Greenhushing on Online Delivery Platforms: How Does it Affect Consumers and a Possible Intervention

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Abstract

This paper explores greenhushing in online delivery platforms from a consumer perspective. Greenhushing is when companies intentionally hide their green efforts to avoid further scrutiny and backlash from consumers. First, we test whether managers' assumptions about greenhushing are valid—specifically, that consumers perceive green products as more expensive. Second, we compare greenhushing with strategies like greenwashing to examine consumers' moral reactions and attitudes toward the companies. Finally, we test an intervention enabling companies to benefit from green efforts while avoiding the risks associated with framing their products as green or sustainable. Results show managers' intuition is partly correct: consumers view green products as pricier, but greenhushing doesn't affect choices. However, revealing green efforts post-purchase boosts expectations, satisfaction, and review intentions.

Keywords: *greenhushing, delivery platforms, green practices*

Track: *Social Responsibility & Ethics*

1. Introduction

Every day, consumers are faced with choices between organic products and their more traditional counterparts. Sales of organic food amounted to about 134.76 billion U.S. dollars, up from nearly 18 billion dollars in 2000 (Statista, 2022). Despite growing demand for sustainability, consumers often perceive organic products as costly and may hesitate to purchase them due to their higher price compared to traditional options (Haws, Winterich, & Naylor, 2014). Moreover, research suggests that consumers attach lower performance to green products since they think that companies have diverted resources to make the product greener on the cost of its quality (Mai et al., 2019; Newman et al., 2014; Usrey et al., 2020). Additionally, a recent literature review posits that sustainability claims may inadvertently trigger negative consequences on consumer behavior (Acuti, Pizzetti, and Dolnicar, 2022). As a result, companies may choose not to disclose their green efforts to avoid potential backlash. This reflects a "Catch-22" in communication (Morsing, Schultz, & Nielsen, 2008), where the fear of scrutiny drives some companies to adopt "greenhushing"—a deliberate strategy to conceal their environmental initiatives (Font et al., 2016; Ginder et al., 2021). This conventional wisdom has also been confirmed by some interviews we have conducted with online food delivery platforms managers, which is the context of our analysis, who declared: “If I add an organic label to the product, consumers do not choose it because it is perceived as a more expensive product” (Interview made in December 2023).

Often, the reason for such behavior could be as simple as cost saving (Falchi et al., 2022) but could also be to avoid any risk associated with these green initiatives (Vallaster et al., 2012). These companies are known as the “Silent Green firms” (Delmas & Burbano, 2011) or companies with discrete positioning towards corporate social responsibility (Ginder et al., 2021). Real-world examples include Toyota which remained quiet about achieving zero waste-to-landfill and zero waste-to-incineration in its manufacturing facilities in Europe for over a decade (Burrows, 2020). Similarly, Walmart has reduced its plastic bag waste by 38% since 2005 and cut CO_2 emissions without explicitly publicizing it (Lindsey, 2016).

Unfortunately, research about greenhushing and in particular consumers’ reactions to greenhushing is scant (Tao, 2024). In this work, by adopting an experimental design approach, we aim to fill this gap by investigating how consumers will perceive a company engaging in greenhushing, whether managers’ fears about negative associations with green products are true, and what is a possible solution for this problem. We focus on the online food delivery market for several reasons. First, this market is growing rapidly (about $1 trillion in 2023 according to Statista, 2024), and it has a big environmental impact. Second, we know little about consumers' sustainable choices when they order food from such platforms. Finally, the choice architecture of online food delivery platforms makes it an interesting context to study our suggested intervention.

