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# **Why Companies Might Under-Communicate their Efforts for Sustainable Development and What Can be Done?**

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**Abstract:** In contrast with the increasing green demands from various stakeholders, corporations might prefer green blushing, that is, deliberately avoiding communicating their efforts for sustainable development. Surprisingly, these companies make substantial green achievements, but decide not to communicate their greenness. Using a broad literature review on green blushing and a conceptual reasoning backed up by anecdotal evidence, we expose the likely consequences of under-communicating green achievements and develop several rationales that explain this apparent puzzle. We also propose that silent or timid corporations can make the best of two worlds, by taking advantage from communicating their greenness while avoiding its main pitfalls. We suggest practical ways to do it.

**Keywords:** green blushing; greenhushing; green communication; sustainable innovations; stakeholders.

## 1. Introduction

*“We want to do more and say less.”*

*(L. Vogel, Nike, quoted in Jana, 2009)*

Communicating green achievements is a crucial step to allow stakeholders express their preferences. For instance, when corporations report their green records, consumers (or would-be employees) can vote with their dollars (or preferentially apply for a job) in favor of these companies. Regarding the corporate side, Denicolò (2008, p.293) states that “overcomplying firms are typically eager to advertise their behavior to regulatory agencies, customers, and the public at large”. While many companies (over)communicate their green achievements and sometimes adopt greenwashing tactics, other ones choose deliberately to under-report their green efforts. In this latter case, corporations invest substantial time and money to “do the hard work” to improve their green performances, but prefer not communicating these achievements. Such a puzzling situation, sometimes referred to as green blushing or greenhushing (Font et al., 2017), implies that these corporations seem to deliberately renounce to the significant benefits associated with green communication. These benefits are frequently considered as very substantial, given that many corporations engage in greenwashing to reap them without doing the hard work to substantiate their claims (Lyon and Montgomery, 2015).

This a priori disconcerting strategy is gaining importance, as evidenced in an increasing literature (e.g., Jana, 2009; Carlos and Lewis, 2017; Testa et al., 2018; Coburn, 2019; Burrows, 2020). Examples include some winemakers who invest considerable

resources to produce organic wines and get certified but prefer not to signal it (Delmas and Grant, 2014); an innovative factory in Asia using only a liter of water to make a pair of jeans – compared to the estimation of 347 liters to make a Levi-Strauss pair of jeans in 2015 – and who remains silent about this laudable achievement (Coburn, 2019); the major printer manufacturer Hewlett Packard who uses recycled content in some printers, but under-communicate its efforts (Gunther, 2012); and the hotel and lodging industry which is increasingly engaging in green initiatives, but *about 50 % do not communicate explicitly* [emphasis added] about their achievements (Simpson, 2016; see also Heras-Saizarbitoria et al., 2020 for additional evidence; Arun et al., 2021). Regarding hospitality, a commentator even wondered whether greenhushing is “taking over from greenwashing” (Simpson, 2016).

While greenwashing has benefited from an important academic interest, in comparison, green blushing remains overlooked. By its very nature, the phenomenon is not easy to grasp. For instance, Burrows (2020) reports that all Toyota manufacturing plants in Europe<sup>1</sup> are zero waste-to-landfill for several years (and even ‘zero waste-to-incineration’ more recently) but the company remains relatively discreet about these achievements. Noteworthy, such a strategy has been cursorily discussed and its importance has been recently examined in the hospitality sector (e.g., Schoeneborn, 2017; Font et al., 2017; Heras-Saizarbitoria et al., 2020). Nevertheless, as evidenced by the examples above, corporations from other sectors such as wineries, clothing companies, car makers and retailers or follow a

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<sup>1</sup> Toyota has “nine manufacturing centers building cars, engines and transmissions” in Europe with a workforce of more than 21,000 people (<https://www.toyota-europe.com/world-of-toyota/feel/operations/made-in-europe/manufacturing>). One could argue that while Toyota does not stress its innovations related to waste, it communicates on the fuel-efficiency of its vehicles. It is possible that their discreet strategy hinges on consumers' limited attention and salience of certain properties that are more marketable than others. Indeed, fuel efficiency can be perceived as primarily delivering private benefits (lower fuel bill) for car users, more than public goods (environmental protection).

similar way by remaining timid about their green achievements. Our main research question is thus to explore the reasons why corporations that can credibly report their greenness decide to not communicate on it. As secondary and related questions, we also discuss the consequences of green blushing and practical avenues that could help companies to make the best of two worlds, precisely by reaping the benefits of green communication while avoiding its pitfalls.

From a methodological viewpoint, let us emphasize that our paper has a prevailing conceptual nature and may seem at odds with the traditional organization of empirical papers, especially regarding the description of used methods (Frey, 2021). Thus, in order to address the above issues, we adopt a twofold strategy. On one hand, we analyze green blushing from a conceptual point of view. We first review the scholarly literature regarding the main drivers of corporate communication on green achievements. Indeed, green blushing is frequently defined in reference to its (extreme) opposite, namely green communication (greenwashing). Thanks to a literature overview, we explain why communication about green achievements is a priori appealing for corporations, making green blushing disconcerting. We then explore extensively what has been written on green blushing, greenhushing and similar expressions used to describe the under-communication of green endeavors. We use an analytical reasoning to draw arguments that can logically justify the voluntary reluctance of companies to report their green achievements. We also exploit insights from the literature on corporate philanthropy on why companies prefer quiet giving or keep silent about their good deeds (e.g., Wang et al., 2021). As a result, we identify several rationales that solve this apparent puzzle and show why green blushing is rational.

On the other hand, we also mobilize anecdotal evidence, examples, case studies, expert reports, press articles, various secondary data and so forth, to back up our arguments. Indeed, by its very nature, silent firms are unlikely to publicize that they have chosen green blushing. These examples have been selected on two main criteria: (i) they support the

existence of the considered rationales and *(ii)* they inform on why the green blushing has occurred. This unconventional methodology has generated path breaking advances in social sciences (e.g., Earl, 2011; Thaler, 2018) especially when the researcher is more interested in ‘what’ and ‘why’ issues rather than “how many” or “how often” questions (Eisenhardt and Graebner, 2007). Last but not least, regarding the solutions that can help going beyond green blushing, we notably use solutions already evoked in the literature, but also mobilize behavioral economics insights that can provide avenues to “debiase” would-be green communicators by lessening the risks associated with green reporting.

