The Impact of Perceived Greenwashing on

Customer Satisfaction and the Contingent Role of Capability Reputation

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ABSTRACT

We investigate the impact of perceived greenwashing on customer satisfaction. Unlike prior research that largely examines customer perceptions associated with irresponsible behavior, we focus on cases where firms overcommit and/or do not deliver on promised socially responsible actions. We theorize that this type of greenwashing is associated with lower customer satisfaction because customers perceive greenwashing through the lens of corporate hypocrisy. Using data from the American Customer Satisfaction Index (ACSI) for U.S. companies during the period 2008–2016, we document a negative link between perceived greenwashing related to green product innovation (GPI) and the ACSI index. We demonstrate that this effect is primarily triggered by corporate policies exceeding the corresponding implementation actions and not by lower levels of implementation. We also show that a firm's capability reputation mitigates the negative effect of greenwashing on customer satisfaction. Moreover, we conduct an experiment and provide evidence confirming that GPI greenwashing is in fact perceived by customers as corporate hypocrisy.

Corporate social responsibility (CSR) has become a key dimension of corporate strategy (Durand, Hawn, & Ioannou, 2019) and has been linked to superior financial performance (e.g., Eccles, Ioannou, & Serafeim, 2014; Flammer, 2015; Khan, Serafeim, & Yoon, 2016). Importantly, stakeholders often recognize and reward good corporate citizens and punish misbehaving ones. In the case of customers, the literature finds that CSR initiatives influence customer-related outcomes (Bhattacharya & Sen, 2004; Luo & Bhattacharya, 2006) including consumer product responses (Brown & Dacin, 1997), customers' product attitude (Berens, van Riel, & van Bruggen, 2005), and customer satisfaction (Kassinis, 2012; Kassinis & Soteriou,

2003). These are reflected in surveys on environmental, social, and governance (ESG) issues, where consumers indicate that "companies should be actively shaping ESG best practices" and that "*corporate actions matter more to them than words*" (emphasis added).[1] Customers' overall awareness of and sensitivity towards CSR issues is on the rise for reasons that include the proliferation of information intermediaries that rate companies in terms of their ESG performance and media reporting that influences customers' perceptions of the authenticity of implementation of CSR objectives (Gershoff & Frels, 2015).

Growing anecdotal evidence strongly suggests that customers often approach CSR objectives with skepticism. Broadly, a long literature focuses on understanding the (negative) impacts of Corporate Social *Ir*responsibility (CSI) whereby a company does something harmful towards a stakeholder as, for example, in the cases of environmental disasters and corruption scandals (e.g., Strike et al., 2006; Kang et al., 2016; Alcadipani et al., 2020; Zhong et al., 2021). In a context in which most firms communicate both their CSR policies *and* their actions, other research considers the interplay between the two and the negative consequences of a gap between them, something which is referred to as perceived greenwashing (e.g., Berrone et al. 2017; Nyilasy et al., 2014; Parguel et al. 2011).[2]

Greenwashing has been attributed to a variety of factors (Guo et al., 2017) and scholars have highlighted the need for more research on this topic. The literature has mainly focused on perceived greenwashing whereby a firm's words or actions are perceived as irresponsible or scandalous. Examples include misleading advertising or communication (Chen and Chang, 2013), misleading financial disclosures, or actions that mislead regulators (Wagner, Lutz, & Weitz, 2009; Wagner, Korshun, & Troebs, 2020). However, in this research, it is difficult to distinguish whether negative stakeholder reactions are due to a firm's behavior or due to its

failure to deliver on its promises. In this study, therefore, we aim to decipher the net effect of the gap between firm policies and actions on customers. To that end, we do not consider cases associated with scandal or irresponsibility but focus on cases where firms overcommit or do not deliver on promised socially responsible actions. We argue that this distinction is meaningful. Customers may be indifferent as to whether a company is meeting its objectives as long as its actions do not directly harm them, or they may even be more willing to tolerate greenwashing because targets could take time to implement. In other words, greenwashing is typically characterized by a high degree of uncertainty around corporate intentions and impacts and, as a result, its effect on customers and customer satisfaction is more nuanced compared to cases of CSI. Here, we focus on understanding the impact of greenwashing on customer satisfaction, when perceptions of greenwashing are generated by a customer-facing CSR policy–implementation gap.

In addition to making the distinction outlined above, we also theorize that greenwashing will negatively affect customer satisfaction because it is perceived by customers as corporate hypocrisy (Wagner et al., 2020), a "belief that a firm claims to be something it is not" (Wagner et al., 2009: 79). This adds value to the existing literature which has not sufficiently answered *why* greenwashing impacts customer-related outcomes (e.g., Gosselt et al., 2019; Nyilasy et al., 2014; Parguel et al. 2011; Szabo & Webster, 2021).

Moreover, we explore firm heterogeneity in terms of how a company's reputation for capability may interact with greenwashing to drive the effect on customer satisfaction. Relatedly, some studies find that firms receive positive evaluations only if their CSR actions are consistent with their reputation (Schuler & Cording, 2006; Servaes & Tamayo, 2013) and negative evaluations if their CSR communications are perceived to be inconsistent with the firms' actual

behavior along the same dimensions (Wagner et al., 2009). The corporate image projected through CSR must be aligned with the firm's overall brand and reputation (e.g., Brammer & Pavelin, 2006; Du et al., 2007; Skard & Thorbjørnsen, 2014) to lead to positive customer outcomes. That is why we also explore the role of capability reputation in the relationship between perceived greenwashing and customer satisfaction.

In our empirical analysis, we focus on green product (or service) innovation (GPI) given that GPI is of high salience to customers and has direct implications for product (or service) characteristics and performance (Barnett, 2012).[3] Through panel data analysis, we find that the higher the level of GPI greenwashing, the lower the level of customer satisfaction. We further show that this effect is triggered by corporate policies that exceed the corresponding implementation actions, i.e., for a given level of implementation, the more corporate policies surpass implementation levels, the lower customer satisfaction is. Moreover, we show that a firm's capability reputation dampens the negative impact of perceived greenwashing on customer satisfaction. Complementary experimental analysis offers internal validity to our main results by demonstrating that (a) customers are highly likely to be aware of the gap between GPI policies and implementation, and (b) that this type of greenwashing is in fact perceived as corporate hypocrisy.

Overall, our study contributes to the literature in at least three ways. First, we contribute to the greenwashing literature by proposing a nuanced model of whether and how perceived greenwashing negatively affects customer satisfaction through the mechanism of corporate hypocrisy. Importantly, we do so by focusing on cases where firms overcommit or do not deliver on promised socially responsible actions and unlike most prior literature, do not consider cases associated with causing harm such as a scandal or explicitly irresponsible behavior. Moreover,

we identify an important factor that moderates this relationship – capability reputation – and answer the question of whether it can buffer or intensify the negative effects of greenwashing on customer satisfaction.

Second, we contribute to the broader literature on the link between CSR and competitive advantage by focusing on a primary stakeholder for all firms – i.e., the customer – and by identifying conditions under which perceived failure to implement CSR policies harms customer satisfaction. We focus on the CSR context exactly because the underlying mechanism of corporate hypocrisy is arguably more salient for CSR initiatives: companies typically adopt such policies to meet the expectations of their stakeholders and to generate long-term value. We show that when customers perceive a gap between policies and implementation, companies' efforts to build closer ties with their material constituencies can be undermined (Janney & Gove, 2011).

Third, by presenting both archival as well as experimental evidence, our study constitutes a bridge between the prior experimental and survey literature and the emerging empirical literature on perceived greenwashing.

THEORETICAL DEVELOPMENT

Customer Satisfaction and Corporate Social Responsibility (CSR)

The literature defines customer satisfaction as an overall evaluation of the customer's total purchase and consumption experience with a good or service over time (Anderson, Fornell, & Mazvancheryl, 2004; Luo & Bhattacharya, 2006). It is a central driver of a firm's financial performance and its market value (Gruca & Rego, 2005) and as such, it is a strategic focus for companies (Anderson et al., 2004). The current consensus in the literature is that higher customer satisfaction is associated with higher levels of customer loyalty (e.g., Heskett et al., 1994), which, in turn, enhances corporate profitability through increased sales or decreased customer

acquisition costs (Rust et al., 1995). Moreover, firms with satisfied customers tend to benefit from positive word of mouth (Szymanski & Henard, 2001), increased customer willingness to pay premium prices (Homburg, Koschate, & Hoyer, 2005), and higher levels of cash flows (Gruca & Rego, 2005). Taken together, these studies find that firms with more satisfied customers enjoy superior performance and higher market valuations.

The link between CSR and customer satisfaction is explored in the literature through a variety of theoretical lenses and several arguments have been proposed for why and how a firm's CSR initiatives lead to higher customer satisfaction. Some studies suggest that customers are likely to be more satisfied with the products and services of socially responsible firms because they perceive and evaluate a firm's actions not only as economic agents but also as members of a community. They act as "generalized customers" who are members (or potential members) of other stakeholder groups (e.g., a family, a local community, or a country) that companies also need to consider (Daub & Ergenzinger, 2005; Luo & Bhattacharya, 2006).[4] Another stream of research explores the notion of customer–company identification (Bhattacharya & Sen, 2003; 2004) and finds that CSR increases the likelihood that customers would develop a sense of connection with a socially responsible company. Therefore, corporate engagement with CSR may positively influence customers' evaluations of and attitudes towards a firm (Brown & Dacin, 1997; Sen & Bhattacharya, 2001) and thereby, generate superior customer satisfaction.

Perceived Greenwashing and Customer Satisfaction

According to the literature, companies respond to stakeholder expectations in heterogeneous ways, by considering the salience of the issue at hand and the net costs and benefits of mobilizing resources to address it (Durand et al., 2019). Therefore, firms also differ in how they execute, support, and exploit CSR initiatives (Sen & Bhattacharya, 2001; Wickert, Scherer, &

Spence, 2016). Meanwhile, a plethora of anecdotal evidence suggests that customers are increasingly perceiving a gap between CSR policies and implementation as greenwashing and a manifestation of corporate hypocrisy (Crilly, Zollo, & Hansen, 2012; Wagner et al., 2009; 2020). As early as 2009, the media exposed several instances of "green hypocrisy" by companies including General Electric, DuPont, Dow Chemical, and General Motors[5]. In an exclusively experimental setting, Wagner et al. (2009) find that customers can detect organizational acts of hypocrisy and view them with ire (Carlos & Lewis, 2018; Janney & Gove, 2011). Corporate hypocrisy may lead to increased media scrutiny and backlash from activists (Carlos & Lewis, 2018) especially when hypocritical acts take place after negative events or perceived wrongdoing (Zavyalova et al., 2012).