2. Theoretical background

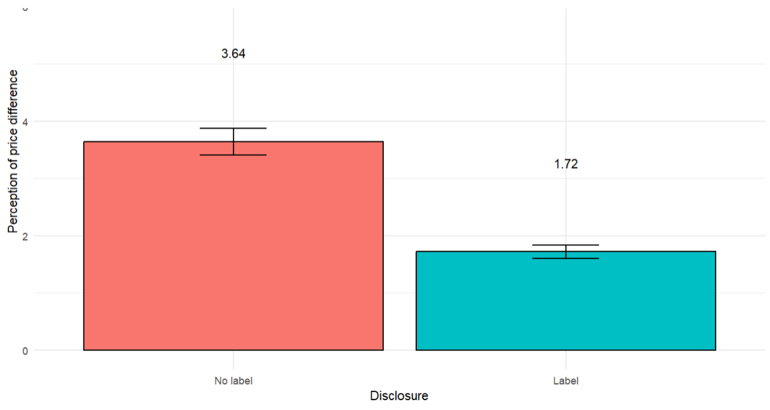
Greenwashing happens when a company overstates or overclaims its environmental performance, practices, or goods to create a positive corporate image that attracts consumers, investors, and government support (Lyon & Montgomery, 2015). Conversely, greenhushing occurs when companies strategically choose to hide their environmental efforts in order to avoid any unwanted consequences (Font et al., 2016). Therefore, greenhushing is rooted in greenwashing and comes as a reaction to avoid being accused of greenwashing. In comparison to greenwashing, greenhushing is a relatively new phenomenon, and there is a scarcity of research on the topic. Tao (2024), by exploring why companies engage in greenhushing, hypothesizes that companies facing reputational crises are more likely to adopt greenhushing, driven by increased conservatism. Ettinger et al. (2021) found that, contrary to managers' concerns, consumers in the hospitality sector value hotels communicating their CSR efforts. This communication not only improves consumer attitudes but also reduces unsustainable behaviors. Other research refers to this phenomenon as green blushing (Falchi et al., 2022) suggesting interventions to mitigate negative outcomes of green communication and identifies various forms of greenhushing. Moreover, greenhushing, like greenwashing, undermines a company's environmental efforts and can harm its reputation by eroding trust and credibility (Tao, 2024). It may also signal that sustainability is unimportant, particularly when adopted by market leaders, potentially influencing smaller companies to do the same.

3. Methodology

3.1. Study 1: Testing the assumption

Study 1 tested the assumption of business managers about why it is bad to frame their green products as so. The main prediction of managers is that if green products are explicitly presented to consumers as such, they will be perceived as more expensive and consequently negatively influence their choice. We recruited 400 American participants from Prolific (47.75% female, M_{age}= 36.64). Participants saw two apples (i.e., apple 1 and apple 2) that looked similar (same color, same size, etc.). We asked participants to imagine seeing these two apples while doing their groceries. We randomly assigned participants to one of the two conditions (disclosure of the green nature of apple 1: yes vs. no) between-subject design, which varied whether apple 1 had a label saying 100% organic. We chose a label that is commonly used on organic fruits in grocery stores. Our first dependent variable was the perception of price difference between the two apples. We measured this with a single-item 7-point scale: "Which apple do you think is more expensive?" anchored (1 = Apple 1 is much more expensive, 4 = The two apples have about the same price, 7 = Apple 2 is much more expensive). Our second dependent variable was the choice between the two apples. We measured this with a single-item 7-point scale: "If you were to buy an apple, which apple would you prefer to buy?" anchored (1 = For sure, apple 1, 4 = I have no preference, 7 = For sure, apple 2). Finally, participants reported their age and gender.

Results show that disclosing the green nature of Apple 1 has significantly increased its perceived price ($M = 1.72$, $SD = .84$) compared to another apple that appeared to have the same price in the control condition (i.e., no disclosure / no organic label) ($M = 3.64$, $SD = 1.70$, $t(398) = 14.25$, $p < .001$, $d = 1.43$). More importantly, the disclosure of the green nature of Apple 1 did not have any significant effect on the choice of participants ($M = 3.47$, $SD = 1.96$) compared to the control condition ($M = 3.63$, $SD = 2.22$, $t(398) = .75$, $p = .45$, $d = .08$). This indicates that the intuition of managers is correct about how consumers might perceive a green product that is explicitly labeled as organic. The results also indicate that managers, by engaging in greenhushing, might not be losing any potential demand for their products as the choice between the two apples was not affected by whether Apple 1 was labeled as organic or not. If any, managers are avoiding losing the demand of price-sensitive consumers who might associate green labels with more expensive products.



Note: $N = 400$. The graph displays the means and the 95% confidence interval as error bars.

