Tipping points in measuring organic trust: Just another food choice experiment?

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Abstract - Consumer Trust is particularly important in organic food systems because there are only marginal visual and sensory differences between organic and conventionally produced products. In this context, trust is fostered by certain personal and systemic circumstances. However, it also depends on the ability of the food system to meet consumer expectations. As there is a growing gap between consumer expectations and actual behaviour, there is a need to align consumer expectations with the organic food system. To examine the growing expectations gap and potential tipping points for mistrust, our study conducted a choice experiment with four different attributes and three different products, targeting especially groups in doubt of the prescribed xtrinsic attributions.

INTRODUCTION

Consumers are generally interested in sustainable food quality, but broad acceptance is still lacking. In the food market in Germany as a whole, organic food sales only account for about 7% (BÖLW 2022) indicating an information or trust gap (Janssen and Hamm 2014). Consumer trust is particularly important in sustainable foods, such as organic foods, because of the credence quality it posses. It can be fostered by certain circumstances, such as the health content of organic food, local production, the organic label, taste, animal welfare, small family farming (Thorsøe 2015) and price premiums (Macready et al. 2020). The overall aim of the project is to understand doubts and tipping points in organic food shopping acquisition. The project targets to understand food choices by respondents, who are not regularly shopping organic – organic doubters. In a qualitative study in May and June 2020 with 39 semi-structured in-depth interviews, interviewees were asked about attributes influencing not only trust, but also mistrust in organic products. The majority of participants had an academic education, were responsible for their own food purchases, and purchased organic food only occasionally. The most interesting result highlighted a lack of systemic trust in reflection of the distribution channel, personal involvement of supermarket personal and the visual appearance of an organic product (own study, in review for publication). It is assumed that systemic-trust may be bound to the systemic quality orientation determined through the distribution channel, personal-involvement of study personal and visual appearance. To determine how sociological origin, distribution channel, appearance of the product and price do influence the likelihood of choosing organic products among 'undecided organic shoppers' and to find any strong determinants (tipping points) for (mis-)trust, we conducted a choice experiment with three different products (animal, plant and processed product), varying not only price and distribution channel, but also visual appearance and social distance of the selling person as attributions, hence adding soft-attributions as measures for acceptance.

METHODS

The quantitative representative consumer online survey was conducted from April 09 to 26, 2021. The sample follows the German population in terms of gender, age, level of education and residence size. 1,014 consumers were asked to make a choice between three organic products that varied in the levels of the four product attributes presented or a no-choice. The final design consisted of 5 choice sets for each of the three organic product categories with three different alternatives per choice set. Products shown were organic carrots, eggs and chocolate. Organic carrots were chosen, as vegetable for processing and raw consumption with a short value chain. Fruits and vegetables are also the second most frequently purchased product in organic quality (Bio-Barometer 2020). As a second product, organic eggs were chosen because they are the most frequently consumed organic product among Germans who buy organic food at least occasionally (BMEL 2022) and are an unprocessed organic food with a short value chain. The third product was organic chocolate, which is a highly processed product with a complex value chain. Attributes were the sociological origin (soz1: no information, soz2: I can trace where the product was produced, soz3: There is a photo of the producer on the product, soz4: The sales staff seems sympathetic, soz5: I know the producer of the product personal), the distribution channel (dis1: discounter, dis2: supermarket, dis3: organic supermarket, dis4: farmers market, dis5: natural food store), the appearance of the product (app1: for eggs: size L, for carrots and chocolate: plastic packaging; app2: for eggs: White color (trade class M), for carrots: smaller size, for chocolate: Simple packaging; app3: for eggs: Brown color (trade class M), for carrots: loose package, for chocolate: XL-packaging; app4: for eggs: Size S (commercial class S, brown, white mixed), for carrots: unusual shape, for chocolate: Elaborate packing; app5: for Eggs: eggs directly from the stable (feather, light dirt on the shell), for carrots: Dirty look, for chocolate: Sustainable packaging) and five price levels (for six eggs: 0.75 – 3.49 €; price for carrots: 0.80 – 3.25 €; price for a bar of chocolate: 0.49 – 5.70 €). In order to make the choice experiment as tangible as possible, the attribute levels were visualized using pictures and text. The attributes for soz1 - soz5 as well as for dis1 - dis5 were displayed as text below the corresponding product image. Mixed logit models were applied to represent insights of the importance of the attributes and consumers preferences.

