

# Consumer reactions to the availability of organic food in discount supermarkets

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## Keywords

Organic food consumption, organic products, food retailing, discount supermarkets, sustained consumer behaviour.

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## Abstract

The market for organic food products in industrial countries has changed significantly. Conventional grocery stores have entered this market in recent years and now present an alternative point of purchase to farmers' markets and specialized health food shops. In Germany, the main newcomers in this field are the discount supermarkets. The question is whether the increased supply of organic food products leads to sustained effects on consumer behaviour. In other words, can a first-time purchase of organic products at a discounter act as an 'icebreaker' and induce further purchases? This question is addressed here. A consumer survey ( $n = 231$ ) indicates that an initial purchase of organic food in a discount store is indeed very likely to lead to follow-up purchases. The link shown is statistically significant. Furthermore, customers are very interested in the availability of locally grown products, reliable information and easy comparison with non-organic products. Important recommendations concerning organic product range, display and information, especially for retailers, can be deducted.

## Introduction

The organic food market in Germany has expanded considerably since its beginning in the early 70s. Initially, organic products were only available via direct sale by organic food farmers or in health food stores. With the entry of supermarkets and discount stores into the organic food sector, the supply of organically produced food has risen substantially (Aschemann and Hamm, 2007). Total sales of organic products in Germany amounted to 5.9 billion Euro in 2010 representing a 3.9% share of the total food market (iwd, 2011). The discount stores, as relative newcomers in the organic food sector, are the particular focus of this study. Compared with conventional supermarkets, they tend to stock a more limited range of products and pursue a very specific strategy of low pricing (Fritz *et al.*, 2007; Zielke, 2010). Statistics regarding sales of organic products by shopping location demonstrates that discount stores already dominate other sources of organic supply in Germany with a market share of 27.3% (Holst, 2008). The purpose of this study is to examine how consumers react to the provision of organic food products in discount grocery stores. More specifically, this study examines whether organic products in discount stores are accepted and approved of by customers, and become subject to repeat purchase. Customer expectations of organic products in terms of origin, store display and information provided are also examined.

In the following, the theoretical background to consumer decisions in the food market will be discussed as well as prior empiri-

cal findings relating to the consumption of organic products. We will then describe an online consumer survey on organic products that was conducted to specifically address the so far rather neglected aspect of organic products in discount supermarkets. We discuss the methodology and findings of the survey before coming to recommendations for practitioners and suggestions for further research.

## Conceptual and empirical background

The consumption of food concerns the satisfaction of a basic human need and is part of everyday life. Well-off industrial countries are characterized by abundant availability of products in diverse retail settings. Given sufficient per capita income, the purchase of food, for example, of daily necessities and familiar food brands, is rather a routine process and only acquires significance in exceptional circumstances (Hoyer, 1984; Betsch *et al.*, 2002; Tarkiainen and Sundqvist, 2009; Welsch and Kühling, 2009). This can for example be the case with food scandals that are widely publicized in the media, such as animal diseases, like BSE (bovine spongiform encephalopathy), or the contamination of animal feed with dioxins. The resulting risks to human health have raised concerns about the quality of food in the market and stimulated consumer search for safer and healthier alternatives (Vindigni *et al.*, 2002; Grunert, 2005; Hughner *et al.*, 2007). Studies have shown that organic products are seen as being contaminant-free and thus as having beneficial effects on health

and the environment (Makatouni, 2002; Grazia and de Magistris, 2008; Welsch and Kühling, 2009; Zepeda and Deal, 2009; Zakowska-Biemans, 2011). Although scientific evidence on the qualitative superiority of organic vs. conventional products is still missing [Bundesministerium für Ernährung, Landwirtschaft und Verbraucherschutz (BMELV), 2005], organically produced foods are often perceived as a possible solution to such quality problems.

The first criterion that plays a significant role when it comes to buying organic products is the consideration of price. Economic theory predicts that prices play a role for food decisions. Experimental studies showed, for example, that the manipulation of pricing strategies can result in lower consumption of unhealthy food products and raise the demand for healthy ones (French *et al.*, 1997; French, 2003). The high cost of organic food has been identified as a factor inhibiting consumer decision in favour of organic products (Magnusson *et al.*, 2001; Zanolini and Naspetti, 2002; Shepherd *et al.*, 2005; Hughner *et al.*, 2007; Monier *et al.*, 2009). This is an especially salient argument in light of the economic financial crisis that started in 2008. In fact, overall, consumers do not appear to be willing to pay a price premium of more than 10% or at most 20% (Soler *et al.*, 2002; Yiridoe *et al.*, 2005). It is the basic strategy of discount supermarkets to offer products at bargain prices. As a consequence, when offering organic products, those prices can also be assumed to be lower than elsewhere. Indeed, price observations in German discount stores could confirm this assumption (Öko-Test Online, 2010). Thus, the generally lower price level in a discount store may work in favour of price sensitivity concerning organic food.