Fig. 1 Products are perceived as more expensive when labeled as organic

3.2 Study 2: Consumers' reactions to greenhushing

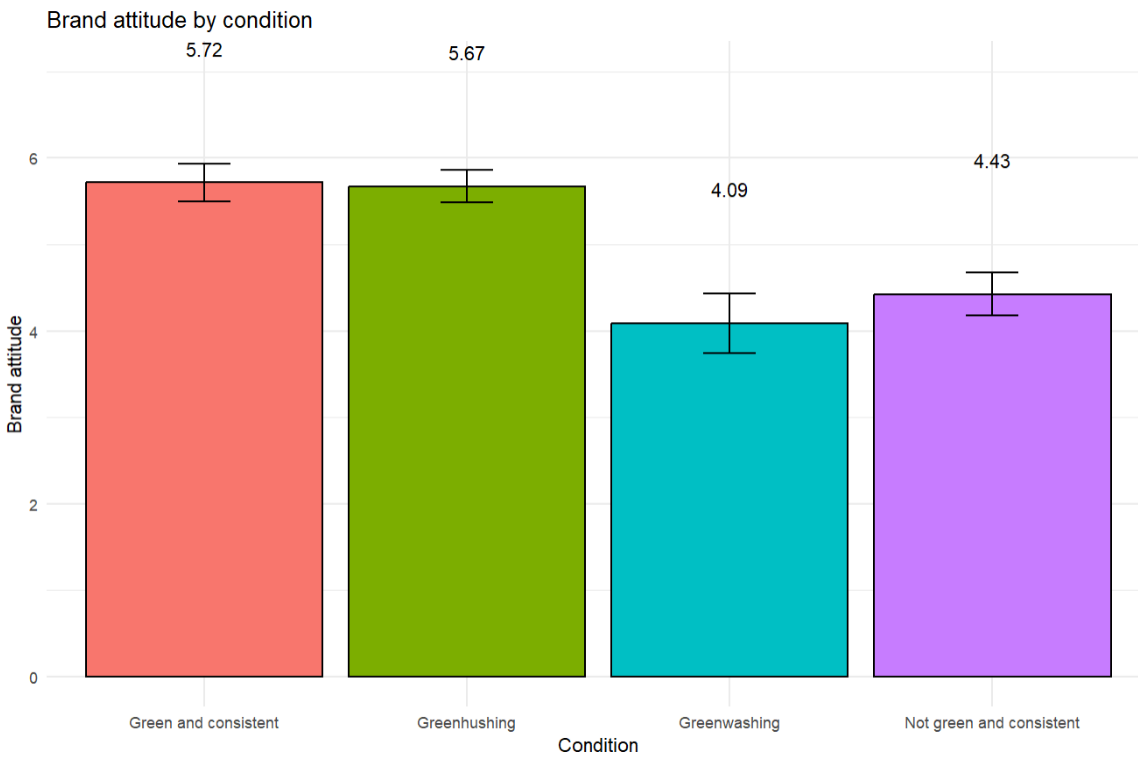
Study 2 investigates how consumers might react when knowing that a company is engaging with greenhushing and how it compares to other strategies like greenwashing. We tested consumers' moral reactions and their attitude toward the company.

We recruited 400 American participants from Prolific (48.75% female, M_{age}= 38.25). Participants were presented with a scenario about a mid-sized company called *Food to You* working in the food delivery business. Participants were told that the company needed to make some decisions about new vehicles and packaging and that the company had two options: sustainable options (electric vehicles, eco-friendly packaging) vs less sustainable but cost-effective options. We randomly assigned participants to one condition in a 2 (choice: sustainable vs not sustainable) x 2 (self-promotion as environmentally conscious: yes vs. no) between-subject design, which varied which option the company has chosen and whether it promotes itself as environmentally conscious or not. So, each participant, depending on the condition they were assigned to, learned about the company's decision between sustainable choices and less sustainable but cost-effective options and whether the company is promoting itself as environmentally conscious, i.e. walk-the-talk (Schoeneborn et al., 2020).