We argue that perceived greenwashing will hurt customer satisfaction because of perceptions of corporate hypocrisy, even when scandal or irresponsibility are not involved. Specifically, we suggest that greenwashing would not only fail to meet customers' expectations as economic agents, leading to negative external judgments of the firm and its products, but it would also fail to meet their expectations as members (or potential members) of various *other* stakeholder groups, such as family, community, or country (Daub & Ergenzinger, 2005; Luo & Bhattacharya, 2006). This implies that negative external judgments of perceived corporate hypocrisy are likely to be amplified because of customers' multiple and concurrent memberships to various stakeholder groups; an argument that is consistent with the idea of them acting as "generalized customers".

Moreover, perceived greenwashing can generate an unfavorable context that negatively affects customers' evaluations of, and attitudes towards, the firm. In fact, given that perceived value is a key antecedent to customer satisfaction (Fornell et al., 1996; Mithas, Krishnan, &

Fornell, 2005), we argue that when a company is seen as hypocritical, customers are likely to derive less (perceived) value from its products and services which, in turn, will be associated with lower customer satisfaction. Taken together, these arguments imply that:

> *Hypothesis 1 (H1): Perceived greenwashing will be negatively associated with customer satisfaction.*

Perceived Greenwashing as Negative Character Reputation

Greenwashing as well as a firm's overall reputation are based on customers' generalized perceptions and experiences with the firm's practices, products, and services. Yet there are nuances in terms of how exactly greenwashing may relate to different *types* of corporate reputation. Therefore, in this section, we investigate these nuances and how they may impact customer satisfaction. More specifically, we explore whether and how reputation for *capability* (due to higher product quality or/and higher innovation capacity) interacts with perceived greenwashing – which we conceptualize as negative *character* reputation - to affect customer satisfaction.

To build our argument, we first note that the literature defines organizational reputation as the collective, stakeholder group-specific assessment regarding an organization's capability to create value based on its characteristics and qualities (e.g., Mishina, Block, & Mannor, 2012; Rindova et al., 2005). Reputation is established through both direct and vicarious observation of organizational characteristics, actions, and outcomes (Deephouse & Suchman, 2008; Fombrun & Shanley, 1990) and serves a critical role by enabling stakeholders to gauge the probable outcomes of interacting with a particular company (Mishina et al., 2012; Weigelt & Camerer, 1988). Prior work finds that the corporate image projected through CSR must be aligned with the firm's overall brand and reputation (e.g., Brammer & Pavelin, 2006; Du et al., 2007; Schuler &

Cording, 2006; Skard & Thorbjørnsen, 2014). If that is not the case, then it is less likely that customers will respond to the CSR effort, even if they are fully aware of it (Servaes & Tamayo, 2013).

Importantly, work by Mishina et al. (2012) argues that once the socio-cognitive processes that shape the formation of organizational reputations are accounted for, we can distinguish between two different types of reputation: (a) *capability reputation* which describes "collective evaluations about the quality and performance characteristics of a particular firm," and (b) *character reputation*, which refers to "collective judgments regarding a firm's incentive structures and behavioral tendencies based on observations of its prior actions" (Mishina et al., 2012: 460). In this sense, character reputation "reflects the degree to which a firm is known for integrity and trustworthiness" (Park & Rogan, 2019). A key insight from this work is that stakeholders, including customers, value each type of reputation differently depending on the nature of the uncertainty they face: for example, Park and Rogan (2019) show that even though both capability and character reputation can buffer firms from negative outcomes following adverse events, their effects differ for potential and current exchange partners. As such, capability reputation is more relevant when a firm is facing a lemons problem whereas character reputation is more relevant when a firm is facing a moral hazard problem (Park & Rogan, 2019).

In the context of green product innovation, we argue that customers care about an organization's ability to produce high-quality and/or innovative products (i.e., capability reputation) but they also care about whether the company is acting with integrity and how trustworthy it is in terms of implementing its declared green policies and commitments (i.e., character reputation). In this sense, we argue that greenwashing reflects *negative* character reputation because perceptions of corporate hypocrisy directly undermine a company's

trustworthiness and negatively impact customers' perceptions of a company's integrity. As a result, the key question becomes whether and how capability reputation interacts with negative character reputation due to greenwashing to affect customer satisfaction. Equivalently, we ask whether capability reputation can act as a buffer when a company suffers a blow to its character reputation or, in contrast, whether such a blow could undermine a company's capability reputation. Existing literature does not provide sufficient theoretical guidance to answer this question and there are arguments to support a negative as well as a positive interaction. Therefore, we outline both arguments, posit a bi-directional hypothesis, and empirically estimate the net effect.

On the one hand, a buffering type of argument (e.g., Love & Kraatz, 2009; Pfarrer, Pollock, & Rindova, 2010) would imply that capability reputation could positively moderate the negative impact of greenwashing (equivalently, negative character reputation) on customer satisfaction. Companies with superior capability reputation benefit from more attractive identities that customers are willing to associate with (Bhattacharya & Sen, 2003) and therefore, capability reputation can act as a buffer against a potential loss of trustworthiness and integrity. For example, satisfaction may be less impacted when customers are happy with the quality and innovativeness of a product even if they perceive the company to be hypocritical due to not achieving its declared environmental standards. This argument is consistent with the idea of the "generalized customer": *negative* evaluations by a customer due to perceived greenwashing as a member of the local community (e.g., because she cares about the local ecosystem), may be buffered by *positive* evaluations by the same customer as an economic agent (e.g., because of higher product quality or innovativeness).

On the other hand, capability reputation could also negatively moderate the relationship between greenwashing and customer satisfaction. This is because a higher level of capability reputation may attract a higher level of attention and scrutiny of a company's products and services by customers, thus increasing the likelihood that greenwashing will be detected and that, as a result, a company's reputation for trustworthiness and integrity (i.e., its character reputation) will suffer. Similarly, a higher level of capability reputation may generate higher overall customer expectations – including expectations of character reputation – which are then not met and in fact, are violated (Bettencourt, et al., 1997) because of perceived greenwashing. In other words, a higher level of capability reputation could exaggerate the salience of unmet customer expectations of trustworthiness and integrity (i.e., of character reputation), thus leading to even lower levels of customer satisfaction when the company fails to meet such expectations. Accordingly, we formulate the following two hypotheses:

Hypothesis 2a (H2a): Reputation for capability positively moderates the association between perceived greenwashing and customer satisfaction.

Hypothesis 2b (H2b): Reputation for capability negatively moderates the association between perceived greenwashing and customer satisfaction.

DATA AND METHODS

Sample and Data Collection

We construct our sample of U.S. publicly traded firms using information from multiple sources. We obtain customer satisfaction data from the American Customer Satisfaction Index (ACSI) (e.g., Fornell et al., 2016), which has been developed and is maintained by the National Quality Research Center at the University of Michigan. ACSI, using a multiple-indicator approach, is the only cross-industry measure of overall customer satisfaction at the firm level for U.S. B2C

companies. It is recognized by researchers (e.g., Hult et al., 2017; Luo & Bhattacharya, 2006) as a consistent and reliable data source because it employs the same questions, random sampling, and estimation modeling across firms and years (Fornell et al., 1996). To construct the index, roughly 180,000 customers are surveyed each year on various indicators that capture overall satisfaction (as an aggregate construct). The resulting index is general enough to be comparable across firms, industries, and sectors.[6] In the few cases that the ACSI database includes multiple scores for a specific company (due to multiple brands associated with it), we average the corresponding scores to obtain an aggregate ACSI score at the firm level (for more details see Appendix A (Table A2)).

We collect data on green product innovation and other CSR data from Thomson Reuters' ASSET4, a database used and validated in recent studies (e.g. Hawn & Ioannou, 2016). ASSET4 provides objective, auditable, and consistent CSR data, gathered from publicly available sources by specially trained analysts. Typical information sources include stock exchange filings, annual financial reports, annual sustainability reports, and NGO websites. Finally, we collect accounting and financial data from WorldScope.

After merging the above databases, we arrive at our final sample of 202 U.S. companies with available data for the period 2008–2016 and 1,299 firm-year observations. On average, each firm appears in the panel for 6.4 years. To assess any potential selection bias that may arise from the merging of these databases, we compare the 202 firms included in the sample with the remaining companies with available customer satisfaction data (ACSI Index) for the same period. A t-test indicates that the average customer satisfaction score for the two groups of firms does not differ significantly (ACSI score=76.89 [sample firms] and 76.53 [non-sample firms] respectively; $F=0.25$ $p>0.10$). In addition, we found no significant differences between the two

groups on several other key variables including sales (F=0.96; p=0.33), and the number of employees (F=0.52; p=0.47). The distribution of firms across sectors is also comparable between the two groups, and therefore, the final sample is representative of the general ACSI population. Table 1 presents the distribution of observations across sectors and the average assets and number of employees by sector. Note that our effective sample in the reported panel models is 1,233 observations for 189 companies due to the use of a lagged variable in the empirical models.

********** Insert Table 1 about here **********

Measures

We discuss the construction of the main variables below. In appendix A (Table A1), we provide a detailed description (and operationalization, when applicable) of all variables used in the empirical analysis, including the associated items we used to construct them.

Dependent Variable

We measure *customer satisfaction* using the score we obtain from the ACSI database at the firm-year level. The mean *customer satisfaction* score for our sample companies is 76.89 (on a 100-point scale) with a standard deviation of 5.37 and a range of 56 to 89. During the study period, the index increased from an average value of 75.90 in 2008 to 77.74 in 2016. We also confirm that the ACSI score follows a normal distribution (Shapiro-Wilk test = 0.984, z=1.36, p>0.05).

