by evaluating company self-disclosures, because other channels, such as external reports on the companies, would not mirror corporate rhetoric, but outsider rhetoric, which was beyond the scope of this research. Finally, although business students are regularly used as proxies for nonprofessional investors, we cannot make any claims beyond this group, for example, when discussing the investment behavior of professional investors.

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Notes

1. Companies use terminology, such as sustainability, corporate social responsibility (CSR), corporate citizenship, for their nonfinancial reports. In this article, we consider sustainability (reporting) and CSR (reporting) as congruent concepts, and use only the term "sustainability reporting."
2. Two hundred fifteen, 188, and 184 respondents for the environmental, governance, and social incident situations, respectively.

3. We adapted the standard set of criteria used in psychology (Osgood, 1964; Osgood, Suci, & Tannenbaum, 1957) for a rational evaluation of a situation and (firm) behavior: credible versus noncredible, honest versus dishonest, factual versus nonfactual, competent versus incompetent, ethical versus unethical, objective versus subjective, transparent versus nontransparent, concrete versus vague, and proactive versus reactive. Each was measured on a 5-point scale.
4. Stress and r^2 are the two "standard of fit" measures used in multidimensional scaling (MDS) analyses. The measures for the solutions are as follows: for the three-dimensional solution, the stress was .0294, and r^2 was .995; for the two-dimensional solution, the stress was .063, and r^2 was .982; and for the one-dimensional solution, the stress was .184, and r^2 was .902.
5. Approval had been granted by the host institutions.
6. Before entering the three experimental rounds, participants made an investment decision in a training round that did not affect the final payout, to familiarize themselves with the setup.
7. Each participant received a different incident in each of the three investment rounds. Overall, each incident was equally often presented first, second, or third in the sequence.
8. We ran a set of further interactions (untabulated), for example, splitting the sample once more, also in groups with high or low ex ante expected return, or a major versus minor incident. The results show that this does not significantly affect the findings we obtain, which is why we limited the analysis to the interaction between theme and our further manipulations.
9. The significance levels, however, were lower, due to the much smaller size of the subsample.

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