The four strategies are: green and consistent (i.e., when the company chooses sustainable options and promotes itself as environmentally friendly), not green and consistent (i.e., when the company does not choose sustainable options and does not promote itself as environmentally friendly), greenwashing (i.e., when the company does not choose sustainable options and promotes itself as environmentally friendly), and greenhushing (i.e., when the company chooses sustainable options but does not promote itself as environmentally friendly). Our first dependent variable was the morality of the firm's choices. We measured this with a three-item 7-point scale: "How fair / acceptable / ethical are the company's choices?" (α = 0.94) anchored (1 = Extremely unfair / unacceptable / unethical, 7 = Extremely fair / acceptable / ethical). Our second dependent variable was brand attitude. We measured this with a four-item 7-point scale: "I think of Food to You as:" (α = 0.95) anchored (1 = negative / bad / uninteresting / unattractive, 7 = positive / good / interesting / attractive). We averaged both our dependent variables. Finally, participants reported their age and gender.

For our first dependent variable (i.e., morality), a two-way ANOVA revealed a significant main effect of choosing green options ($F(1, 396) = 143.77$, $p < .001$, $\eta_p^2 = .27$) and of self-promotion as environmentally conscious ($F(1, 396) = 8.07$, $p = .005$, $\eta_p^2 = .02$), as well as the interaction of the two factors ($F(1, 396) = 16.55$, $p < .001$, $\eta_p^2 = .04$). As shown in Figure 2, when the company chooses the green options there is no difference whether the firm promotes itself as green ($M = 5.91$, $SD = 1.17$) or not ($M = 5.73$, $SD = 1.15$, $t(396) = .89$, $p = .81$). Meaning that greenhushing might not be seen as morally bad by consumers. On the other hand, when the company does not choose sustainable options, it makes a difference whether the firm promotes itself as environmentally conscious ($M = 3.65$, $SD = 1.83$) or not ($M = 4.61$, $SD = 1.38$, $t(396) = 4.88$, $p < .001$). This means that greenwashing is the worst strategy a company could adopt.

For our second dependent variable (i.e., brand attitude), a two-way ANOVA revealed a significant main effect of choosing green options ($F(1, 396) = 122.92$, $p < .001$, $\eta_p^2 = .24$) but not of self-promotion as environmentally conscious ($F(1, 396) = 1.31$, $p = .25$, $\eta_p^2 = .003$), as well as the interaction of the two factors ($F(1, 396) = 2.15$, $p < .001$, $\eta_p^2 = .005$). Similar to what we found before, when the company chooses the green options, there is no difference in brand attitude whether the firm promotes itself as green ($M = 5.72$, $SD = 1.11$) or not ($M = 5.67$, $SD = .93$, $t(396) = .23$, $p = .99$). Meaning that greenhushing might not negatively influence brand attitudes. Different from morality, when the company does not choose sustainable options, it makes no difference whether the firm promotes itself as environmentally conscious ($M = 4.09$, $SD = 1.74$) or not ($M = 4.43$, $SD = 1.25$, $t(396) = 1.85$, $p = .25$). Directionally, greenwashing is worse than not choosing the sustainable options and be consistent with the communication.



Note: $N = 400$. The graph displays the means and the 95% confidence interval as error bars.

Figure 2. Moral reactions toward different company's strategies

These results suggest that companies practicing greenhushing don't face negative moral reactions or brand-related drawbacks. Consumers consistently respond positively to green practices, regardless of whether the company publicizes them. Conversely, companies engaging in greenwashing get the worst outcomes and reactions from consumers. Managers might opt for greenhushing to avoid any risk associated with green communications. Given that greenhushing is considered similar to being green and explicit, it might be an attractive option for managers. At the same time, communicating the green efforts can enhance reputation as well as nudge sustainable behavior (Liu, Cao and Font, 2024). In the following study we propose a possible intervention to solve this trade-off.

3.3 Study 3

Study 3 tested an intervention that allows companies to benefit from communicating their green efforts and avoid engaging in greenhushing. Our main prediction is that if the green nature of products is disclosed only after the purchase is done, consumers will react positively to it and the company will avoid all the risks of negative associations with green products, while also encouraging sustainable behavior among both consumers and competitors.