Independent variable

To measure perceived greenwashing, we relied on how the literature defines the specific variety of greenwashing that we focus on (e.g., Lyon & Montgomery 2015) and distinguish between two components: a) policies or declarations, or claims (hereafter *policy)* and b) implementation, or actions (hereafter *implementation*). We then operationalize *greenwashing* as follows: each of the

co-authors independently evaluated the 94 data points included in the "Product Innovation" category under the environmental pillar of ASSET4 in terms of whether a particular data point referred to a declared *policy* or whether the data point captured *implementation* instead.[7] The inter-coder reliability was 88%. In the few cases of disagreement, we discussed the matter extensively and, if necessary, consulted with colleagues with relevant expertise, who were blind to the theory and hypotheses of this study, until we reached a final agreement on the classification of all data points.

We adopted a conservative approach and eliminated all data points that were based on vague or ambiguous survey questions, such as *"Does the company describe, claim to have or mention . . .?"* We did so because it was unclear whether they asked about a policy, its implementation, or both. We also excluded sector-specific data points because their applicability is confined to a very small proportion of the firms in the sample (e.g., *"Is the company developing hybrid vehicles?"*). Finally, although most of the data items have no missing values, certain data items do have a large percentage of missing values (>80%); accordingly, we dropped them from our analysis.

Out of the remaining data points, we coded two as *policy*-related (appendix A, items 1–2) and nine as *implementation*-related (appendix A, items 3–11). Of the nine *implementation*-related items, we group in a single construct the three that may be considered more general or coarse (appendix A, items 3–5). In a separate construct, we group the remaining six items that capture at a more granular level a set of more specific implementation actions. We note that all the data points are binary, in the form of "yes/no" answers; therefore, we code each as 1 or 0, respectively. The Cronbach's alpha for the two-item *policy* construct is 0.64 (with inter-item covariance of 0.09). Although relatively low, this is nevertheless an acceptable value given that

the size of alpha is directly influenced by the number of items included in the scale. Cronbach's alphas for the three-item (i.e., general) and six-item (i.e., granular) *implementation* constructs are 0.76 and 0.81, respectively. Overall, these results suggest acceptable internal consistency and reliability of these two constructs that we use to construct our main independent variable (Greene, 2003).[8]

Accordingly, we construct *greenwashing* by subtracting the *implementation* construct from the *policy* construct.[9] To illustrate, consider Staples, an American company that sells office supplies. According to ASSET4, in 2016, Staples had effective one of the two *policy* data points and one of the three *implementation* data points. Thus, the company was assigned a score of 0.5 on our *policy* construct, and a score of 0.33 for our *implementation* construct. As a result, Staples' *greenwashing* score for the year 2016 is 0.5-0.33 (*policy – implementation)* = 0.17. We note that *greenwashing* is a continuous variable: the higher the greenwashing score the larger the gap between *policy* and *implementation* that generates perceptions of corporate hypocrisy. We followed the same process to construct our alternative independent variable, *greenwashing_granular* whereby we subtract the six-item granular (rather than the three-item general) *implementation* construct from the *policy* construct.

Moderating Variable

We used two proxies to measure capability reputation.

Capability reputation (Brand Value): First, we used the natural logarithm of an ASSET4 item, namely *total value of brands,* which measures the value of a firm's brand in U.S. dollars. Brand value is an intangible asset that reflects—among other things—the capability of firms in producing quality and innovative products as perceived by external parties. According to the

ASSET4 methodology, companies with no relevant information are conservatively assigned a value of zero.

Capability reputation (FAMA): Second, we followed prior literature and used the composite score of Fortune America's Most Admired Corporations (FAMA) that captures the reputation of companies in terms of their innovativeness and product/service quality (Luo & Bhattacharya, 2006). The FAMA study surveys top executives and financial analysts to identify the companies that enjoy the strongest reputations across multiple dimensions. We used the scores of two survey dimensions, namely *innovativeness* and *quality of products and services* as indicators of the capability reputation that a company enjoys (Luo & Bhattacharya, 2006). We then calculated the average score of these two dimensions to produce the capability reputation variable (*capability reputation_FAMA*). We reverse the sign of the score in our empirical analysis given that a lower score indicates a higher ranking.

Control Variables

In all the empirical models, we include firm-fixed effects to control for time-invariant firm-level characteristics that may impact customer satisfaction. In addition, to control for negative media attention due to product-related complaints from customers, we include a variable (*Product-related complaints*) from the ASSET4 dataset that takes the value 1 if the firm is "under the spotlight of the media because of consumer complaints or dissatisfaction directly linked to its products or services," and 0 if it is not.

While we acknowledge that firm-level variables (for example, return on assets or R&D expenses) may not have a direct impact on customer satisfaction, we nevertheless include a number of them in the models given that customer satisfaction may also be seen as a performance measure. Accordingly, we control for firm size (*Size*) as a proxy for a firm's overall

visibility (Wang & Choi, 2013) and measure it as the log of total assets (Servaes & Tamayo, 2013). To capture any effects due to firms' economic performance, we include return on assets (*ROA*) as a control variable. To control for other firm-specific characteristics that could plausibly affect customer satisfaction, we include research and development expenses (*R&D*) and selling, general, and administrative expenses (*SG&A*) (e.g., Tang, Hull, & Rothenberg, 2012), both divided by sales. Because of frequent instances of missing *R&D* and *SG&A* data, we follow common practice in prior literature and conservatively replace missing values with zeros (e.g., Hawn & Ioannou, 2016). Finally, we use an aggregate z-score provided by ASSET4 to control for firms' environmental performance (*Environmental score*)[10] that essentially benchmarks the performance of a focal firm against that of the rest of the firms in the entire ASSET4 dataset.

Model Specification

To test our hypotheses, we run a series of panel regressions with both firm and year fixed effects. In all specifications, we estimate robust standard errors, clustered at the firm level, to correct for heteroscedasticity. We also add year dummy variables to correct for potential autocorrelation and to account for any factors affecting customer satisfaction that may vary over time but not across firms. Acknowledging that ACSI represents a cumulative evaluation of a firm's market offering (Fornell et al., 1996) and that the current level of customer satisfaction is heavily determined by its past level, we also include the 1-year-lagged *customer satisfaction* score as a control. The estimated model then becomes:

$$Y_{it} = \alpha_i + \gamma_t + \beta_1 GR_{it} + \beta_2 CR_{it} + \beta_3 GR_{it} \times CR_{it} + \beta_4 ACSI_{i(t-1)} + \beta_5 CTRL_{it}$$

whereby Y_{it} is *customer satisfaction* for firm *i* in year *t* and α_i and γ_t represent the firm and time fixed effects, respectively. Also included in the equation are GR (*greenwashing*), CR (*capability reputation*), their respective interactions, $ACSI_{t-1}$ (1-year-lagged *customer satisfaction*), and

CTRL (the other control variables). We note that we conceptualize and model customer satisfaction as a transaction-specific measure or evaluation of a particular product or service experience (Johnson, Anderson, & Fornell, 1995). Hence, we use contemporaneous measures of our explanatory variables. Based on this conceptualization, we argue that it is unlikely that contemporaneous customer experience with a product or service would be affected by perceptions of greenwashing from a year (or more) prior. This is consistent with several studies in the literature that typically measure customer satisfaction contemporaneously and through the use of surveys (e.g., Pérez & Rodriguez del Bosque, 2015; Mithas et al., 2005).[11]

RESULTS

In Table 2, we report descriptive statistics and correlations for all the main variables, including those used in the robustness checks. *Greenwashing* is negatively correlated with *customer satisfaction,* lending tentative support to Hypothesis 1. We reviewed the variance inflation factor (VIF) scores for all the models that we present; the values ranged from 1.01 to 3.12—much lower than the typical cutoff value of 10—indicating that multicollinearity is not a concern.

********** Insert Table 2 about here **********

Table 3 presents the main results. Model 1 includes only the control variables. Model 2 includes the direct effects of *greenwashing*. The coefficient is negative and highly significant (b=-0.900, s.e.=0.362, p=0.014), providing support for Hypothesis 1. Models 3 and 4 introduce the interaction between *greenwashing* and *capability reputation (Brand Value* and *FAMA,* respectively). Hypothesis 2a (2b) predicts that *capability reputation* positively (negatively) moderates the relationship between g*reenwashing* and *customer satisfaction*. As Models 3 and 4 show, the coefficient on the interaction term is positive and significant (b=0.069, s.e.=0.026,

p=0.009 and b=0.623, s.e.=0.200, p=0.002 respectively), providing strong support for Hypothesis 2a.

********** **Insert Table 3 about here** **********

Furthermore, to better comprehend the interplay between *capability reputation* and *greenwashing*, we perform slope analysis (Aiken et al., 1991), using the *capability reputation (brand value)* variable as moderator (see Figure 1); however, we obtain the same results by using the alternative variable *capability reputation (FAMA)*. The results show that at low levels of *capability reputation* (one standard deviation below the mean), the relationship between *greenwashing* and *customer satisfaction* is negative and highly significant (b=-1.799, s.e.=0.459, p<0.00). Interestingly, at high levels of *capability reputation* (one standard deviation above the mean), the relationship between *greenwashing* and *customer satisfaction* becomes insignificant (b=-0.232, s.e.=0.474, p=0.625). This implies that not only does *capability reputation* mitigate the negative effect of *greenwashing* on *customer satisfaction* but also, that beyond a certain point, *capability reputation* fully buffers the firm against the negative effect of *greenwashing*. In sum, the empirical analysis shows that the net effect of *capability reputation* is a positive moderation of the baseline relationship, and accordingly, Hypothesis 2b, which predicts a net negative effect, is rejected.

********** Insert Figure 1 about here **********

Robustness

Endogeneity

As with all non-experimental work, there is always a concern that endogeneity may threaten the internal validity of the statistical estimations (Antonakis, Bendahan, Jacquart, & Lalive, 2010). To empirically test for potential endogeneity effects, we adopted an instrumental variables (IV)

approach, running two-stage least squares (2SLS) fixed-effects panel models (Greene, 2003). Following previous work (e.g., Cheng, Ioannou, & Serafeim, 2014), we constructed two instrumental variables and assessed their validity and relevance. The first instrument is the average *greenwashing* score of the firms that belong to the same sector as the focal firm, after excluding the *greenwashing* score of the focal firm. The second instrument is the average *greenwashing* score of the current year for all firms excluding the *greenwashing* score of the focal firm. The results of the 2SLS panel regressions (not tabulated) show that after treating for potential endogeneity effects, our main results do not change; that is, the coefficient on *greenwashing* remains negative and statistically significant.