We add to the existing literature in three main directions. First, we discuss why green blushing should concern environment advocates, including policymakers and green NGOs, but also corporate actors. Indeed, green blushing is not a neutral and inconsequential choice. It can generate substantial detrimental effects and delay environmental progress. Second, we enrich the rationale list that motivates the green blushing choice by corporations, beyond the hospitality sector, which has attracted the most academic attention (Font et al., 2017; Heras-Saizarbitoria et al., 2020; Ettinger et al., 2021). These rationales are grouped under the following categories, namely *(i)* not realizing the importance of green achievements and the necessity to communicate on them, *(ii)* satisfying intrinsic aspirations where green achievements are valued in and for themselves and self-rewarding, *(iii)* preventing misperceptions on the negative effects of greenness on more traditional functions, and *(iv)* avoiding to be scrutinized and perceived as hypocritical. Third, we propose some solutions that make possible a third way where corporations can both take advantage from communicating their green records while minimizing the associated risks.

The remainder of this paper is organized as follows. In the next section, we overview the literature to expose reasons justifying the communication of green achievements.<sup>2</sup> We also characterize green blushing on several dimensions and show how it can be detrimental to the environmental cause. Section 3 examines several rationales explaining why some companies choose to remain silent on their green efforts. These rationales are not mutually exclusive but likely to reinforce each other. Rather than just describing the phenomenon, we go further in Section 4, by arguing that corporations could make the best of two worlds. They could get green blushing advantages while simultaneously communicating about their green achievements. Section 5 presents the limitations and extensions of our study and concludes.

## **2. Literature overview: from the expected benefits of green reporting to green blushing**

When companies behave responsibly (“walking the walk”), they are prompted to report and publicize their achievements (“talking the talk”) to reap benefits that are likely to be lost otherwise (Ambec and Lanoie, 2008). A first and crucial benefit is to address the demands of various stakeholders, such as employees, investors, consumers, neighbors, communities, regulators and so forth. Most green endeavors are credence attributes (unlike search or experience attributes),<sup>3</sup> involving that consumers and other stakeholders cannot check them during the usual interactions with the company. For instance, green-minded consumers cannot

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<sup>2</sup> Although there are some differences, we use interchangeably “green innovations” and “sustainable-related innovations” as well as other related expressions such as “greenness” or “sustainability”.

<sup>3</sup> The literature on credence goods considers that inefficiencies arise if the consumer is overcharged (pays for a quality superior to the one s/he receives), undertreated (provided with a quality inferior to the needed one), or overtreated (provided with a quality superior to the needed one). Green hushing could be considered as a form of overtreatment if the consumer receives a more environmentally friendly product than expected, but this concern matters, if the consumer does not value the (unnecessarily) high quality s/he receives. Interestingly, green hushing can involuntarily misdirect environmentally concerned consumers towards green(washed) products.

know whether a wine has been organically produced and must refer to corporate reporting, making communication a crucial step (Darby and Karni, 1973; Frank, 2006; Brach et al., 2018). To avoid being accused of greenwashing, honest corporations frequently base their communication on recognized and credible signals such as third-party labels (Kirmani and Rao, 2000; Caswell and Mojdzuska, 1996; Grolleau and Caswell, 2006; Thøgersen et al., 2010; Brach et al., 2018; Szabo and Webster, 2021; Delmas and Gergaud, 2021; see also Heras-Saizarbitoria et al., 2020 for a more nuanced perspective). Green reporting also allows various agents to vote with their dollars (e.g., purchasing or investing preferentially from this company even if there is a price premium) or take other decisions (e.g., applying to jobs in companies with green credentials, granting the social license to operate) in favor of the company (Frank, 2003; Jones et al., 2014; Hillen, 2019; Grolleau et al., 2012; Forbes, 2015).

Second, communicating green endeavors can serve to substantiate and reinforce a green identity, internally and externally. For instance, when employees know they are working in a green company, they can be stimulated in ways that will ultimately reinforce this identity such as being more engaged and innovative in green directions (e.g., Chang and Chen, 2013; Song et al., 2019). This green “DNA” is also likely to attract business partners that share similar values and can leave a lasting imprint or legacy likely to transcend the current generation.

Third, green communication also delivers a substantial influence power and may prove that what was previously considered as almost impossible is, in fact, possible. By reporting their green achievements, well-identified green companies make solutions more visible, act as role models, exert mimetic pressure and encourage others to follow a similar path. Ultimately, this communication can multiply the environmental benefits (Leroux and Pupion, 2018).<sup>4</sup> By

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<sup>4</sup> To make justice to this issue, the fear of knowledge leaking to other companies and the subsequently erosion of the related competitive advantage can push companies not to publicize their efforts. Nevertheless, this dimension



“walking the walk” and “talking the talk”, these companies can benefit from a preferential treatment by regulators or environmental watchdogs. These recognized green companies are more likely to have a voice in on-going reflections and can even enjoy a position where they can influence future regulations in a sense more favorable to their agenda (see Lyon, 2003).

Without purporting to be exhaustive, we briefly emphasized some reasons that justify the reporting of green initiatives. Reaping these benefits without incurring the cost of doing the hard work is frequently what makes greenwashing so attractive (Delmas and Burbano, 2011; Lyon and Montgomery, 2015). These reasons also explain why green blushing or the corporate reluctance and avoidance to report about green achievements seems at first glance so puzzling. Indeed, by keeping silent about their green achievements, companies deprive themselves from these benefits, which is intriguing, unless we assume they are irrational or misinformed.

Alike its polar opposite, green blushing has types and degrees. For instance, the green silence may cover various kinds of environmental endeavors. These initiatives can be distinguished along various dimensions such as the environmental domain(s) considered, the effort level (small versus big environmental achievement), the process versus outcomes orientation, the complexity degree, and so forth. The initiative specificities can influence the decision to communicate or not. From zero-communication to full communication, several shades of grey or under-reporting are possible (see Box 1 about symptoms of green blushing). Moreover, green blushing does not occur in a vacuum and context matters: it is often estimated in comparison to peers’ communication; it can be oriented towards some agents (e.g., consumers, shareholders) and not others (e.g., employees, environmental watchdogs, business partners); it can be only external or also occurs within the corporation; it is often

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is not the focus of our paper, given that most concerned companies are especially discreet towards customers while competing firms are well informed about processes used by their competitors.

voluntary, but in some cases, it can be involuntary, e.g., if the company considers it did nothing special and does not discern any communication opportunity. In short, green blushing has many variations, with the common denominator that a priori laudable efforts have been achieved, but not fully reported.