The second criterion concerns the aspect of quality. Consumers have difficulty in fully assessing the quality of food products – before and even after the purchase. The quality dimensions can be distinguished into search, experience and credence aspects depending upon when and whether the consumer can judge the quality (Nelson, 1970, 1974; Darby and Karni, 1973). The market for organic products provides an appropriate example of credence qualities. Consumers are usually not able to assess from the outward appearance of a product whether it has been produced organically, and in most cases, there is also no significant difference in taste to make the organic nature of the product tangible after the purchase (Bech-Larsen and Grunert, 2001). These doubts can only be removed if reliable product information can serve to transform the experience and credence attributes into quasi-search attributes (Ngobo, 2010). Information of this type, which gives official approval to the organic nature of the product, does in fact exist in form of national organic certifications. To give just two examples, the standards set by the US Department of Agriculture (USDA) demand that the organic label can only be granted to products that contain at least 95% of organic ingredients (USDA, 2011). In Germany, the same standard is applied for the 'Bio-Siegel', a national organic label introduced in 2001 (BMELV, 2009). Once the awareness of its meaning exists, the logo can act as an information cue that guarantees the authenticity of organic food products (Wier *et al.*, 2008). Empirical results show that German consumers do in fact consider the official label when purchasing food. In a representative survey conducted in 2009 with 1100 participants, 55% of them proved to consider the organic label almost always or often, 36% at least sometimes or infrequently (infratest dimap, 2009).

A third criterion that can affect the decision to purchase organic food concerns the availability of such products (Aertsens *et al.*, 2009; Zakowska-Biemans, 2011). Despite extensive media coverage, a large proportion of consumers appear to be either not informed at all or at least inadequately informed about organic products and their specific qualities (Yiridoe *et al.*, 2005). In these circumstances, it may be that an existing product offering is not given any attention or that its presence is not even registered. In the studies undertaken with household panels in Great Britain and Denmark by Wier *et al.* (2008), respondents stated that they would have more confidence if more information about how and where the organic product was produced were to be supplied on the packaging. Concerning organic products imported from abroad with large transport distances, the question can also arise as to whether the overall ecological impact should still be seen as positive at all. In the study by Wier *et al.* (2008), two out of three households stated that it was important to them and one out of three that it was very important to them to buy locally produced food. These considerations go in line with the discussion on food traceability. Under the heading 'from field to plate', the production and distribution process within the food supply chain is being tracked and documented, giving the consumer an opportunity to inform himself or herself adequately regarding each detail of the product's history (Opara and Mazaud, 2001; Regattieri *et al.*, 2007). Thus, the food miles the product has been travelling from its origin up to its disposition for consumption can be calculated and, if required, integrated into the consumer decision (Engelhaupt, 2008). Thus, consumers' knowledge about availability in combination with preferences regarding local production and traceability can play an important role.

A fourth criterion concerns the social influences regarding buying and consuming organic food (Nestle *et al.*, 1998). Evidence from three representative studies in the US, Great Britain and Germany showed that a sense of social identification is one of the most powerful factors influencing the consumption of organic products (Bartels and Reinders, 2010). An example is the perceived need to justify food decisions either to an inner circle like family members or to society as a whole (Bettman *et al.*, 1991; Childers and Rao, 1992). Extensive media coverage of environmental and nutritional topics can be expected to have resulted in an increasing social pressure to buy such products. However, in the early days of the boom in the organic sector, visiting a health food shop was sometimes seen as being linked to the expression of a political commitment. It could be assumed that not each class of society wanted to identify immediately with this type of 'green' messages. In the neutral context of a large supermarket, such politically motivated reservations seem to become redundant.

In sum, one can conclude from those findings that whether a consumer decides to purchase organic products or not is predominantly determined by criteria such as perceptions of price, quality, availability and social influence.