A second potential manifestation of endogeneity is omitted variable bias. In this respect, the inclusion of the 1-year-lagged customer satisfaction (ACSI) score as a control variable mitigates, at least to some extent, such a concern. We also implement a delta bounding methodology that is increasingly used in the literature (Oster, 2019), which allows us to estimate the proportional selection coefficient δ – an indicator of the degree of selection on unobservables relative to observables that would explain away our main findings. Specifically, using the *psacalc* Stata routine and adopting a very conservative approach in computing the statistic,[12] we derive an estimate of 0.94 (using the basic model with the direct effects; Model 2 in Table 3). This number suggests that the importance of the unobservables would have to be at least 94% greater than that of the observables to drive the effect of *greenwashing* on *customer satisfaction* to zero. The magnitude of this δ coefficient is favorably compared with previous empirical work and is very close to the typical threshold of 1 (Altonji et al., 2005). Therefore, the main estimates appear to be robust to potential omitted variable bias.

Alternative measures

We run all models using the alternative measure for perceived greenwashing, i.e., *greenwashing_granular*. The effect of *greenwashing_granular* on *customer satisfaction* is negative and statistically significant (b=-0.829, s.e.=0.365, p=0.024), providing further support for Hypothesis 1. Concerning the moderation analyses, the coefficient on the interaction term between *greenwashing_granular* and *capability reputation* is positive and significant at the 10% level of significance, (b=0.040, s.e.=0.023, p=0.089).

Long-term effects

In our model specifications, we treat customer satisfaction as a transaction-specific measure, and therefore, both dependent and independent variables refer to the same time period. To assess potential long-run effects of *greenwashing*, we run a model in which all independent variables were lagged by one year. In such a model, the effect of $greenwashing_{t-1}$ on *customer satisfaction* is still negative but marginally significant (b=-0.593, s.e.=0.348, p=0.090). Therefore, it appears that the effect of greenwashing does not last long as customer evaluations of a company likely rely on relatively recent information.

Additional Analyses

Decomposition of the main effect

Provided that our independent variable (i.e., greenwashing) measures a gap between policy and implementation, the impact on the dependent variable (i.e., customer satisfaction) could potentially be driven by either a high level of commitment or a low level of implementation. Therefore, in additional analyses, we decompose *greenwashing* into *policy* and *implementation* as a way to gain a deeper understanding of its effect on customer satisfaction. We replaced *greenwashing* with the *policy* and *implementation* variables (see the Measures section for details on their operationalization). The effect of *policy* on customer satisfaction is negative and

statistically significant (b=-1.346, s.e.=0.415, p=0.001) while the effect of *implementation* on customer satisfaction is insignificant (b=0.294, s.e.=0.510, p=0.565). The results, therefore, indicate that for a given level of implementation, the larger the gap between policy and implementation the larger the negative impact on customer satisfaction. Equivalently, this analysis confirms that the negative impact on customer satisfaction is *not* primarily driven by the implementation actions but instead, it is driven by the level of policy commitment, which is consistent with the idea of perceived greenwashing as overcommitting.

Assessing perceptions of greenwashing as corporate hypocrisy (experimental evidence)

Our archival analysis produces results that are consistent with the theoretical mechanism we suggest but do not directly measure it. We provide evidence that *greenwashing* has a negative impact on customer satisfaction, but we do not directly measure perceptions of corporate hypocrisy by customers. Accordingly, to supplement the archival analysis, we design and conduct an experiment on the Qualtrics platform with 415 participants, which we calibrate to match the archival data as closely as possible by (a) targeting the broad U.S. population as potential respondents, in line with the ACSI survey respondents and (b) applying experimental manipulations that explicitly refer to green product innovation, consistent with the way we calculate the *greenwashing* variable using the ASSET4 data (please refer to Appendix B for details about the experiment, including stimulus, manipulation checks, and measurements).

In this experiment, we present to the participants a fictitious company named "United Appliances", a U.S. manufacturing firm that produces and sells household appliances. To manipulate *greenwashing*, participants were randomly assigned to different experimental conditions, with respect to whether the green product innovation policies of "United Appliances" are implemented or not. All scenarios included a short profile of the company to make the

different scenarios appear more realistic but also, to introduce some "noise" (generated by potentially "irrelevant" or extraneous information about the company) that could disguise *greenwashing* and possibly, make it more challenging for participants to identify (as would be the case in a natural setting). Respondents then answered a series of 7-point questions that measured their perceptions about whether United Appliances acts hypocritically (*corporate hypocrisy*).

Our sample consists of 415 participants (51% male, 49% female, with equal representation across four age groups, i.e., 23-34, 35-44, 45-54, and 55+). To test the core premise of our theoretical model that customers perceive companies that do not implement their green product innovation policies as hypocritical we conducted an ANOVA with *greenwashing* treatment as the independent variable and *corporate hypocrisy* as the dependent variable. The effect of *greenwashing* on *corporate hypocrisy* is significant ($F=340.29$, $p<0.00$). That is, participants in the *High greenwashing* condition evaluated United Appliances as behaving hypocritically at significantly higher levels ($M=5.28$, $SD=1.30$) than those in the *Low greenwashing* condition ($M=2.97$, $SD=1.24$). Therefore, overall, the experimental study produced strong direct evidence that greenwashing triggers perceptions of corporate hypocrisy by customers.

DISCUSSION AND CONCLUSION

Companies often do not follow up on their declared CSR policies with implementation actions. As a result, they are perceived to be greenwashing by their customers, a primary stakeholder. We argue that this is not without consequences: we theorize and empirically show that perceived greenwashing has negative implications for customer satisfaction and, by extension, for corporate performance. Consistent with recent anecdotal evidence, our findings reveal that when greenwashing is perceived by customers, they formulate negative judgments and perceptions of

corporate hypocrisy, and as a result, they report lower levels of customer satisfaction for a company's products and services. Given that prior research shows that customers consider *both* performance-related corporate associations *and* perceived social responsibility when forming an impression of a company (Marin, Cuestas, & Roman, 2015), we also explore the role of a company's capability reputation and find that it positively moderates this relationship.

Using large-scale data as well as experimental evidence, our study develops a nuanced model of whether and how perceived greenwashing can negatively affect customer satisfaction through the mechanism of corporate hypocrisy. It contributes to the literature in a number of important ways. First, we contribute to the emerging literature on greenwashing (e.g., Berrone et al. 2017; Nyilasy et al., 2014; Parguel et al. 2011) and extend prior research that largely examines greenwashing associated with irresponsible behavior, by focusing on cases where firms overcommit or do not deliver on promised socially responsible actions. Furthermore, we decompose perceived greenwashing into its component parts and show that its negative impact on customer satisfaction is driven relatively more by firms' high level of commitment (i.e., policy) vis-à-vis the level of implementation rather than under-delivery, i.e., low level of implementation relative to the level of commitment.

Second, our findings extend the literature on customer satisfaction (Anderson et al., 2004) by identifying an important antecedent – perceived greenwashing –and the corresponding underlying mechanism (i.e., corporate hypocrisy) of customer *dis*satisfaction. In so doing, respond to calls in the literature to examine factors that increase or decrease customer satisfaction (e.g., Anderson et al., 2004; Fornell et al., 2016; Luo & Bhattacharya, 2006). In fact, our study makes an empirical contribution to the literature that has argued that hypocritical acts may sometimes be necessary or unavoidable (Brunsson, 2002; Christensen, Morsing, & Thyssen,

2013; March, 2007). Our findings enrich this conversation by showing that primary stakeholders may perceive hypocrisy irrespective of corporate intentions and importantly, that such perceptions have negative, tangible implications. This study also identifies corporate hypocrisy as an important mechanism underpinning strategic customer engagement and its role in value creation within a broader multi-stakeholder system (Jaakkola & Alexander, 2014). The key idea in our work, that the extent to which CSR impacts customer satisfaction is partially determined by how aligned CSR policies and implementation are, points future research towards exploring in a more nuanced way, and perhaps through the eyes of other stakeholders, the impact of perceived greenwashing on alternative organizational outcomes and ultimately, on competitiveness.

Third, we show that these implications are contingent upon the firms' idiosyncratic characteristics and prior strategic choices as they relate to corporate reputation. This suggests that stakeholder engagement activities are interdependent, often in complex ways, and that such interdependencies are important, to researchers and managers alike, for understanding their eventual impact on organizational performance (e.g., Harrison, Bosse, & Phillips, 2010; Hillman & Keim, 2001). Specifically, our finding that capability reputation buffers against the impact of negative character reputation on customer satisfaction highlights this interdependence but also challenges future research to explore conditions under which customers demand that firms be of *both* higher capability reputation *and* higher character reputation.

Our study has limitations that we hope will provide opportunities and impetus for future research. First, even though the ASSET4 dataset is relatively comprehensive in the CSR context and the ACSI dataset in the customer satisfaction space, both datasets somewhat limit the operationalization of our key theoretical constructs and are limited to the period of our study.

Accordingly, future research could seek to replicate our results with larger datasets, covering more time periods and/or from other countries. In fact, one could argue that in more recent years, consumer awareness of CSR actions has increased dramatically and as a result, the effects that we document in our work may merely indicate a lower bound of how negative the impact of greenwashing may have become as of late (see, for example, the 2021 PWC survey cited earlier). Future studies could also measure perceived greenwashing beyond the context of environmental product (or service) innovation and/or could use a product-specific measure of customer satisfaction as opposed to the firm-level measure we use here. In doing so, it would be useful to also explore potential cross-issue effects in terms of how perceived greenwashing on a focal issue may affect perceptions of corporate hypocrisy by the same firm but on other (CSR) issues (for example, what if a company declares an ambitious environmental policy while it simultaneously fails to implement its declared policy on a social issue) and/or draw a distinction between material versus immaterial CSR dimensions. Future work could also directly investigate the conditions under which customers may be more or less likely to detect or become aware of a gap between CSR policies and implementation.