**Box1. Symptoms of green blushing (Source: UL, 2016, p.7)**

“According to public relations firm Dix & Eaton, green blushing is about “walking the walk, but being too shy or unsure to talk the talk.” Other symptoms of greenblushing include:

- FAILING to believe that a company’s sustainability efforts are important or noteworthy;
- RELUCTANCE to speak about or otherwise promote a company’s sustainability track record, even when invited to do so;

- NEGLECTING to communicating sustainability accomplishments with employees;
- ASSUMING that stakeholders don’t share the same values or don’t care about sustainability efforts;
- BEING FEARFUL of potential negative consequences of active communications;
- BELIEVING that a corporate social responsibility statement about sustainability is sufficient.”

Green blushing is not an inconsequential decision. First, it deprives the company itself from the benefits associated with green reporting (e.g., differentiation, price premiums, preferential treatment) and the competitive advantage over non-green companies. Second, public commitment and communication can play an important role in motivating change and green efforts within the firm, because of its often-neglected performative function (Christensen al., 2013; UL, 2016). Green communication also allows corporations to affirm their green values in the minds of collaborators, resulting in stronger engagement, and can serve as a basis for establishing a constructive dialogue with all stakeholders (UL, 2016). Third, when green companies choose green blushing, they do not act as role models and do not contribute to a ‘ripple effect’ by pushing similar corporations and partners to follow a similar path (DiMaggio and Powell, 1983; Schoeneborn, 2017). Green blushing may prevent or slow down other companies to learn from and imitate silent green companies. As a result, the pace of progress and transition is reduced and the overall environmental impact effect is lower.

### **3. Explaining why corporations under-communicate their green achievements**

Despite the broad range of benefits expected from publicizing green efforts, several rationales can push ‘green firms’ to under-report their achievements. As a basic prerequisite, we assume that corporations are boundedly rational. They have a profit-making goal but suffer from various biases. Consequently, we propose several underlying mechanisms that can explain why companies might prefer under-communicating their green innovations and efforts.

#### *3.1. Not reporting green efforts as a consequence of not realizing their importance*

It is possible that silent corporations do not fully realize the necessity of green reporting, independently of its possible adverse effects. Some companies do not consider that what they have achieved deserves to be communicated and even less, that reporting it could generate substantial benefits. A misperception of environmental achievements, as nothing special or a non-event or because the green initiatives have been performed in departments that are not accustomed to communicate can lead to ignore the green communication issue. Moreover, small businesses are more likely to engage in green blushing. Indeed, recent evidence supports that small organizations are more likely to make green efforts, notably thanks to less complex supply chains, but simultaneously incur a cost disadvantage on communicating, compared to larger businesses (Wickert et al., 2016). Taken to its logical extreme, this under-communication can be involuntary. This misperception can be reinforced by the pursuit of environmental perfection, where all pieces must be in place before any communication is considered. Greening the corporation is not perceived as a journey but as a destination. If the destination is not reached, the communication issues do not arise.

#### *3.2. Internally motivated green efforts can make communication very secondary*

The discretion of some companies can be valued in and for itself. Doing good and choosing not to disclose it for instrumental purposes can contribute to build a strong identity and signal desirable qualities (see Getz and Marbacher, 2019 for convincing evidence regarding the existence and performance of altruistic corporations). Baron (2001) argues that CSR-related initiatives can be motivated by profit-maximization, threats by activists, or pure altruism. Similarly, Bénabou and Tirole (2010) distinguished three perspectives on CSR-related initiatives that can be (i) a win-win situation by increasing profits and satisfying consumers, (ii) a kind of delegated philanthropy where stakeholders (e.g., investors) force the companies to make CSR-related efforts, or (iii) authentic corporate philanthropy where the company engages in CSR-initiatives for its own sake. On the empirical side, Graafland et al. (2004) provide convincing evidence that intrinsic motivations matter for corporate green achievements. If the R&D efforts and innovations are motivated by pure altruism or authentic philanthropy even when the public does not pay attention, then responsible companies might prefer not to report their initiatives because they do it for themselves, without any prospect of gain. The extrinsic incentives resulting from green communication can be considered as a threat likely to undermine the intrinsically motivated agents (Bowles and Polania-Reyes, 2012).

### *3.3. Under-reporting as a tactic to avoid detrimental inferences*

Some companies can be the collateral victims of the legacy left by the first generation of green and sustainable innovations where the greenness was delivered at the cost of reduced performance on traditional qualities. Related to this legacy, there is a common misunderstanding about green and sustainable innovations which are sometimes perceived as

a distraction from core services that are looked for.<sup>5</sup> Generating greenness is perceived as a zero-sum operation where what is gained in terms of greenness is lost in terms of other qualities. Consumers intuitively – and unconsciously – believe that sustainable products perform less well than their conventional equivalents (Mai et al., 2019; Delmas and Gergaud, 2021) or require an overdose, even if it is not objectively the case. For instance, the goal dilution bias – i.e., a decrease in perceived quality of products serving several goals (Zhang et al., 2007) –, zero-sum heuristics, and similar biases make the emphasis on green characteristics appearing as less desirable because they will involuntarily transmit the message that these socially desirable achievements have been performed at the cost of reduced effectiveness, luxury or increased price (Chang, 2011; Gleim et al., 2013; Newman et al., 2014; Brach et al., 2018; Grolleau et al., 2019; Wood et al., 2018; Caseau and Grolleau, 2020). For example, Mai et al. (2019) showed that sustainability promises raise doubts regarding functional aspects of products (e.g., robustness, taste, or durability), which in turn negatively impact the final purchase decision (see also Kaur et al., 2021 regarding a similar rationale applied to the luxury hotel industry). Similarly, the traditional functions of some cleaners or detergents seem challenged by the addition of green properties, as evidenced in the following statement: “It costs twice as much to remove half the grime” (Lieber, 2005; Smith, 2016).