## Consumer survey on organic products

### Hypotheses

A high level of price sensitivity towards the organic sector benefits above all the discount stores with their low price levels (Öko-Test Online, 2010). As a consequence, those consumers who for cost

reasons had previously opted not to buy organically produced food can now afford it more easily. This assumption can be supported by research on price sensitivity in diverse consumption situations (Monroe, 1973; Lichtenstein *et al.*, 1993). It could for instance be shown that the influence of prices differs depending on the nature of the purchase, such as functional vs. hedonic, and the social context, alone or with others (Wakefield and Inman, 2003). It was shown that consumers are more sensitive to prices in case of functional in comparison with hedonic categories and in case of social in comparison with private settings (Wakefield and Inman, 2003). In line with this research, one can assume that those respondents in the sample who decided to try organic products for the first time in a discount store, i.e. in a social setting, and were guided by functional motives, such as protecting oneself and the family against harmful residues, have been specifically attracted by price considerations.

**H1:** The importance of price and the perception that organic products are overpriced are suitable factors to use as a means of distinguishing between the two groups of first-time buyers and non-first-time buyers of organic products in the discount store.

However, whether a consumer goes on to purchase organic products again after an initial trial is not only influenced by price variables – a positive experience of quality and social approval matter as well. As already mentioned, there is empirical evidence that organic food is seen as having a higher nutritional value and as likely to contain fewer contaminants and thus as being of a higher quality than conventional food (Hughner *et al.*, 2007; Hamzaoui Essoussi and Zahaf, 2009; Zepeda and Deal, 2009). It is therefore posited that given the perceived price/value ratio and the better quality perception, the first-time purchase of organic food in a discount store will be seen as representing value for money and will induce further purchases of such products. In this context, it could be shown that the intensity of organic food shopping increases in line with the purchasing experience (Welsch and Kühling, 2009).

**H2:** The first-time purchase of organic food in a discount store will have a positive effect in terms of encouraging repeat organic purchases at this location.

## Methodology and sample size

A questionnaire was developed and subjected to thorough pretests in order to preclude ambiguity or misunderstanding. An on-line format was used for distribution of the present survey, which was conducted in August 2009, generating a convenient sample of  $n = 231$  consumers.

The sample group is relatively young, with an average age of 32.5. The majority of respondents have a higher level of education to A-level/high school leaving or college/university degree level, and two thirds of them are women. Only 35.6% of respondents have a monthly food budget of more than 200 Euros. This sample clearly cannot be taken as representing German population as a whole. Due to the nature of the Internet survey, a self-selection bias must further be assumed. This must be noted as a limitation.

A particular emphasis of the survey was on those buyers who had been encouraged to make their first-time purchase of organic food in a discount store. This subsample was identified through a

question regarding the extent to which the availability of organic food in this particular shop had provided the impulse to try these products for the first time. Of the 215 survey participants responding to this question, 63 of them declared themselves to have been first-time buyers, corresponding to 29.3%. This subgroup will be analysed in more detail in the following.

## Examining the hypotheses

H1 assumes that the two groups, first-time buyers and non-first-time buyers of organic food in discount stores, can be discriminated from one another by two factors involving price. The groups, it is posited, could be distinguished by their reaction to the survey questions 'The low price of food is important to me' and 'Organic food is too expensive for me'; both of which were measured on a 5-point Likert scale ranging from 1 = not at all to 5 = very much. As we were interested in identifying features that separate and characterize two classes of objects, and as in this case, the dependent variable is measured on nominal scales and the independent variables are measured on metric scales, the discriminant analysis is the adequate statistical procedure for testing this relation (Brosius, 2004).

The results of the discriminant analysis show that the variable of the importance of food prices as well as that of the perceived high price of organic food are indeed both well suited in delivering a significant differentiation between the two groups. First-time buyers give significantly higher importance to reasonable pricing as a product attribute overall compared with non-first-time buyers. They are also significantly more likely to see organic food as higher priced. The differences between the means of the dependent variables in each group are demonstrated by significance tests. The general price variable discriminates on a 5% level of significance between both groups,  $p = 0.031$ , Wilks-Lambda = 0.978,  $F = 4.709$ . The organic food price variable discriminates the groups on a 1% level of significance,  $p = 0.001$ , Wilks-Lambda = 0.953,  $F = 10.509$ . H1, which posits the important role played by the price variables, is thus supported by the results of the discriminant analysis.

H2 suggests a positive link between the first-time purchase of organic food in a discount store and the intention of continuing to do so. This link is tested through a one-way analysis of variance (ANOVA). This statistical procedure is suitable when wishing to examine the impact of one or more nominally scaled independent variable on one or more metric dependent variables.