Second, while our empirical specifications establish a robust correlational relationship between perceived greenwashing and customer satisfaction, we acknowledge the possibility of remaining endogeneity concerns that are inherent in evaluating this type of relationship. We are therefore cautious about making causal claims based on these findings but the supplementary experimental results that we obtained provide us with reasonable confidence regarding the accuracy and validity of the main results. Future studies may consider replicating our experimental findings or, better still, run field studies that may allow for direct measurement, at the level of the individual, of perceived greenwashing, hypocrisy and customer satisfaction.

To conclude, our work has empirical and theoretical implications for management scholarship: by exploring the impact of perceived greenwashing on customer satisfaction and by theorizing about and providing evidence for the underlying mechanism of corporate hypocrisy, we propose a more nuanced understanding of CSR and its implications for a critical corporate stakeholder, the customer. In so doing, we contribute to the broader literature that explores the link between CSR and corporate performance and to the literature that explores the drivers and implications of greenwashing, while suggesting, and hopefully generating, fruitful opportunities for future research.

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[1] Survey available at: https://www.pwc.com/us/en/services/consulting/library/consumer-intelligence-series/consumer-and-employee-esg-expectations.html (last accessed October 11th, 2021)

[2] In this study, we refer to greenwashing as "perceived" because we remain agnostic as to whether a company intentionally greenwashes or appears to greenwash due to other factors, such as the lack of capability to implement. Provided that our main focus is the effect on customers, what matters for our theory and empirics is how customers perceive a gap between objectives and implementation. For brevity therefore, when we talk about greenwashing in the rest of this study, we always refer to greenwashing *as perceived by customers* and not as intentioned by firms. To illustrate the distinction between CSI and greenwashing, consider the following example: CSI would be when a company is directly harming a local community by damping toxic waste in the local river while greenwashing would occur when a company states that it will achieve the highest percentage reduction in carbon emissions in its industry but in reality, it merely gets to be middle of the pack.

[3] Companies adopt a variety of environmental policies (e.g. carbon emissions reduction, etc.). Even though the gap of policy and implementation in these areas could influence how customers evaluate a

company overall, we argue that it is less likely to *directly* influence the level of customer satisfaction. This is because customer satisfaction is primarily driven by the experience of the actual consumption of a firm's products or services. Thus, greenwashing around issues that influence a product is more likely to be detected by and have an impact on customer satisfaction.

[4] Chernev and Blair (2015) find that CSR engagement may alter product perceptions, such that products of companies engaged in prosocial activities are even perceived as performing better.

[5] See https://247wallst.com/energy-business/2009/04/02/the-%E2%80%9Cgreen%E2%80%9D-hypocrisy-america%E2%80%99s-corporate-environment-champions-pollute-the-world/; accessed April 25th, 2018.

[6] More information about the ACSI index can be found at http://www.theacsi.org/

[7] Provided that ASSET4 rates companies on ESG metrics, and that such data is often sold to investors who integrate ESG in their investment decisions, there is little reason to believe that a company that has set a particular (environmental) policy will avoid or neglect disclosing how it did so (doing so may in fact lead to lower ratings and rankings, and insufficient disclosure to investors). As such, we assume that non-disclosure on performance-related items likely reflects lack of implementation of related policies.

[8] We measure GPI policy and implementation in the same year provided that customers are likely to form their contemporaneous perceptions based on the information they have available at a particular point in time. It is thus unlikely that they would have the time or be willing to exert the effort or have proper access to critical information so as to form perceptions based on a more nuanced analysis (e.g., by considering a firm's previous year's policy commitments and current year's performance at the issue level); we expect this to more likely take place for analysts or investors (e.g., Hawn and Ioannou, 2016).

[9] We also ran our main models after dropping the negative values of *greenwashing.* That is, we excluded observations where firms' implementation exceeded their stated policy. The results of this analysis (not tabulated) supported our main results with even stronger and significant effects.

[10] The *Environmental score* accounts for a long list of items, including those used to construct *Greenwashing*. Note that the items related to *greenwashing* have been manipulated (i.e., their values have been aggregated, normalized, and used in a formula) in ways that minimize any direct relationship with the overall *Environmental score* (indicatively, the correlation coefficient between the two variables is -0.11). In addition, we repeated our analyses using a 1-year-lagged *Environmental score* and our results did not change.

[11] In unreported results, and as a robustness check, we relax this assumption and run a model in which we use the *greenwashing* of the current year (*t*) and the customer satisfaction score of the following year (*t+1*). The coefficient on *greenwashing*, although somewhat smaller in size, as expected, remains negative and statistically significant at a p-value of 0.057 (b=-0.660, s.e.=0.27).

[12] As an input, the delta computation requires setting the maximum r-squared (R_{max}) that would result if all unobservables were included in the regression. This value can be determined using r-squared values of prior empirical studies as a guide or taking the r-squared from the controlled models and multiplying it by 1.3. Using a strict approach, we set R_{max} equal to 1, an extremely optimistic value given the existence of measurement errors in the outcome variable. Given that the higher the R_{max}, the lower the δ coefficient, we report a very conservative value of the δ coefficient. For example, if R_{max} were set to 0.70, the δ coefficient would be 1.48.

Table 1: Sample distribution across sectors

SIC code	Description	N	%	Assets (log)	Employees(log)
2	Manufacturing of food, tobacco, textile, apparel, lumber, paper, publishing, and petroleum products	167	12.9	16.58	10.57
3	Manufacturing of plastic, leather, concrete, metal, machinery, and equipment	203	15.6	20.13	11.42
4	Transportation, communications, electric, gas, and sanitary services	327	25.2	17.36	10.00
5	Trade	330	25.4	16.13	11.55
6	Finance, insurance, real estates	158	12.1	18.92	10.80
7	Personal, business, and entertainment services	114	8.8	15.98	9.73
	Total	**1,299**	**100.0**	**17.45**	**10.75**

Table 2: Descriptive statistics and correlations[a] (N=1,233)

	1	2	3	4	5	6	7	8	9	10	11
1. Customer satisfaction	1.00										
2. Greenwashing	-0.04	1.00									
3. Greenwashing_granular	0.02	0.60	1.00								
4. Capability reputation (Brand Value)	0.11	-0.10	0.04	1.00							
5. Capability reputation (FAMA)	0.12	-.09	-.06	0.12	1.00						
6. Product quality-complaints	-0.16	-0.03	0.04	0.21	-.01	1.00					
7. Environmental score	0.21	-0.11	0.16	0.32	-.01	0.16	1.00				
8. Size	0.01	-0.05	0.10	0.40	-.03	0.30	0.39	1.00			
9. ROA	0.14	-0.01	0.00	0.08	.01	-0.01	-0.01	-0.23	1.00		
10. R&D	0.04	-0.02	-0.02	0.22	.07	0.09	0.01	0.14	-0.02	1.00	
11. SG&A	0.11	0.00	-0.02	-0.07	0.3	-0.10	-0.15	-0.24	0.05	0.32	1.00
Mean	76.91	-0.05	0.03	10.05	-3.52	0.22	68.41	17.45	6.42	0.01	0.22
Std. Dev.	5.37	0.27	0.28	11.34	2.21	0.41	28.43	2.18	7.23	0.04	0.13
Min	56.00	-1.00	-0.67	0.00	-1	0.00	8.27	11.43	-57.15	0.00	0.00
Max	89.00	1.00	1.00	25.19	-10.5	1.00	95.20	26.27	43.23	0.27	0.87

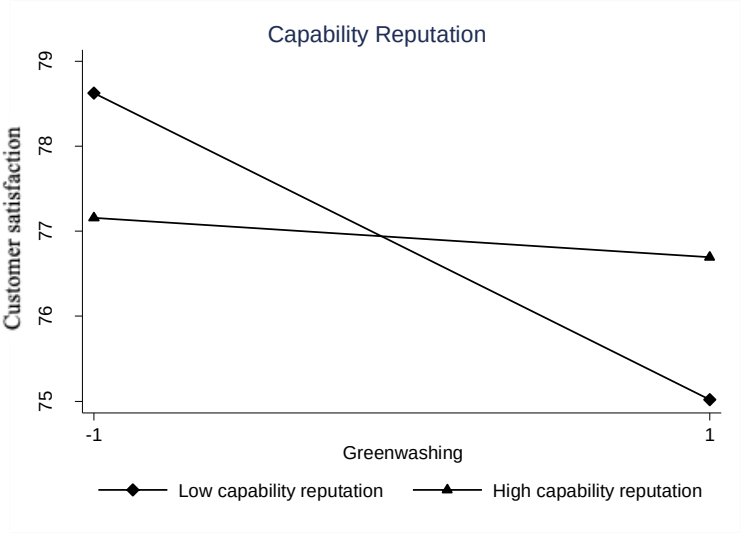
a. Correlations with an absolute value greater than 0.059 are significant at $p<0.5$

Table 3: Panel-data analyses results (Dependent Variable: Customer Satisfaction)

	(1)	(2)	(3)	(4)
Greenwashing		-0.900**	-1.712***	1.365
		(0.362)	(0.440)	(0.703)
Greenwashing **X** capability reputation (Brand Value)			0.069**	
			(0.026)	
Greenwashing **X** capability reputation (FAMA)				0.623**
				(0.200)
Capability reputation (Brand Value)			0.005	
			(0.011)	
Capability reputation FAMA)				0.197**
				(0.095)
Lagged dependent variable	0.232***	0.228***	0.229***	0.225***
	(0.044)	(0.043)	(0.043)	(0.074)
Customer complaints	-0.317*	-0.320*	-0.326*	0.056
	(0.191)	(0.189)	(0.188)	(0.297)
Environmental score	0.002	-0.001	-0.002	-0.017
	(0.007)	(0.007)	(0.007)	(0.013)
Size	-0.295	-0.341	-0.367	0.444
	(0.377)	(0.378)	(0.373)	(0.688)
ROA	0.010	0.008	0.008	0.050
	(0.017)	(0.017)	(0.017)	(0.035)
R&D	5.873	5.243	5.603	18.728
	(11.648)	(11.654)	(11.608)	(24.253)
SG&A	1.674	1.522	1.394	-0.345
	(1.327)	(1.336)	(1.335)	(3.761)
Constant	63.047	64.394***	64.725***	53.21***
	(7.574)	(7.582)	(7.538)	(13.466)
Year fixed effects	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes
Observations	1,233	1,233	1,233	561 [a]
No of firms	189	189	189	111
Adj. R-squared	0.172	0.177	0.180	0.198

Robust standard errors, clustered at the firm level in parentheses.
$*$ p < 0.10, $**$ p < 0.05, $***$ p < 0.01
[a]After merging our main database with the FAMA, we arrive at a sample of 111 companies and 561 observations for the period 2008-2016.