#### *3.4. Avoiding green communication to avoid being scrutinized and accused of hypocrisy*

Because of greenwashing, there is a widespread feeling that companies communicate too ‘loud’ about their supposed green efforts (Morsing et al., 2008). As a result, publicizing green

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<sup>5</sup> An additional issue might be that stakeholders do not understand time dynamics. Although sustainable innovations might be costly at the moment of implementation, they might pay off in the long-run as regulation and consumer preferences are subject to changes over time. A static view which only focuses on current performances could ignore this fact and lead to a lower incentive to disclose or even a disclosure disincentive.

achievements can encourage concerned stakeholders to be suspicious, check and screen all operations, e.g., the whole supply chain, with the risk of being perceived as hypocritical or as a greenwasher if everything is not perfect (see Carlos and Lewis, 2017; Schoeneborn, 2017). Interestingly, Lyon and Maxwell (2011) showed that companies with a high likelihood of implementing successful CSR initiatives will decide not to report their efforts if there is a risk that they are perceived as greenwashers because these companies have a lot to lose in terms of reputation.<sup>6</sup>

Moreover, the non-dissemination of information might also be due to a fear that competitors, which also do not report certain characteristics of their products, are better in certain aspects. If a company wants to have a competitive advantage by informing the public about its sustainable achievements, it has to be sure that it performs better than its competitors. Otherwise, a strategy of releasing information about green efforts might backfire. For example, in France in 2009, the laundry detergent brand *Le Chat* (owned by the German company Henkel) was accused of greenwashing during the launch of its advertising campaign for its phosphate-free “*Le Chat Eco Efficacit *” detergent (Bianchi, 2014). The main reason behind this accusation was the absence of a credible ecolabel to substantiate its green claims.

Interestingly, the would-be publicized sustainable achievement creates a new reference point upon which operations that are less environmentally friendly than expected are compared and judged as greater losses than without the achievement-induced reference point. The publicity can attract attention to other tradeoffs unlikely to be well understood that can even constitute inconvenient truth. As an illustrative example, a restaurant can be proud to switch to free-range eggs, but increasing the carbon footprint of each egg (Burrows, 2020).

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<sup>6</sup> Conversely, companies with low chances of implementing successful CSR initiatives are more likely to disseminate information about their initiatives because they have less or nothing to lose (Lyon and Maxwell, 2011).

The risk of being suspected of hypocrisy can make companies reluctant to emphasize their green or sustainable efforts (Font et al., 2017; Carlos and Lewis, 2018). Let us illustrate how this point through the example of a company that produces organic cosmetics. To get the organic certification delivered by the leader in the certification of organic products worldwide, *Ecocert*, the standard requires at least 20% of the ingredients in the total formula must be organic – in addition to many other rules such as the respect of biodiversity or the absence of petrochemical ingredients (<https://www.ecocert.com>). If the company launches a body cream containing 40% of organic ingredients, twice as much as the minimal standard, and labels it as organic, misinformed customers could be concerned about the other 60% of the ingredients which are not organic. Although there are rational explanations for having a requirement of only 20% of organic ingredients, the fact that consumers ignore the guarantees related to the *Ecocert* certification – or make inappropriate inferences (Bickart and Ruth, 2012; see also Delmas and Gergaud, 2021) – constitutes a threat for the company. If there is a risk of collateral damage on the whole brand by communicating these efforts, the strategy of remaining silent may be the way forward. The company can prefer discretion until the product (or the brand) reaches an adequate proportion of organic ingredients from the consumers' viewpoint to avoid arousing suspicion among misinformed individuals.

In a similar vein, some stakeholders (e.g., environmental NGOs) can consider that producing sustainably must be the bottom line. Consequently, emphasizing some efforts or a green innovation can attract additional scrutiny and signal that it was not the case. The performances are better than before and fit well consumers with a growth mindset (individuals able to enjoy a bad-to-good trajectory or continual improvement trajectory) but not consumers with a fixed mindset (those who appreciate an always-good trajectory) (Septianto, 2020).

Corporations may also choose to hide their green efforts as they think the market demand or stakeholders are not yet 'ready'. A rough example may be related to the 'greener'

firm that can be perceived as less competitive and/or riskier by some stakeholders. At the same time, there may be complementarity but also substitutability across products, so that a new greener product may displace existing ‘brown’ ones. In these cases, a ‘motivated’ firm may indeed choose not to reveal green or sustainability efforts. Also, the greening achievements by a given company may induce regulators to go for more significant stringency in environmental requirements or limits (see some inspiring examples in Lyon, 2003). Interestingly, Wang et al. (2021) developed and tested a related explanation on “quiet giving” that could apply to green blushing. Corporations may fear concerns about stakeholder backlash. Indeed, communicating about green achievements could cause stakeholders negative reactions because they feel that the corporation has not prioritized their legitimate claims (e.g., fair wages). As a consequence, these corporations will prefer green blushing.

Simply said, the decision of some companies to not publicize their green efforts is a priori justified and rational because discretion appears as a (temporary) solution to avoid the negative side effects associated with full disclosure. The analysis of the upsides and downsides of publicizing these initiatives can tilt the balance in favor of discretion. Afterward, we label this outcome as a discretion trap, because even if it preserves the company from some collateral issues, it also deprives it (and the society) from the benefits associated to green reporting.

#### **4. Overcoming the reluctance to green reporting while avoiding its side effects**

Rather than just explaining why some companies are timid regarding their green efforts, we develop some practical ways to overcome this reluctance. Our objective is to broaden the scope of strategies and tactics that can be used to avoid the discretion trap.

##### *4.1. Making green communication the default option*



If non-communicating about green achievements is just the result of misperceptions regarding the importance of these achievements, it makes sense to reinforce environmental literacy, including the communication dimension, among corporate actors. Similarly, a better understanding that greening is a journey and every step matters (even “small wins”) could help corporations to be more communicative. In some cases, the relative cost disadvantage of small businesses in green communication (Wickert et al., 2016) could be compensated by specific policies or by encouraging collective communication. Rather than considering that non- or under-communication is the default, we suggest to educate corporate actors to make them considering green communication as the default option.

