

What do consumers want to know?

An experimental study on consumers' preferences over labels content for food products and its effect on purchasing behavior.

Marco Faillo (Università di Trento)

Giacomo Degli Antoni (Università di Parma)

Virginia Cecchini Manara (Università di Milano)

EXTENDED ABSTRACT

The sustainability of food production systems heavily depends on consumers' choices and their demand for healthy and sustainable products. In this challenge for sustainability, a key role is played by the availability of information to final consumers, which poses several questions and tradeoffs.

Consumers might be driven to change their food consumption habits by accessing more information about the effect of food on their *health*, the impact of agri-food systems on the *environment* and natural resources, the *economic* sustainability of the supply chains, and the *social* impacts of the production process on communities and workers. While some of the attributes of food products, like those impacting to health, are search or experience qualities, the others are clearly closer to credence qualities (Cason, 2002; Church, 1994). This aspect may impact on the effects that information provided to consumers on different characteristics of goods may have on consumption habits.

The load of information required to make informed choices might become excessive and potentially conflicting in the different dimensions of health, environmental, economic and social sustainability.

One possibility for simplifying information comes from the use of smart or simplified labels, although there is much debate over their design and effectiveness (Loewenstein et al. 2014; Bar-Gill 2021).

For example, the labels proposed by the NutriScore system use a color scale ranging from green to red and is the most widely used in Europe. Although immediately understandable, such a system provides very partial information, limited to nutritional content, without indicating the functional use of the food in a complete and healthy diet, depending on lifestyles, nor providing information on the environmental and social impact of the production process. Other formats stress the information

about environmental sustainability, from the simple statement of greenhouse gas emissions to more complex systems taking account of several dimensions.

We intend to investigate two main research questions.

First, what information concerning characteristics of food do consumers prefer to receive in order to make conscious food choices?

Second, does information provided on more dimensions at the same time – on potential effect of food on health, environment and economic/social sustainability - generate negative effects due to information overload, making the information provided on a single dimension more effective?

With this respect, we are interested in understanding how consumers deal with several pieces of information referring to different and potentially conflicting qualities and how the availability of more information implies a willingness to change food consumption habits.

In order to answer our research questions and inform the policy debate, we employ an experimental methodology that allows providing high control and avoiding confounding factors, at the same time enabling the truthful elicitation of demand by properly incentivizing the purchase of food items.

In our experiment, we follow Muller et al (2019) who have set up an innovative procedure to assess the relative impact of labelling formats, by observing consumers purchasing food before and after one label is affixed to each product. To do that, they create an experimental store that replicates online shopping platforms. This choice is motivated by several shortcomings of alternative methods, as already highlighted by Muller et al. (2019):

- studies based on unconstrained survey response methods have been widely criticized (Auger et al. 2003; Auger and Devinney 2007) because respondents are attracted to socially acceptable responses, which lead them to overstate their intentions;
- studies measuring measured consumers' willingness to pay a premium for eco-labelled products have been proved not to be reliable (see Gallastegui, 2002) because their estimates are mostly derived from consumer statements, which are known to be biased (e.g., social desirability bias);
- studies using the discrete choice method (Janssen and Hamm 2012; Johnston et al. 2001; Van Loo et al. 2011) limit the risk of overstatements by forcing trade-offs, although choices still remain hypothetical and thus do not guarantee that they reflect true attitudes and actual purchases.

- the analysis of observational data is limited to examining the effects of labels currently used in markets.

The use of experimental methods allows to build controlled and reproducible conditions that replicate food purchases: participants actually buy real eco-labelled products in the laboratory (Bougherara and Combris 2009; Marette et al. 2012; Moser and Raffaelli 2012; Tagbata and Sirieix 2008).

More specifically, we will perform two different experiments.

In the first experiment, participants have an initial endowment and are asked to purchase at least two products from an online store containing six products. Before making their purchase choice, we use a BDM (Becker et al., 1964) to measure the willingness of participants to pay to receive information about the health, environmental and economic and social impact of each of the six products. Participants make separate bids for each type of information. By comparing the different bids we aim at investigating which information consumers prefer to receive when they have to make consumption choices.

In the second experiment, we will introduce four conditions. In the first condition we will provide an initial endowment to consumers and we will ask them to buy at least two products out of six alternatives. In the first condition no specific information about the potential effect of each of the six products on consumers' health, environment and economic/social aspects are provided. The second condition is exactly the same as the first condition, except for the fact that each product is associated with the information on its potential impact on consumers' health. The third condition add to the health information the information on the environmental impact of the product. Finally, in the fourth condition all the different types of information (on health, environment and economic/social impact) are provided. By comparing consumers' behaviour across the different conditions we aim at analyzing the effect on food choices of the provision of information concerning different and potentially conflicting information and to correlate them to the composition of consumer' consumption basket.

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