The independent variable, first-time organic purchase (yes/no), was measured by the question whether the availability of organic food in the discount store was the trigger to try organic products. The dependent variable *repeat organic purchase* was measured by the statement that the availability of organic food at the discount store was a trigger to buy organic food more often (1 = not at all, 5 = very much). As the descriptive statistics of the ANOVA indicate, the group means are rather different. Within a confidence interval of 95%, the range of mean values for the first-time buyers lies between 3.55 and 4.16, while the range for the non-first-time buyers lies between 2.42 and 2.85. Indeed, the mean values of the two groups are significantly different, with a significance level close to zero ( $p = 0.000$ ,  $F = 39.246$ ). Thus, H2 is supported. The first-time purchase can therefore be seen as acting as an 'ice-breaker' and inducing further organic purchases.

## Further descriptive results

Organic food products must first be recognized and valued in order for a purchase to follow. This means the ability to distinguish organic from conventional products on one hand and a basic trust in the presumed qualitative superiority of organic products on the other hand. In Germany, as well as in other countries with comparable labelling schemes, national organic labels can provide assistance with this task. The data of the survey at hand show that this is indeed the case in both respects. The 'Bio-Siegel' is familiar to 79.9% of the respondents, and with a mean value of 3.36, they evaluate it as trustworthy (1 = not at all, 5 = very much). With a mean value of 3.64 (same Likert scale), the respondents perceive a superior quality of organic in comparison with conventional products. Taken together, these results indicate that in the eyes of the respondents, organic products, at least those bearing the organic label, are distinguishable and also preferable.

The majority of participants are in favour of the organic product range in discount supermarkets. Almost two third of the sample (71.9%) regard it as an advantage that discount stores add organic products to their range of goods. Moreover, the survey revealed that organic food takes an average share of overall food purchases of around 30%. This relatively high figure suggests that the sample group selected has a rather positive attitude towards organic goods.

**Table 1** Main factors influencing the purchase of organic food

Personal benefits	in %	Social benefits	in %
Health	36.7	Environmentally friendly	9.6
Personal conviction	12.7	Sustainability	9.6
Product freshness	5.7	Animal welfare	19.2
Overall personal benefit	55.1	Overall social benefit	38.4
Total			100.0

**Table 2** Attitudes towards organic food

Advantages of organic food	M (SD)	Disadvantages of organic food	M(SD)
Organic food is healthier	3.77 (1.07)	Too expensive	3.14 (1.23)
Tastes better	3.43 (1.15)	No difference	1.94 (1.11)
Environmentally friendly	3.93 (1.04)	Does not appeal	1.87 (1.14)
Animal welfare	3.82 (1.02)	Looks unattractive	1.91 (1.05)
Personal satisfaction	2.18 (1.27)	Does not taste good	1.37 (0.78)
No pesticides	2.97 (1.36)	"Tree hugger" image	1.54 (1.06)

**Table 3** Preferences for organic food disposure in discount stores

Organic food – would like to see	M (SD) Total sample	M (SD) First-time buyers	M (SD) Non-first-time buyers
(1) Wider range	3.33 (1.22)	3.57 (1.20)	3.24 (1.23)
(2) Easier to find	3.13 (1.23)	3.17 (1.26)	3.13 (1.22)
(3) Better to compare*	3.48 (1.25)	3.84 (1.08)	3.36 (1.30)
(4) Organic section	3.05 (1.34)	2.98 (1.40)	3.14 (1.33)
(5) Loose goods*	4.19 (1.01)	3.95 (1.1)	4.29 (0.94)
Regional products	4.09 (1.16)	4.14 (1.16)	4.11 (1.14)

\*5% level of significance.

The respondents were given a list of pre-defined statements and asked to weigh their own reasons for buying organic food, to a collective total of 100%. The statements concerned both individual and social benefits. Individual benefits concerned health, personal conviction and product freshness. The social factors related to environmental friendliness, sustainability and animal welfare. Table 1 shows the mean results across the full sample.

The average respondent sees health as the main factor influencing the purchase of organic food with a share of 36.7%. Second place is taken by animal welfare concerns, with 19.2%. A comparison of personal and social factors reveals that with a share of almost 60%, personal benefit represents the main reason for buying organic food, while social benefit has a share of less than 40%. This result is consistent with other studies involving organic food (Makatouni, 2002; Wier and Calverley, 2002; Grazia and de Magistris, 2008). Prior research with a Danish and British sample similarly concludes that personal values take precedence over social values when it comes to the actual purchasing decision (Wier *et al.*, 2008).

The individually weighted advantages and disadvantages of organic food are indicators of the overall attitude towards such products. The results show that the advantages of consuming organic food are seen to outweigh the disadvantages by far. High pricing is the only factor to deliver a noticeable negative impact, with a mean value of 3.14. The potentially detrimental 'tree-hugger' image noted in the early days of the organic movement, with an average figure of 1.54, clearly no longer plays a role (cf. Table 2).