#### *4.2. Avoiding the opposition between intrinsic motivations and green communication*

When companies are intrinsically motivated to engage in green endeavors, the ‘carrot’ of benefits from green reporting can be ineffective and even counterproductive, if this approach generates a crowding-out effect (Graafland and Bovenberg, 2020). Rather than advocating aggressively in favor of green reporting by enumerating advantages (e.g., price premium) that have an undermining effect, it seems preferable to help the concerned corporations to reach this conclusion by themselves. An initial step can be to better understand these intrinsic motivations (Graafland et al., 2014). For instance, let us assume that these silent green corporations do it for the sake of the environment, it makes sense to reinforce this already present intrinsic motivation by emphasizing that wise green reporting can encourage other actors to imitate them and take action for the environment (see also Graafland and de Bakker, 2021). As a result, the overall environmental benefits will be much higher.

#### *4.3. Preventing the risk of detrimental inferences*

Some companies can reduce the collateral concerns by emphasizing the traditional expected performance first and possibly mentioning the sustainable initiatives as a secondary and unintentional benefit (see also Kronthal-Sacco et al., 2020). Indeed, Newman et al. (2014) found that when companies describe their greenness as unintentional, they can reduce the lay beliefs that other qualities have been degraded to provoke the green performances. For instance, towel and linen reuse can be motivated by decreasing costs associated with laundry, drying and replacement, because towels will have a longer lifespan. The National Association of Institutional Linen Management estimates that “hotels can save over \$6.50 a day per occupied room” with a linen and towel reuse program (Griffin, 2001). When added up, this amount equates to annual savings of several hundreds of thousands of dollars. Given that sustainable qualities are perceived as unintentional, they do not come at the cost of degraded traditional qualities. In some cases, this unintentionality can be signaled thanks to indirect publicity by leaving to others the possibility to publicize the company initiatives. Moreover, all products and services are not created equal, given some primary qualities sought by consumers are associated with dimensions such as strength (e.g., hand sanitizers) while other primary qualities are associated with other dimensions such as wellness- or gentleness-related attributes (e.g., facial soaps) (Luchs et al., 2010; Skard et al., 2020).

An in-depth understanding of consumers’ expectations by distinguishing core versus peripheral attributes (Skard et al., 2020) allows determining whether the interactions between the delivered traditional performances and the added green or sustainable attributes are perceived as synergistic or antagonistic. Moreover, in a recent study on organic branding strategies, Jongmans et al. (2019) show that when the perceived similarities between the brand and the label are high (‘perceived fit’), it facilitates the transfer of positive brand knowledge and the affect transfer from the label to the product brand (‘ease of transfer’), which ultimately improves the overall product evaluation. In addition, studies regarding green

marketing highlight a higher relevance in positioning the ‘greenness’ at a brand level rather than at a product level (Dangelico and Vocalelli, 2017).

In addition, an analysis at an aggregate level can hide the existence of various segments of consumers (Auger et al., 2003; Dangelico and Vocalelli, 2017) who do not perceive the relationship between traditional qualities and sustainable ones in a similar way. For instance, some studies demonstrate that the influence of ecolabels depends on the level of environmental concern of the target market (e.g., Bickart and Ruth, 2012). Chang (2011) showed that, for consumers who hold ambivalent attitudes towards green products (i.e., consumers who express simultaneously positive and negative attitudes towards green products), high-effort claims from the brand reduces the believability of the green claim and decreases brand attitude. While advertising the green innovations and performances can seem inadequate at the aggregate level, it can make (more) sense for some segments of consumers or some stakeholders (see Moon et al., 2021 on the case of hydrogen-powered vehicles or fuel cell electric vehicles). Emphasizing green efforts can attract some consumers at the expense of repelling others, making the overall outcome uncertain. Using tailored frames for various kinds of stakeholders can help to avoid a one-size-fits-all approach regarding the discretion trap. For instance, individuals with a growth mindset can be more amenable to dual arguments than those with a fixed mindset (Septianto, 2020).

#### *4.4. Green communication to avoid being scrutinized and accused of hypocrisy*

Green communication can serve to also reinforce the environmental literacy of stakeholders on environmental progress. A crucial issue is to help stakeholders understanding that environmental progress is a journey and not a destination. To avoid the misperception that corporate actions do not match the corporate words, honest and modest communication with a genuine involvement of organizational members and safety margin make sense (Morsing et

al., 2008). To prevent detrimental scrutiny or hypocrisy accusations, companies can make clear that everything is not fixed, that they are engaged in a continual process of improvement and even consider the possibility of encouraging co-construction of solutions on remaining issues by inviting stakeholders' expertise.

## **5. Limitations, extensions and conclusion**

Our study has some limitations that can indicate extensions to further research. First, to go beyond a conceptual analysis, getting more quantitative data on green blushing could usefully complement our understanding of companies' strategy. Given the hidden nature of the phenomenon, experiments can contribute to explore causal relationships related to green blushing. Some of our propositions could be informed by pilot studies to assess their effectiveness in delivering the expected outcomes. For instance, simple experiments can be designed by inviting consumers in a between-subjects design to express their quality perceptions for an identical green product under two treatments: a control treatment where the green dimension is not mentioned and another one where the environmental dimension is communicated, possibly under various formats (see Grolleau et al., 2019 for an example). Of course, it is possible to go further by also including price considerations. Any perceived quality difference could inform companies on whether and how communicating the green dimensions affect other dimensions. Another experimental variation can be to present sequentially in a within-subjects design the product without mentioning its green dimension and estimate its various qualities and then provide its green dimension and re-estimate its qualities. Indeed, this sequential approach can help people to avoid misleading inferences. These experiments could also indicate preferable ways (e.g., format, timing) of communicating green achievements. It can also make sense to test experimentally in a between-subjects design whether companies that communicate their green achievements as

the “destination” are more likely to be perceived as hypocritical than companies that communicate the same achievements as a “journey” with steps towards being greener.

Second, although we suggested that some companies are more likely to be affected by green blushing (e.g., size effect, perceived synergies or antagonisms between green and traditional qualities), all green efforts and subsequent communications are not created equal and some situations seem more prone to these effects. Identifying and characterizing the circumstances conducive to green blushing could enrich the analysis.

Third, while we have discussed the corporate side of green blushing, it seems important to also examine how other stakeholders (e.g., consumers, investors, NGOs, regulators) perceive green blushing.