Figure 1: Slope analysis with *capability reputation* as a moderator variable



The two lines show the relationship between *greenwashing* and *customer satisfaction* for firms with low *capability reputation* (Brand Value is one standard deviation below the mean value) and for firms with high *capability reputation* (Brand Value is one standard deviation above the mean value). The relationship is negative and significant for firms with low capability reputation and negative but insignificant for firms with high capability reputation.

Customer satisfaction

REFERENCES

Aiken, L. S., West, S. G., and Reno, R. R. (1991). Multiple regression: Testing and interpreting interactions. New York: Sage.

Alcadipani, R., & de Oliveira Medeiros, C. R. (2020). When corporations cause harm: A critical view of corporate social irresponsibility and corporate crimes. Journal of Business Ethics, 167(2), 285-297.

Altonji, J. G., Elder, T. E., and Taber, C. R. (2005). Selection on observed and unobserved variables: Assessing the effectiveness of Catholic schools. Journal of Political Economy, 113(1), 151–184.

Anderson, E. W., Fornell, C., and Mazvancheryl, S. K. (2004). Customer satisfaction and shareholder value. Journal of Marketing, 68(4), 172–185.

Antonakis, J., Bendahan, S., Jacquart, P., and Lalive, R. (2010). On making causal claims: A review and recommendations. The Leadership Quarterly, 21(6), 1086–1120.

Barnett, M. L. (2012). Why stakeholders ignore firm misconduct. Journal of Management, 40(3), 676–702.

Berens, G., van Riel, C. B., and van Bruggen, G. H. (2005). Corporate associations and consumer product responses: The moderating role of corporate brand dominance. Journal of Marketing, 69(3), 35–48.

Berrone, P., Fosfuri, A., & Gelabert, L. (2017). Does greenwashing pay off? Understanding the relationship between environmental actions and environmental legitimacy. Journal of Business Ethics, 144(2), 363-379.

Bettencourt, B.A., Dill, K.E., Greathouse, S.A., Charlton, K. and Mulholland, A. (1997). Evaluations of ingroup and outgroup members: The role of category-based expectancy violation. Journal of Experimental Social Psychology, 33(3), 244-275.

Bhattacharya, C. B., and Sen, S. (2003). Consumer-company identification: A framework for understanding consumers' relationships with companies. Journal of Marketing, 67(2), 76–88.

Bhattacharya, C. B., and Sen, S. (2004). Doing better at doing good: When, why, and how consumers respond to corporate social initiatives. California Management Review, 47(1), 9–24.

Brammer, S.J., and Pavelin, S. (2006). Corporate reputation and social performance: The importance of fit. Journal of Management Studies, 43(3), 435-455.

Brown, T. J., and Dacin, P. A. (1997). The company and the product: Corporate associations and consumer product responses. Journal of Marketing, 61(1), 68–84.

Brunsson, N. (2002). The organization of hypocrisy. Copenhagen: Copenhagen Business School Press.

Brunsson, N. (2007). The consequences of decision-making. Oxford: Oxford University Press.

Carlos, W. C., and Lewis, B. W. (2018). Strategic silence: Withholding certification status as a hypocrisy avoidance tactic. Administrative Science Quarterly, 63(1), 130–169.

Carmeli, A., Gilat, G., and Waldman, D. A. (2007). The role of perceived organizational performance in organizational identification, adjustment and job performance. Journal of Management Studies, 44(6), 972-992.

Chandon, P., Morwitz, V. G., and Reinartz, W. J. (2004). The short-and long-term effects of measuring intent to repurchase. Journal of Consumer Research, 31(3), 566-572.

Chen, Y. S., & Chang, C. H. (2013). Greenwash and green trust: The mediation effects of green consumer confusion and green perceived risk. Journal of business ethics, 114(3), 489-500.

Cheng, B., Ioannou, I., and Serafeim, G. (2014). Corporate social responsibility and access to finance. Strategic Management Journal, 35(1), 1-23

Chernev, A., and Blair, S. (2015). Doing well by doing good: The benevolent halo of corporate social responsibility. Journal of Consumer Research, 41(6), 1412–1425.

Christensen, L. T., Morsing, M., and Thyssen, O. (2013). CSR as aspirational talk. Organization, 20(3), 372–393.

Cone Communications/EBIQUITY. (2017). Global CSR Study, available at: https://www.conecomm.com/2017-cone-communications-csr-study-pdf(last accessed September 16, 2020)

Crilly, D., Zollo, M., and Hansen, M. (2012). Faking it or Muddling Through? Understanding Decoupling in Response to Stakeholder Pressures. Academy of Management Journal, 55(6), 1429–1448.

Daub, C. H., and Ergenzinger, R. (2005). Enabling sustainable management through a new multi-disciplinary concept of customer satisfaction. European Journal of Marketing, 39(9/10), 998–1012.

Deephouse D.L., and Suchman, M. (2008). Legitimacy in organizations. In The SAGE Handbook of Organizational Institutionalism, Greenwood R., Oliver C., Sahlin K., Suddaby R. (eds). Thousand Oaks CA: Sage, 49–77.

Dholakia, U.M., and Morwitz, V.G. (2002). The scope and persistence of mere-measurement effects: Evidence from a field study of customer satisfaction measurement. Journal of Consumer Research, 29(2), 159-167.

Du, S., Bhattacharya, C. B., and Sen, S. (2007). Reaping relational rewards from corporate social responsibility: The role of competitive positioning. International Journal of Research in Marketing, 24(3), 224–241.

Durand, R., Hawn, O., and Ioannou, I. (2019). Willing and Able: A General Model of Organizational Responses to Normative Pressures. Academy of Management Review, 44(2), 299-320.

Eccles, R. G., Ioannou, I., and Serafeim, G. (2014). The impact of corporate sustainability on organizational processes and performance. Management Science, 60(11), 2835–2857.

Fitzsimons, G. J., and Williams, P. (2000). Asking Questions Can Change Choice Behavior: Does It Do So Automatically or Effortfully? Journal of Experimental Psychology: Applied, 6 (September), 195–206.

Flammer, C. (2015). Does corporate social responsibility lead to superior financial performance? A regression discontinuity approach. Management Science, 61(11), 2549–2568.

Fombrun C. J., and Shanley M. (1990). What's in a name? Reputation building and corporate strategy. Academy of Management Journal, 33(2), 233–258.

Fornell, C., Johnson, E. W. Anderson, Cha, J., and Bryant, B. E. (1996). The American customer satisfaction index: nature, purpose, and findings. Journal of Marketing, 60(4), 7–18.

Fornell, C., Morgeson, F., and Hult, T. (2016). Stock returns on customer satisfaction do beat the market: Gauging the effect of a marketing intangible. Journal of Marketing, 80, 92–107.

Gershoff, A. D., and Frels, J. K. (2015). What makes it green? The role of centrality of green attributes in evaluations of the greenness of products. Journal of Marketing, 79(1), 97-110.

Gosselt, J. F., van Rompay, T., & Haske, L. (2019). Won't get fooled again: The effects of internal and external CSR ECO-labeling. Journal of business ethics, 155(2), 413-424.

Greene, W.H., (2003. Econometric analysis (5th edition). New York: Pearson Education.

Gruca, T. S., and Rego, L. L. (2005). Customer satisfaction, cash flow, and shareholder value. Journal of Marketing, 69(3), 115–130.

Guo, R., Tao, L., Li, C. B., & Wang, T. (2017). A path analysis of greenwashing in a trust crisis among Chinese energy companies: The role of brand legitimacy and brand loyalty. Journal of Business Ethics, 140(3), 523-536.

Harrison, J. S., Bosse, D. A., and Phillips, R. A. (2010). Managing for stakeholders, stakeholder utility functions, and competitive advantage. Strategic Management Journal, 31(1), 58–74.

Hayes, B. E. (1992). Measuring Customer Satisfaction: Development and Use of Questionnaires. Milwaukee: ASQ Quality Press.

Hayes, A. F. (2018). Introduction to mediation, moderation, and conditional process analysis (2nd edition). New York: Guilford Press.

Hawn, O., and Ioannou, I. (2016). Mind the gap: The interplay between external and internal actions in the case of corporate social responsibility. Strategic Management Journal, 37(13), 2569–2588.

Heskett, J. L., Jones, T. O., Loveman, G. W., Sasser, W. E., and Schlesinger, L. A. (1994). Putting the service-profit chain to work. Harvard Business Review, 72(2), 164–174.

Hillman, A. J., and Keim, G. D. (2001). Shareholder value, stakeholder management, and social issues: What's the bottom line? Strategic Management Journal, 22(2), 125–139.

Homburg, C., Koschate, N., and Hoyer, W. D. (2005). Do satisfied customers really pay more? A study of the relationship between customer satisfaction and willingness to pay. Journal of Marketing, 69(2), 84–96.

Hult, G. T. M., Morgeson, F. V., Morgan, N. A., Mithas, S., and Fornell, C. (2017). Do managers know what their customers think and why? Journal of the Academy of Marketing Science, 45, 37–54.

Jaakkola, E., and Alexander, M. (2014). The role of customer engagement behavior in value co-creation: a service system perspective. Journal of Service Research, 17(3), 247–261.

Janney, J. J., and Gove, S. (2011). Reputation and corporate social responsibility aberrations, trends, and hypocrisy: Reactions to firm choices in the stock option backdating scandal. Journal of Management Studies, 48(7), 1562–1585.