We recruited 100 American participants from Prolific (49% female, M_{age}= 38.45). Participants saw an assortment of four apples with different colors, types, and prices emulating a real online delivery platform that sells groceries. We asked participants to choose the most preferred apple from the assortment (i.e., the apple that they would choose in a real purchase setting). After that, regardless of their choice, we randomly assigned participants to one of the two experimental conditions (disclosure of the green nature of apple 1: yes vs. no) between-subject design, which varied the message they saw after completing their choice. Participants were either shown a standard thank you message by the platform – control condition - (i.e., Thank you for ordering from us! Your order is confirmed, and we're getting it ready to ship. We hope to see you again.) or a message that revealed the organic characteristic of the apple they have chosen – treatment condition (i.e., Thank you for ordering from us! Your order is confirmed, and we're getting it ready to ship. We're excited to let you know that the product you've chosen is an organic product. We hope to see you again.). We controlled in our analysis for the choice of apple. respondents rated the apple they have chosen in terms of expectations (please rate the apple you have chosen) on a 7-point scale (1 = much worse than expected, 7 = much better than expected), their satisfaction (my feelings toward the apple I have chosen can best be characterized as) on a 7-point scale (1 = very dissatisfied, 7 = satisfied) (Taylor and Baker 1994), and their likelihood and motivation to leave a review (please indicate how likely / motivated you would be to post a star rating and a text review at the review forum?) on a two item ($\alpha = .94$) 7-point scale (1 = Not very likely/motivated, 7 = very likely/motivated). Finally, participants reported their age and gender.

Results show that participants reported higher expectations ($M_{control} = 4.8$, $SD = .990$; $M_{treatment} = 5.48$, $SD = .995$; $t(98) = 3.43$, $p < .001$) and satisfaction ($M_{control} = 5.64$, $SD = 1.16$; $M_{treatment} = 6.08$, $SD = .944$; $t(98) = 2.08$, $p = .020$) in the treatment condition compared to the control condition. Next, we tested for mediation: condition (0 = control, 1 = treatment) was a significant predictor of expectations ($b =.68$, $SE = .19$, $t(98) = 3.43$, $p < .001$), which, in turn, was a significant predictor of both satisfaction ($b =.60$, $SE = .09$, $t(98) = 6.66$, $p < .001$) and intention to write a review ($b =.52$, $SE = .18$, $t(98) = 2.99$, $p = .004$). Our estimation of the indirect effect using 10,000 bootstrap replications produced a significant indirect effect of our treatment on satisfaction ($a \times b =.41$, $SE = .13$, 95% CI .17 to .68) and intention to write a review ($a \times b =.36$, $SE = .17$, 95% CI .07 to .71) via expectations. Importantly, this indirect effect remained significant when we controlled for apple choice. In sum, this study highlights that revealing a product's organic nature post-purchase significantly boosts consumer expectations, satisfaction, and review intentions. This strategy enhances perceptions without affecting initial purchase decisions, helping to mitigate potential negative associations with green product cues.

4 General discussion

In this work, we examined the phenomenon of greenhushing on online delivery platforms, adding to the scant literature on consumers' perceptions towards greenhushing. Results suggest that disclosing the green labels increases the higher price perception but, at the same time, does not influence consumers' choices. Interestingly, consumers do not differentiate between brands that "walk-the-talk" (Schoeneborn et al., 2020) or brands that neglect to communicate their green efforts. Our intervention, i.e. disclosing the green nature of products after the purchase, is a way to further encourage and support sustainable consumer behaviors, trying to overcome apprehensions regarding costliness and performance which continue to impede widespread sustainable adoption and at the same time nudge towards the adoption of sustainable behavior. This finding suggests a promising strategy for companies to enhance consumer perceptions without influencing their initial purchasing decisions, thereby potentially mitigating negative pricing associations often linked with green product cues.

Our research highlights the importance of timing in sustainability communication, showing that disclosing green attributes post-purchase avoids negative perceptions, mitigates price-related backlash, and fosters informed, unbiased consumer decisions.

The preliminary results of our study pave the way for future research avenue. First, we will introduce additional mediators and moderators in the experimental design in order to provide a comprehensive picture of the processing mechanism between the condition presented in the scenarios and the dependent variables. Second, we are planning to conduct some field experiments in a real online delivery platform setting in order to rely on actual behavioral data, offering maximum realism (Morales et al., 2017).

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