We argued that in some plausible circumstances, companies estimate that the expected benefits from publicizing their green efforts do not exceed the expected costs of side effects. Green blushing appears as an intuitive solution and seems justified from a business viewpoint, even if it is detrimental from an environmental viewpoint. We developed several rationales behind the green blushing strategy and invited promoters of green transition need to take them into account to address them adequately. Green achievements are not judged only on their objective content but must also address automatic processes used by human beings that can make them less attractive. We indicated some ways for corporations to go beyond green blushing and make the best of two worlds, namely by communicating wisely while avoiding some downsides.

## **References**

- Akerlof, G. A., & Kranton, R. E. (2005). Identity and the economics of organizations. *Journal of Economic Perspectives*, 19, 9–32. <https://doi.org/10.1257/0895330053147930>
- Ambec, S., & Lanoie, P. (2008). Does it pay to be green? A systematic overview. *Academy of Management Perspectives*, 22, 45–62. <https://doi.org/10.5465/amp.2008.35590353>

- Ankamah-Yeboah, I., Nielsen, M., & Nielsen, R. (2016). Price premium of organic salmon in Danish retail sale. *Ecological Economics*, 122, 54–60.  
<https://doi.org/10.1016/j.ecolecon.2015.11.028>
- Arun, T. M., Kaur, P., Bresciani, S., & Dhir, A. (2021). What drives the adoption and consumption of green hotel products and services? A systematic literature review of past achievement and future promises. *Business Strategy and the Environment*, 30, 2637–2655.  
<https://doi.org/10.1002/bse.2768>
- Auger, P., Burke, P., Devinney, T. M., & Louviere, J. J. (2003). What will consumers pay for social product features? *Journal of Business Ethics*, 42, 281–304.  
<https://doi.org/10.1023/A:1022212816261>
- Baron, D. P. (2001). Private politics, corporate social responsibility and integrated strategy. *Journal of Economics and Management Strategy*, 10, 7–45. <https://doi.org/10.1111/j.1430-9134.2001.00007.x>
- Bénabou, R., & Tirole, J. (2010). Individual and corporate social responsibility. *Economica*, 77, 1–19. <https://doi.org/10.1111/j.1468-0335.2009.00843.x>
- Bianchi, F. (2014). Comment Le Chat s’est remis au vert après son bad buzz. LSA, April 22.  
<https://www.lsa-conso.fr/comment-le-chat-s-est-remis-au-vert-apres-son-bad-buzz,170775>
- Bickart, B. A., & Ruth, J. A. (2012). Green eco-seals and advertising persuasion. *Journal of Advertising*, 41, 51–67. <https://doi.org/10.1080/00913367.2012.10672457>
- Bowles, S., & Polania-Reyes, S. (2012). Economic incentives and social preferences: Substitutes or complements? *Journal of Economic Literature*, 50, 368–425.  
<https://doi.org/10.1257/jel.50.2.368>
- Brach, S., Walsh, G., & Shaw, D. (2018). Sustainable consumption and third-party certification labels: Consumers’ perceptions and reactions. *European Management Journal*, 36, 254–265. <https://doi.org/10.1016/j.emj.2017.03.005>

- Burrows, D. (2020). Sustainability under wraps? Transform IEMA, April, 3.  
<https://transform.iema.net/article/sustainability-under-wraps>
- Campbell, C. L., Heinrich, D., & Schoenmüller, V. (2015). Consumers' reaction to fair trade motivated price increases. *Journal of Retailing and Consumer Services*, 24, 79–84.  
<https://doi.org/10.1016/j.jretconser.2015.02.005>
- Carlos, W. C., & Lewis, B. W. (2018). Strategic silence: Withholding certification status as a hypocrisy avoidance tactic. *Administrative Science Quarterly*, 63, 130–169.  
<https://doi.org/10.1177/0001839217695089>
- Caseau, C., & Grolleau, G. (2020). Impact investing: Killing two birds with one stone? *Financial Analysts Journal*, 76, 40–52. <https://doi.org/10.1080/0015198X.2020.1779561>
- Caswell, J. A., & Mojduszka, E. M. (1996). Using informational labeling to influence the market for quality in food products. *American Journal of Agricultural Economics*, 78, 1248–1253. <https://doi.org/10.2307/1243501>
- Chang, C., & Chen, Y. (2013). Green organizational identity and green innovation. *Management Decision*, 51, 1056–1070. <https://doi.org/10.1108/MD-09-2011-0314>
- Chang, C. (2011). Feeling ambivalent about going green. *Journal of Advertising*, 40, 19–32.  
<https://doi.org/10.2753/JOA0091-3367400402>
- Christensen, L. T., Morsing, M., & Thyssen, O. (2013). CSR as aspirational talk. *Organization*, 20, 372–393. <https://doi.org/10.1177/1350508413478310>
- Coburn, C. (2019). Why industry is going green on the quiet. *The Guardian*, September 8.  
<https://www.theguardian.com/science/2019/sep/08/producers-keep-sustainable-practices-secret>
- Dangelico, R. M., & Vocalelli, D. (2017). “Green marketing”: An analysis of definitions, strategy steps, and tools through a systematic review of the literature. *Journal of Cleaner Production*, 165, 1263–1279. <https://doi.org/10.1016/j.jclepro.2017.07.184>

- Darby, M., & Karni, E. (1973). Free competition and the optimal amount of fraud. *Journal of Law and Economics*, 16, 67–88. <https://doi.org/10.1086/466756>
- De-Magistris, T., & Gracia, A. (2016). Consumers' willingness-to-pay for sustainable food products: The case of organically and locally grown almonds in Spain. *Journal of Cleaner Production*, 118, 97–104. <https://doi.org/10.1016/j.jclepro.2016.01.050>
- Delmas, M. A., & Burbano, V. C. (2011). The drivers of greenwashing. *California Management Review*, 54, 64–87. <https://doi.org/10.1525/cm.2011.54.1.64>
- Delmas, M. A., & Grant, L. (2014). Eco-labeling strategies and price-premium: The wine industry puzzle. *Business and Society*, 53, 6–44.  
<https://doi.org/10.1177/0007650310362254>
- Delmas, M. A., & Gergaud, O. (2021). Sustainable practices and product quality: Is there value in eco-label certification? The case of wine. *Ecological Economics*, 183, 106953.  
<https://doi.org/10.1016/j.ecolecon.2021.106953>
- Deloitte. (2020). The Deloitte global millennial survey 2020. Resilient generations hold the key to creating a “better normal”. <https://www2.deloitte.com/global/en/pages/about-deloitte/articles/millennialsurvey.html>
- Denicolò, V. (2008). A signaling model of environmental overcompliance. *Journal of Economic Behavior and Organization*, 68, 293–303.  
<https://doi.org/10.1016/j.jebo.2008.04.009>
- DiMaggio, P. J. & Powell, W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48, 147–160.  
<https://doi.org/10.2307/2095101>
- Dögl, C., & Holtbrügge, D. (2014). Corporate environmental responsibility, employer reputation and employee commitment: An empirical study in developed and emerging



