Information Acquisition and Sustainable Consumption (#107257)

Author(s)
This pre-registration is currently anonymous to enable blind peer-review.
It has 3 authors.

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1) Have any data been collected for this study already?
No, no data have been collected for this study yet.

2) What's the main question being asked or hypothesis being tested in this study?
We will examine the following Research Questions (RQ):
1. Does the likelihood of acquiring information about product sustainability differ between consumers of sustainable and unsustainable products?
2. Consumer preferences:
a. Does offering information about the sustainability of purchased products and close substitutes affect individuals' preferences for sustainable products?
b. Does this effect differ between consumers of sustainable and unsustainable products?

3) Describe the key dependent variable(s) specifying how they will be measured.
For RQ1: Whether a consumer (in the treatment "Info") acquires information about the recycled material of the purchased plastic water bottle.
For RQ2 (a & b): Whether a consumer chooses a voucher for brand A (i.e., for water bottles that are made 100% from recycled plastic). Details of the voucher decision are explained in section 4 below.
Based on the above definitions, both dependent variables will be binary.

4) How many and which conditions will participants be assigned to?
Participants are users of an app from a large supermarket chain. We focus on plastic water bottles from two brands (A and B) with sizes 0.33L, 0.5L, 1L, 2L, and 6.25l. After having uploaded a purchase with at least one of the considered water bottles, participants will be assigned to one of two treatments (only the first time the product is bought during the intervention period):
1. "No Info": Participants receive a "thank you" message for purchasing the product.
2. "Info": Participants receive a "thank you" message as in the treatment "No Info" but are additionally asked whether they would like to know more about the quantity of recycled material of this and other bottles. They can click on "Know more" or "Close." If they click on the former, they will receive information about the share of recycled material for four water bottles (including the one they have just uploaded).

Directly after having been assigned to a treatment (and seeing the messages associated with the treatment), all participants face a voucher decision. In the voucher decision, participants choose for which brand (A or B) they would like to receive a 5€ voucher (or they can close the window without making a choice). Finally, they enter their email address and loyalty card number to receive the voucher.

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.
RQ1: We conduct a Chi-squared test to check for a significant difference in the likelihood of acquiring information (in treatment "Info") between consumers who uploaded a sustainable product (brand A) and consumers who uploaded an unsustainable product (brand B).
RQ2a: We conduct an OLS regression where we regress the outcome variable on a dummy for being assigned to treatment "Info" and a dummy for whether the consumer is classified as having uploaded a sustainable product. We test whether the coefficient of the treatment dummy is significantly different from zero using heteroskedasticity robust standard errors.
RQ2b: We conduct an OLS regression similar to the one for RQ2a but interacting the dummy for being assigned to treatment "Info" and the dummy for whether the consumer is classified as having uploaded a sustainable product. We test whether the coefficient of the interaction term is significantly different from zero using heteroskedasticity robust standard errors.

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.
We will exclude observations: (a) if they faced severe technical malfunctions (e.g., seeing a product in the "thank you" message that they did not purchase or not receiving any message); (b) if a consumer uploaded a product from both brands in the upload that determined the treatment assignment; (c) if a consumer made an invalid voucher choice (e.g., closed the window without choosing a brand for the voucher or entered a loyalty card number that had already been used).

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.
The experiment will start in mid-September (the exact date depends on technical aspects). It will end on December 31 or once a sample size of 1,000 observations with a valid voucher choice has been reached.

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)

To further explore the decision to acquire information and information processing, we analyze the following outcomes as secondary analyses: (i) time spent on the screen of the first message in treatment "Info", (ii) time spent on the screen that provides the information about the products in treatment "Info" (if the consumers decided to receive the information).

To learn more about the impact of information, we estimate the average effect of information for those who acquire information (separately by whether consumers are classified as having uploaded a sustainable product). We use 2SLS regressions where the assignment to treatment "Info" serves as an instrument for acquiring information.

As robustness checks, we run OLS regressions for RQ1, RQ2a, and RQ2b, including the following covariates: gender, age, single household, having been an app user before 2022, and self-reported recycling behavior. For RQ2a and RQ2b, we also check whether excluding observations who selected a voucher shortly before its expiration date affects the results.