Johnson, M. D., Anderson, E. W., and Fornell, C. (1995). Rational and adaptive performance expectations in a customer satisfaction framework. Journal of Consumer Research, 21(4), 695–707.

Kang, C., Germann, F., & Grewal, R. (2016). Washing away your sins? Corporate social responsibility, corporate social irresponsibility, and firm performance. Journal of Marketing, 80(2), 59-79.

Kassinis, G. (2012). The value of managing stakeholders. In The Oxford Handbook of Business and the Natural Environment, P. Bansal and A. J. Hoffman (Eds.). New York: Oxford University Press, 83-100.

Kassinis, G., and Soteriou, A. (2003). Greening the service profit chain: The impact of environmental management practices. Production and Operations Management, 12(3), 386–403.

Khan, M., Serafeim, G., and Yoon, A. (2016). Corporate sustainability: First evidence of materiality. The Accounting Review, 91(6), 1697-1724.

Liu, W., and Gal, D. (2011). Bringing us together or driving us apart: The effect of soliciting consumer input on consumers' propensity to transact with an organization. Journal of Consumer Research, 38(2), 242-259.

Love, E. G., and Kraatz, M. (2009). Character, conformity, or the bottom line? How and why downsizing affected corporate reputation. Academy of Management Journal, 52(2), 314–335.

Luo, X., and Bhattacharya, C. B. (2006). Corporate social responsibility, customer satisfaction, and market value. Journal of Marketing, 70(4), 1–18.

Lyon, T. P., and Maxwell, J. W. (2011). Greenwash: Corporate environmental disclosure under threat of audit. Journal of Economics & Management Strategy, 20(1), 3–41.

Lyon, T. P., and Montgomery, A. W. (2013). Tweetjacked: The impact of social media on corporate greenwash. Journal of Business Ethics, 118(4), 747–757.

March, J. G. (2007). Ibsen, ideals, and the subornation of lies. Organization Studies, 28, 1277–1285.

Marín, L., Cuestas, P. J., and Román, S. (2016). Determinants of consumer attributions of corporate social responsibility. Journal of Business Ethics, 138(2), 247–260.

Mishina, Y., Block, E. S., and Mannor, M. J. (2012). The path dependence of organizational reputation: How social judgment influences assessments of capability and character. Strategic Management Journal, 33(5), 459-477.

Mitchell, A. A., and Dacin, P. A. (1996). The assessment of alternative measures of consumer expertise. Journal of Consumer Research, 23(3), 219–239.

Mithas, S., Krishnan, M. S., and Fornell, C. (2005). Why do customer relationship management applications affect customer satisfaction? Journal of Marketing, 69(4), 201–209.

Mittal, V., Ross, W. T., and Baldasare, P. M. (1998). The Asymmetric Impact of Negative and Positive Attribute Level Performance on Overall Satisfaction and Repurchase Intentions. Journal of Marketing, 62 (January), 33–47.

Morgan, N. A., Anderson, E. W., and Mittal, V. (2005). Understanding firms' customer satisfaction information usage. Journal of Marketing, 69(3), 131–151.

Morwitz, V.G. and Fitzsimons, G.J. (2004). The mere-measurement effect: Why does measuring intentions change actual behavior? Journal of Consumer Psychology, 14(1-2), 64-74.

Nyilasy, G., Gangadharbatla, H., & Paladino, A. (2014). Perceived greenwashing: The interactive effects of green advertising and corporate environmental performance on consumer reactions. Journal of Business Ethics, 125(4), 693-707.

Oster, E., Unobservable selection and coefficient stability: Theory and evidence. (2019) Journal of Business & Economic Statistics, 37(2), 187-204.

Parguel, B., Benoît-Moreau, F., & Larceneux, F. (2011). How sustainability ratings might deter 'greenwashing': A closer look at ethical corporate communication. Journal of business ethics, 102(1), 15-28.

Park, C. W., Feick, L., and Mothersbaugh, D. L. (1992). Consumer knowledge assessment: How product experience and knowledge of brands, attributes, and features affects what we think we know. ACR North American Advances.

Park, B., and Rogan, M. (2019). Capability reputation, character reputation, and exchange partners' reactions to adverse events. Academy of Management Journal, 62(2), 553-578.

Pérez, A., and Rodriguez del Bosque, I. (2015). Corporate social responsibility and customer loyalty: exploring the role of identification, satisfaction and type of company. Journal of Services Marketing, 29(1), 15–25.

Pfarrer, M. D., Pollock, T. G., and Rindova, V. P. (2010). A tale of two assets: The effects of firm reputation and celebrity on earnings surprises and investors' reactions. Academy of Management Journal, 53(5), 1131–1152.

Reichheld, F. F., and Sasser, J. W. (1990). Zero defections: Quality comes to services. Harvard Business Review, 68(5), 105–111.

Rindova V. P., Williamson I. O., Petkova, A. P., and Sever, J. M. (2005). Being good or being known: an empirical examination of the dimensions, antecedents, and consequences of organizational reputation. Academy of Management Journal, 48(6), 1033–1049.

Rust, R. T., Zahorik, A. J., and Keiningham, T. L. (1995). Return on quality (ROQ): Making service quality financially accountable. Journal of Marketing, 59(2), 58–70.

Schuler, D. A., and Cording, M. (2006). A corporate social performance–corporate financial performance behavioral model for consumers. Academy of Management Review, 31(3), 540–558.

Sen, S., and Bhattacharya, C. B. (2001). Does doing good always lead to doing better? Consumer reactions to corporate social responsibility. Journal of Marketing Research, 38(2), 225–243.

Sen, S., Bhattacharya, C. B., and Korschun, D. (2006). The role of corporate social responsibility in strengthening multiple stakeholder relationships: A field experiment. Journal of the Academy of Marketing Science, 34(2), 158–166.

Servaes, H., and Tamayo, A. (2013). The impact of corporate social responsibility on firm value: The role of customer awareness. Management Science, 59(5), 1045–1061.

Sharma, S., Niedrich, R. W., and Dobbins, G. (1999). A Framework for Monitoring Customer Satisfaction: An Empirical Illustration. Industrial Marketing Management, 28(3), 231–243.

Skard, S., and Thorbjørnsen, H. (2014). Is publicity always better than advertising? The role of brand reputation in communicating corporate social responsibility. Journal of Business Ethics, 124(1), 149-160.

Strike, V. M., Gao, J., & Bansal, P. (2006). Being good while being bad: Social responsibility and the international diversification of US firms. Journal of International Business Studies, 37(6), 850-862.

Szabo, S., & Webster, J. (2021). Perceived greenwashing: the effects of green marketing on environmental and product perceptions. Journal of Business Ethics, 171(4), 719-739.

Szymanski, D. M., and Henard, D. H. (2001). Customer satisfaction: A meta-analysis of the empirical evidence. Journal of the Academy of Marketing Science, 29(1), 16–35.

Tang, Z., Hull, C. E., and Rothenberg, S. (2012). How corporate social responsibility engagement strategy moderates the CSR–financial performance relationship. Journal of Management Studies, 49(7), 1274–1303.

Wagner, T., Lutz, R. J., and Weitz, B. A. (2009). Corporate hypocrisy: Overcoming the threat of inconsistent corporate social responsibility perceptions. Journal of Marketing, 73(6), 77–91.

Wagner, T., Korschun, D., and Troebs, C.-C. (2020). Deconstructing corporate hypocrisy: A delineation of its behavioral, moral, and attributional facets. Journal of Business Research, 114, 385-394.

Wang, H., and Choi, J. (2013). A new look at the corporate social–financial performance relationship the moderating roles of temporal and interdomain consistency in corporate social performance. Journal of Management, 39(2), 416–441.

Weigelt K., and Camerer. C. (1988). Reputation and corporate strategy: a review of recent theory and applications. Strategic Management Journal, 9(5), 443–454.

Wickert, C., Scherer, A. G., and Spence, L. J. (2016). Walking and talking corporate social responsibility: Implications of firm size and organizational cost. Journal of Management Studies, 53(7), 1169-1196.

Zavyalova, A., Pfarrer, M. D., Reger, R. K., and Shapiro, D. L. (2012). Managing the message: The effects of firm actions and industry spillovers on media coverage following wrongdoing. Academy of Management Journal, 55(5): 1079–1101.

Zhong, X., Ren, L., & Song, T. (2021). Beyond Market Strategies: How Multiple Decision-Maker Groups Jointly Influence Underperforming Firms' Corporate Social (Ir) responsibility. Journal of Business Ethics, 1-19.

APPENDIX A

Table A1: Variable Descriptions

	Description	Scale	Source
Dependent Variable	Customer Satisfaction score	0–100	ACSI
Impendent Variable			
Green Product Innovation policies	1. Does the company set specific objectives to be achieved on environmental product innovation? 2. Does the company have a general, all-purpose policy regarding environmental product innovation?	Yes/No	Asset4 - Environmental Pillar
Green Product Innovation implementation (General)	3. Does the company describe the implementation of its environmental product innovation policy? 4. Does the company report on at least one product line or service that is designed to have positive effects on the environment, or which is environmentally labeled and marketed? 5. Does the company report on specific products which are designed for reuse, recycling or the reduction of environmental impacts?	Yes/No	Asset4 - Environmental Pillar
Green Product Innovation implementation (Specific / Alternative)	6. Does the company describe initiatives in place to reduce the energy footprint of its products during their use? 7. Does the company develop new products that are marketed as reducing noise emissions? 8. Does the company report about product features and applications or services that will promote responsible, efficient, cost-effective and environmentally preferable use? 9. Does the company report about take-back procedures and recycling programmes to reduce the potential risks of products entering the environment? 10. Does the company invest in R&D on new environmentally friendly products or services that will limit the amount of emissions and resources needed during product use? 11. Does the company use product labels (e.g., FSC, Energy Star, MSC) indicating the environmental responsibility of its products?	Yes/No	Asset4 - Environmental Pillar