- economies. *The International Journal of Human Resource Management*, 25, 1739–1762.  
<https://doi.org/10.1080/09585192.2013.859164>
- Ettinger, A., Grabner-Kräuter, S., Okazaki, S., & Terlutter, R. (2021). The desirability of CSR communication versus greenhushing in the hospitality industry: The customers' perspective. *Journal of Travel Research*, 60, 618–638.  
<https://doi.org/10.1177/0047287520930087>
- Font, X., Elgammal, I., & Lamond, I. (2017). Greenhushing: The deliberate under communicating of sustainability practices by tourism businesses. *Journal of Sustainable Tourism*, 25, 1007–1023. <https://doi.org/10.1080/09669582.2016.1158829>
- Forbes. (2015). How to win the war for talent in 2015. January 7.  
<https://www.forbes.com/sites/georgebradt/2015/01/07/how-to-win-the-war-for-talent-in-2015/?sh=30d512f02195>
- Frank, J. (2006). Process attributes of goods, ethical considerations and implications for animal products. *Ecological Economics*, 58, 538–547.  
<https://doi.org/10.1016/j.ecolecon.2005.07.028>
- Frank, R. H. (2003). *What Price the Moral High Ground? Ethical Dilemmas in Competitive Environments*. Princeton: Princeton University Press.
- Frey, B. S. (2021). Backward-oriented economics. *Kyklos*, 74, 187–195.  
<https://doi.org/10.1111/kykl.12263>
- Friedman, M. (1970). The social responsibility of business is to increase its profits. *The New York Times Magazine*, September, 13.
- Getz, I., & Marbacher, L. (2019). *L'Entreprise Altruiste (The Altruistic Corporation)*. Albin Michel.

- Gleim, M. R., Smith, J. S., Andrews, D., & Cronin Jr, J. J. (2013). Against the green: A multi-method examination of the barriers to green consumption. *Journal of Retailing*, 89, 44–61. <https://doi.org/10.1016/j.jretai.2012.10.001>
- Graafland, J., & de Bakker, F. G. A. (2021). Crowding in or crowding out? How non-governmental organizations and media influence intrinsic motivations toward corporate social and environmental responsibility. *Journal of Environmental Planning and Management*, 64:13, 2386-2409. <https://doi.org/10.1080/09640568.2021.1873110>
- Graafland, J., & Bovenberg, L. (2020). Government regulation, business leaders' motivations and environmental performance of SMEs. *Journal of Environmental Planning and Management*, 63, 1335–1355. <https://doi.org/10.1080/09640568.2019.1663159>
- Graafland, J., & Mazereeuw-Van der Duijn Schouten, C. (2012). Motives for corporate social responsibility. *De Economist*, 160, 377–396. <https://doi.org/10.1007/s10645-012-9198-5>
- Griffin, P. (2001). Green' Hotels Association says hotels can save over \$6.50 a day per occupied guestroom and help protect our environment. "Green" Hotels Association, Houston. <http://www.greenhotels.com/pressrel.php#a2>
- Grolleau, G., & Caswell, J. A. (2006). Interaction between food attributes in markets: The case of environmental labeling. *Journal of Agricultural and Resource Economics*, 31, 471–484. <https://doi.org/10.2139/ssrn.708483>
- Grolleau, G., Mzoughi, N., & Pekovic, S. (2012). Green not (only) for profit: An empirical examination of the effect of environmental-related standards on employees' recruitment. *Resource and Energy Economics*, 34, 74–92. <https://doi.org/10.1016/j.reseneeco.2011.10.002>
- Grolleau, G., Mzoughi, N., & Sutan, A. (2019). Does advertising the green benefits of products contribute to sustainable development goals? A quasi- experimental test of the

dilution effect. *Business Strategy and the Environment*, 28, 786–793.

<https://doi.org/10.1002/bse.2280>

Gunther, M. (2012). Greener (brown) toilet paper and the elusive green consumer. *GreenBiz*, February, 13. <https://www.greenbiz.com/article/greener-brown-toilet-paper-and-elusive-green-consumer>

Heras-Saizarbitoria, I., Boiral, O., Allur, E., & García, M. (2020). Communicating environmental management certification: Signaling without signals? *Business Strategy and the Environment*, 29, 422–431. <https://doi.org/10.1002/bse.2374>

Hillen, M. (2019). Workers want firms to improve environmental policies. *Insight*, June 5. <https://workplaceinsight.net/majority-of-office-workers-want-employers-to-improve-sustainability-policies/>

Jana, R. (2009). Nike quietly goes green. *Bloomberg Business Week*, June 11.

<https://www.bloomberg.com/news/articles/2009-06-11/nike-quietly-goes-green>

Jones, D. A., Willness, C. R., & Madey, S. (2014). Why are job seekers attracted by corporate social performance? Experimental and field tests of three signal-based mechanisms. *Academy of Management Journal*, 57, 383–404. <https://doi.org/10.5465/amj.2011.0848>

Jongmans, E., Dampérat, M., Jeannot, F., Lei, P., & Jolibert, A. (2019). What is the added value of an organic label? Proposition of a model of transfer from the perspective of ingredient branding. *Journal of Marketing Management*, 35, 338–363.

<https://doi.org/10.1080/0267257X.2018.1552181>

Kirmani, A., & Rao, A. R. (2000). No pain, no gain: A critical review of the literature on signaling unobservable product quality. *Journal of Marketing*, 64, 66–79.