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Results

We estimated three models from the survey results, one for each product category with the dependent variables for the choice of the product. Table 1 reports the results for each product category.

Table 1. Beta Coefficients of the mixed logistic models on preferences for food choices. Reference value: discounter (dis1), no additional information on the product (soz1), plastic packaging for carrots and chocolate (app1) and size L for eggs (app1).

Choice	Coefficients eggs	Coefficients carrots	Coefficients chocolate
Eggs: trade class S, brown, white mixed; Carrots: unusual shape; Chocolate: Elaborate packing (app4)	5,270***	5,243***	7,177***
Eggs: Eggs directly from the stable (feather or light dirt on the shell); Carrots: Dirty look; chocolate: Sustainable packaging (app5)	4,179***	3,906***	6,321***
I know the producer of the product personally (soz5)	3,581***	2,241***	2,917***
Eggs: White color (trade class M); Carrots: smaller size; Chocolate: Simple packaging (app2)	2,682***	2,688***	4,281***
Eggs: Brown color (trade class M); Carrots: loose package; Chocolate: XL-packaging (app3)	1,831***	2,839***	2,587***
Supermarket (dis2)	1,789***	2,166***	-0,052
Organic supermarket (dis3)	1,639**	1,340**	- 0,844*
Farmers market (dis4)	0,862	0,723	- 2,368***
Natural food store (dis5)	- 0,291**	- 0,535***	- 0,190*
I can trace where the product was produced (soz2)	-0,793	-0,476	- 3,507***
There is a photo of the producer on the product (soz3)	-0,896	-0,539	- 3,505***
Price	- 1,093***	- 1,018***	- 2,368***
The sales staff seems sympathetic (soz4)	- *2,137***	- 1,293***	- 1,778***
Pseudo r^2	0,122	0,109	0,169

For both organic eggs and carrots, the results show that the retail channels supermarket (dis2) and organic supermarket (dis3) lead to increases in choice probabilities for the shown products compared to shopping at a discounter (dis1). Shopping at a specialized natural food store (dis5) reduces the likelihood of purchase compared to shopping at a discount (dis1). The imprint 'The sales staff seems sympathetic' (soz4) decreases the probability for choosing the product compared to when there was no additional information on the product (soz1). On the other hand, the imprint 'I know the producer of the product personally' (soz5) increased the probability for choosing the product compared to no additional information (soz1). All attributes of the appearance of the products (app2 to app5) significantly increased the probability that the product was chosen, compared to col1 (for eggs: size L, for carrots: plastic packaging). The level of price coefficient was negative, as expected.

For organic chocolate the results show that the retail channels organic supermarket (dis3), farmers market (dis4) and natural food store (dis5) lead to decreases in choice probabilities for the shown products compared to shopping at the discounter (dis1). The imprint 'I can trace where the product was produced' (soz2), 'There is a photo of the producer on the product' (soz3) and 'The sales staff seems sympathetic' (soz4) decreases the probability for choosing the product compared to when there was no additional information on the product (soz1). Knowing the producer of the product personally (soz5) lead to an increased choice for the presented product compared to when there was no additional information on the product (soz1). All attributes of the appearance of the products (app2 to app5) significantly increased the probability that the product was chosen, compared to plastic packaging (app1). The level of price coefficient was negative as well.

Discussion

So far, it is particularly interesting to note that the product attributes like packaging and the appearance of the products influenced the choice and therefore is an overlooked facet of preference (and consequent trust assessment). The results are particularly interesting in the case of eggs with preferences for natural appearance (with a feather or light dirt) on the shell and dirty carrots, as such products are rarely found in stores due to quality controls. Moreover, knowing the producer personally seemed to increase the choice probability for all three products. However, it appeared that it was more likely that carrots or eggs were chosen in a supermarket than in a farmers' market, which may conflict with the personal contact to the farmer, but may be explained through daily life habits and consumer consistent food choice. Hence, it may be enough to know the producer, but the distribution may be professionalized. The imprint 'The sales staff seems sympathetic' (soz4) also seems to reduce the likelihood of purchase. However, the statement was only printed in text on the product and that the sympathetic sales staff were not actually experienced while shopping.

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