	Description	Scale	Source
Moderator			
Capability reputation (total value of brands)	Total value of brands in U.S. dollars	Natural logarithm	Asset4 - Economic Pillar
Capability reputation_FAMA	A composite score comprises “Innovativeness” and “Quality of Products and Services”	Ranking	Fortune America’s Most Admired (FAMA) list
Controls			
Product Quality – Customer Complaints	Is the company under the spotlight of the media because of consumer complaints or dissatisfaction directly linked to its products or services?	Yes/No	Asset4 - Economic Pillar
Environmental Score	An aggregate score (Z-score) of all the data points of the Environmental Pillar of ASSET 4	0–100	Asset4 – Environmental Pillar
Size	Natural logarithm of Total Assets	Log	WorldScope
ROA	Net Income / Total Assets	Ratio	WorldScope
R&D	Research & Development expenses /Sales	Ratio	WorldScope
SG&A	Selling, General and Administrative expenses/Sales	Ratio	WorldScope

Table A2: ASSET4-ACSI matching in cases of multiple ACSI scores

ASSET4	ACSI
Allstate	Allstate [Property and Casualty Insurance]
	Allstate [Life Insurance]
Apple	Apple [Cellular Telephones]
	Apple [Personal Computers]
AT&T	AT&T [Fixed-Line Telephone Service]
	AT&T Corp. [Subscription Television Service]
	AT&T Mobility [Wireless Telephone Service]
Banes & Noble	Barnes & Noble [Specialty Retail Stores]
	barnesandnoble.com [Internet Retail]
CenturyLink	CenturyLink [Fixed-Line Telephone Service]
	CenturyLink [Internet Service Providers]
Comcast	Comcast [Fixed-Line Telephone Service]
	Comcast [Internet Service Providers]
	Comcast [Subscription Television Service]
Lenovo	Lenovo [Personal Computers]
	Lenovo [Cellular Telephones]
Windstream	Windstream [Fixed-Line Telephone Service]
	Windstream [Internet Service Providers]

APPENDIX B – Experimental study: Supplementary material

Stimulus

[Company's profile and history – Same for both scenarios]

United Appliances plc

United Appliances is a U.S. manufacturing firm, established in 1956. It produces and sells household appliances that range from refrigerators and washing machines to coffee machines, blenders, toasters, and mixers. Guided by the managerial philosophy of its founders, the company provides customized home service solutions to its customers worldwide. Currently, the company operates 60 factories, 5 R&D facilities, and 12 marketing centers, and employs more than 68,500 people globally

Founded by two brothers in the rural Midwest and financed with a small loan provided by a local bank, United Appliances grew from a single factory producing toasters to a global manufacturing giant producing the gamut of home appliances. After two decades of healthy growth as a family business, the company became public in the 1970s and has remained so ever since.

[Environmental Product Innovation Policies/Claims – Same for both scenarios]

You recently saw a Facebook campaign of this company where you read the following excerpt: "*At* United Appliances*, we take the environmental footprint of our operations very seriously. As a*

result, we adopt a wide range of policies and programs and set objectives aiming to improve the environmental performance of our products".

[Strong (weak) implementation - greenwashing manipulation (different in each scenario)]

A couple of days ago, you also read in the news that United Appliances was rated as one of the top (bottom) environmental performers in its industry. This rating was provided by a highly respected independent organization that evaluates the environmental practices of companies every year. According to the news, United Appliances adopted several (did not adopt any) initiatives to make its products more "green". For example, some (none) of its new products are designed to have positive effects on the environment: they are (are not) energy efficient, are (are not) produced with environmentally friendly materials and can be (cannot be) completely recycled at the end of their useful life.

Manipulation check

We conducted a pre-test of the manipulations with 123 U.S. citizens who were randomly assigned to one of the conditions. To enhance the validity of the responses, we eliminated answers from participants who failed to pass two attention checks that were placed at the end of the survey. All participants were asked to indicate the extent to which the described scenario was realistic. Their response has a mean value of 5.22 (on a 7-point scale), which shows a good level of believability.

To assess the effectiveness of the *greenwashing* manipulation, we performed an analysis of variance (ANOVA) with the *greenwashing* treatment as the independent factor and a composite policies-implementation check score as the dependent variable (see Table B1 for a description of the measurements used in the experiment). The effect of the *greenwashing* treatment on the manipulation check is significant ($F=144.93$, $p<0.00$). That is, participants in

the *High greenwashing* condition reported a higher gap (M=5.04, SD=1.08) between United Appliances' claims and implementation with respect to Environmental Product Innovation than those in the *Low greenwashing* condition (M=2.44, SD=1.29). This result indicates that the experimental manipulation is strong enough to allow for a meaningful test of the theory (Perdue and Summers, 1986).

Measures

Table B1 presents the variables (and its sources) used in the experimental study

********** Insert Table B1 around here **********

Analyses and Findings

To test the premise that customers perceive companies that do not implement their policies/claims as hypocritical, we conducted an ANOVA with the *greenwashing* treatment as the independent variable and *corporate hypocrisy* as the dependent variable. The effect of *greenwashing* on *corporate hypocrisy* is significant ($F=340.29$, $p<0.00$). That is, participants in the *High greenwashing* condition evaluated United Appliances as behaving hypocritically at significantly higher levels (M=5.28, SD=1.30) than those in the *Low greenwashing* condition (M=2.97, SD=1.24).

Further evidence on customers' reaction to the (mis)alignment between what a firm's claims and what it actually does comes from the open-ended question (placed immediately after each scenario) that prompted respondents to report their spontaneous assessment about United Appliances' environmental record. Examples of such responses from participants in the *High greenwashing* condition include:

- *"Well sounds like someone lied, and honestly they are not helping the world and maybe someone should look into this".*

- *"The contradiction between information is confusing. It makes United Appliances look like they're lying, or at least not being completely honest".*
- *"I don't think you can trust anything UA [United Appliances] claims. They probably wrote that as a cheap PR campaign or just put out a statement without any actual claims or language stating specifics".*
- *"Not only are they doing bad things to the environment, but they are also engaging in a campaign meant to lie and deceive the public".*

On the contrary, responses from participants in the *Low greenwashing* condition include:

- *"It sounds good. I do not know how accurate this is ... but it sounds good. Hopefully they live up to their statements regarding this issue".*
- *"This record is excellent and I hope other companies follow their lead. It is imperative that we put more effort in research and development of all aspects of manufacturing and come up with green solutions".*
- *"Great that the company is doing its part in the environment problem".*

Next, as an auxiliary analysis, we tested whether *corporate hypocrisy* mediates the relationship between *greenwashing* and *purchase intention.* With this analysis we wanted to examine whether perceptions of corporate hypocrisy triggered by greenwashing may also shape/affect customer behavior. Acknowledging that purchase intention and customer satisfaction are district constructs this analysis could however provide additional evidence supporting our theorizing about the role of corporate hypocrisy as a mechanism that explains why customers behave as they do in cases of greenwashing. To that end, we conducted a categorical (0=Low greenwashing; 1=High greenwashing) mediation analysis, using a non-parametric bootstrapping procedure (k=10,000) that involves bias-corrected confidence intervals and re-sampling techniques (using the MEDIATION macro for SPSS) (Hayes, 2018). The analysis shows that *greenwashing* has a positive effect on *corporate hypocrisy* (b=2.31, p<0.00), while *corporate hypocrisy* has a negative effect on *purchase intention* (b=-0.67, p<0.00). To assess whether *corporate hypocrisy* mediates the relationship between *greenwashing* and

purchase intention, we checked whether the bias-corrected 95% confidence interval (CI) of the indirect effect contains the value of zero. Results show that *corporate hypocrisy* mediates the effect of *greenwashing* on *purchase intention* (b=-1.55, CI [-1.87, -1.26]). This result provides empirical evidence that corporate hypocrisy is a significant mechanism through which *greenwashing* affects purchase behavior. Note that the direct effect of *greenwashing* on *purchase intention* (after the inclusion of the mediation) is negative and significant (b=-0.39, p=0.03).

Evidence on customers' awareness

Using a YES/NO question, we collected information on whether, more broadly, customers receive information about the environmental record of companies. Almost one-third (31.33%) of the participants responded positively. Then, in a follow-up open-ended question, we asked those participants to report the sources through which they receive such information. Their answers revealed a wide spectrum of sources. Almost half (48%) of the respondents mentioned social media (e.g., Facebook, Instagram, Twitter) as a source, while 36 percent reported google news and other websites with online news. Other sources include newspapers (mentioned by 23% of the respondents), emails (15%), CNN and BBC (11%), consumer reports (11%), results from google search (10%), magazines (9%), blogs (9%), word of mouth (6%) and other sources (companies' websites, post mail, labels, radio, and annual reports). It is worth noting the wide variety, sophistication, and broad scope of the participants' responses. These included well-known NGOs such as the Sierra Club and the Audubon Society, EWG, the Nature Conservatory, Greenpeace, the US EPA, the Better Business Bureau, Bloomberg, magazines such Scientific American, and even local papers such as Elk Grove-Laguna (Sacramento, California).

Appendix B References

Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis* (2nd edition). New York: Guilford Press.
Perdue, B. C., & Summers, J. O. (1986). Checking the success of manipulations in marketing experiments. Journal of Marketing Research, 23(4), 317-326.
Putrevu, S., & Lord, K. R. (1994). Comparative and noncomparative advertising: Attitudinal effects under cognitive and affective involvement conditions. Journal of advertising, 23(2), 77-91.
Wagner, T., Lutz, R. J., & Weitz, B. A. (2009). Corporate hypocrisy: Overcoming the threat of inconsistent corporate social responsibility perceptions. Journal of Marketing, 73(6), 77–91.

Table B1

Manipulation check
There is a gap between what United Appliances claims to do and what it actually does
United Appliances implements its environmental policies (reversed)
Main experiment
Purchase Intention* *(Cronbach's alpha= .95)* Source: Putrevu and Lord (1994)
It is very likely that I will buy products from United Appliances
I will purchase products from United Appliances the next time I need a household appliance
I will definitely try products from United Appliances
Corporate Hypocrisy* *(Cronbach's alpha= .93)* Source: Wagner et. Al (2009)
United Appliances acts hypocritically towards its customers
What United Appliances says and what it does are two different things
United Appliances pretends to be something that it is not
United Appliances does exactly what it says
United Appliances keeps its promises
*measured by a 7-point Likert scale