<https://doi.org/10.1509/jmkg.64.2.66.18000>

- Kronthal-Sacco, R., Van Holt, T., Atz, U., & Whelan, T. (2020). Sustainable purchasing patterns and consumer responsiveness to sustainability marketing messages. *Journal of Sustainability Research*, 2, e200016. <https://doi.org/10.20900/jsr20200016>
- Leroux, E., & Pupion, P. C. (2018). Factors of adoption of eco-labelling in hotel industry. *Technological Forecasting and Social Change*, 129, 194–209. <https://doi.org/10.1016/j.techfore.2017.09.018>
- Lieber, R. (2005). The dirt on green house cleaners. *The Wall Street Journal*, December 29.
- Luchs, M. G., Naylor, R. W., Irwin, J. R., & Raghunathan, R. (2010). The sustainability liability: Potential negative effects of ethicality on product preference. *Journal of Marketing*, 74, 18–31. <https://doi.org/10.1509/jmkg.74.5.018>
- Lyon, T. P., & Montgomery, A. W. (2015). The means and end of greenwash. *Organization and Environment*, 28, 223–249. <https://doi.org/10.1177/1086026615575332>
- Lyon, T. P., & Maxwell, J. W. (2011). Greenwash: Corporate environmental disclosure under threat of audit. *Journal of Economics and Management Strategy*, 20, 3–41. <https://doi.org/10.1111/j.1530-9134.2010.00282.x>
- Lyon, T. (2003). ‘Green’ firms bearing gifts. *Regulation*, 26, 36–40.
- Mai, R., Hoffmann, S., Lasarov, W., & Buhs, A. (2019). Ethical products=less strong: How explicit and implicit reliance on the lay theory affects consumption behaviors. *Journal of Business Ethics*, 158, 659–677. <https://doi.org/10.1007/s10551-017-3669-1>
- Moon, H. B., Youngjun Park, S., & Woo, J. R. (2021). Staying on convention or leapfrogging to eco-innovation? Identifying early adopters of hydrogen-powered vehicles. *Technological Forecasting and Social Change*, 171, 120995. <https://doi.org/10.1016/j.techfore.2021.120995>

- Morsing, M., Schultz, M., & Nielsen, K. U. (2008). The “Catch 22” of communicating CSR: Findings from a Danish study. *Journal of Marketing Communications*, 14, 97–111.  
<https://doi.org/10.1080/13527260701856608>
- Newman, G. E., Gorlin, M., & Dhar, R. (2014). When going green backfires: How firm intentions shape the evaluation of socially beneficial product enhancements. *Journal of Consumer Research*, 41, 823–839. <https://doi.org/10.1086/677841>
- Schoeneborn, D. (2017). Enjoy the silence? CSR communication and the phenomenon of “greenhushing”. *The Business of Society*, October, 2. <http://www.bos-cbscsr.dk/2017/10/02/csr-communication-greenhushing/>
- Septianto, F. (2020). Do past scandals influence the present performance? The moderating role of consumer mindset. *Journal of Business Research*, 106, 75–81.  
<https://doi.org/10.1016/j.jbusres.2019.09.011>
- Simpson, D. (2016). Is ‘greenhushing’ taking over from ‘greenwashing’ in the lodging industry? *Green Lodging News*, December 5.  
<https://www.cabi.org/leisuretourism/news/25345>
- Skard, S., Jørgensen, S., & Pedersen, L. J. T. (2020). When is sustainability a liability, and when is it an asset? Quality inferences for core and peripheral attributes. *Journal of Business Ethics*, 173, 109–132. <https://doi.org/10.1007/s10551-019-04415-1>
- Smith, D. (2016). Is greener cleaner? The effectiveness of eco-friendly products. *Catalyst*, February 26.
- Song, W., Ren, S., & Yu, J. (2019). Bridging the gap between corporate social responsibility and new green product success: The role of green organizational identity. *Business Strategy and the Environment*, 28, 88–97. <https://doi.org/10.1002/bse.2205>

- Szabo, S., & Webster, J. (2021). Perceived greenwashing: The effects of green marketing on environmental and product perceptions. *Journal of Business Ethics*, 171, 719–739.  
<https://doi.org/10.1007/s10551-020-04461-0>
- Testa, F., Miroshnychenko, I., Barontini, R., & Frey, M. (2018) Does it pay to be a greenwasher or a brownwasher? *Business Strategy and the Environment*, 27, 1104–1116.  
<https://doi.org/10.1002/bse.2058>
- Thøgersen, J., Haugaard, P., & Olesen, A. (2010). Consumer responses to ecolabels. *European Journal of Marketing*, 44, 1787–1810.  
<https://doi.org/10.1108/03090561011079882>
- UL. (2016). Neither boastful nor bashful: Making effective sustainability claims. White Paper.  
<https://www.ul.com/insights/making-effective-sustainability-claims>
- Wang, H., Jia, M. & Zhang, Z. (2021). Good deeds done in silence: Stakeholder management and quiet giving by Chinese firms. *Organization Science*, 32, 649–674.  
<https://doi.org/10.1287/orsc.2020.1385>
- Wickert, C., Scherer, A. G., & Spence, L. J. (2016), Walking and talking corporate social responsibility: Implications of firm size and organizational cost. *Journal of Management Studies*, 53, 1169–1196. <https://doi.org/10.1111/joms.12209>
- Wood, S., Robinson, S., & Poor, M. (2018). The efficacy of green package cues for mainstream versus niche brands: How mainstream green brands can suffer at the shelf. *Journal of Advertising Research*, 58, 165–176. <https://doi.org/10.2501/JAR-2018-025>
- Zaman, A.U. (2015). A comprehensive review of the development of zero waste management: Lessons learned and guidelines. *Journal of Cleaner Production*, 91, 12–25.  
<https://doi.org/10.1016/j.jclepro.2014.12.013>

Zhang, Y., Fishbach, A., & Kruglanski, A. W. (2007). The dilution model: How additional goals undermine the perceived instrumentality of a shared path. *Journal of Personality and Social Psychology*, 92, 389–401. <https://doi.org/10.1037/0022-3514.92.3.389>

Zhou, G., Hu, W., & Huang, W. (2016). Are consumers willing to pay more for sustainable products? A study of eco-labeled tuna steak. *Sustainability*, 8(5), 494. <https://doi.org/10.3390/su8050494>