The widespread availability of organic food appears to have had a generally favourable impact on sales. However, as Table 3 shows, there is still room for improvement in providing a more customer-friendly approach to organic food sold in discount stores. In particular, the wish for buying organic products unpacked and the desire for more regional products seem to play



a role. Presumably, the advantages lie in the possibility of buying individualized portions, saving packaging, minimizing food miles and buying from familiar local producers.

Interesting results can be seen when splitting the sample into the two subgroups of respondents who made their first-time purchase of organic products in a discount supermarket (first-time purchasers F) and those who did not (non-first-time purchasers NF), as shown in Table 3. The two groups differ significantly in terms of the expressed desire to be able to compare organic with conventional products, and in terms of the desire to be able to purchase fruit and vegetables loose rather than pre-packed. On the one hand, first-time purchasers significantly differ from non-first-time buyers in desiring a better ability to compare organic from non-organic food. Yet, on the other hand, they are less forceful in their expression of the desire to see loose goods. To add to the price sensitivity already identified and taking into account the additional finding that this group is far more conscious of being under time pressure when shopping than the non-first-time buyers, we begin to build a better picture of this subgroup. The first-time buyers seem to be more focused on picking something up quickly when searching and selecting, and thus on efficient shopping, than the non-first-time buyers. These results are consistent with the qualitative study by Hjelmar (2011) in which the results from 16 in-depth interviews with Danish households are used to differentiate between reflexive and convenience behaviour in relation to organic food. First-time buyers of organic goods in discount stores are more likely to belong to the second group.

## Conclusions

The improved availability of organic food has led to increased sales and attracted new customers. Supply has clearly created its own demand. This link applies above all to the range of organic foods available in discount stores. This study shows that the stimulus to make a first-time purchase that arises from the availability of organic food in a discount store has a significant impact on repeat purchases of such products. This effect is primarily influenced by the price variables. A positive basic attitude towards organic food and the perceived superior quality of such products compared with conventional, non-organic products provide necessary but not sufficient factors.

This study started with the assumption that four criteria play a role for organic food consumption: price, quality, availability and social influence. Although not each aspect could be tested in detail, a tendency for organic purchases in discount stores can be outlined. First, prices proved to play a crucial part in organic food decision making, especially in a discount supermarket. Clients in this retail setting are particularly price-sensitive, both for traditionally offered conventional and for rather newly supplied organic food products. Thus, the comparative price advantage to other shopping locations showed to be the essential prerequisite to induce first-time and maintain ongoing organic purchases. Second, the perceived qualitative superiority of organic produce to conventional, non-organic food seems to be supported by the widely known national organic label. In the eyes of the consumers, it may symbolize that organic credence qualities can be taken for search qualities. Third, general availability of organic produce is a prerequisite for enhancing demand for such products. This effect may

raise expectations for further prosperity of the organic market. Consumer transactions do not take place in social isolation. The individual makes a decision for himself or herself but also on behalf of others and under the influence of others. This study has given only indirect consideration to this fourth aspect of social influence that certainly should be addressed in more detail in further research. This is especially the case as organic consumption is getting more and more media attention after occurrences of food scandals. In the course of this public discussion, consumers of organic food might even become role models for the broader masses.

Additionally, this study suggests that there is scope for the introduction of additional measures to help encourage organic food consumption. First-time consumers are more likely to feel their decisions validated if organic products can be directly compared with conventional products and are for instance not solely presented in an organic section. Furthermore, the results of the online survey show that consumers want to have more information about organic products, which can then reinforce the original intention to buy (cf. Mancino *et al.*, 2008). The aspect of regional production and its adequate communication to the consumers is also tremendously significant. Success in the future will depend on including more locally produced organic food in the range, which purchasers can examine separately and, at least to some extent, bag up for themselves. Measures such as these can lead to increased sales and help to validate the purchasing decision for first-time buyers in particular.

Stimulating the consumption of organic food serves various interest groups. Food retailers hope that a superior product range will help them to reach out to new customers (cf. Grankvist *et al.*, 2007; Skallerud *et al.*, 2009; Ness *et al.*, 2010). This is not only a legitimate ambition but one that has the dual attraction of supporting the social benefits of health care and environmental protection as well as the individual profit orientation. The availability of organic food in supermarkets and discount stores has encouraged consumers to make a first-time purchase. In the longer term, it remains to be seen whether a first venture into organic food consumption will trigger a self-perpetuating demand. The conclusion of the online survey presented here that an initial purchase of organic food will lead to repeat purchases may be understood as an indication in this direction.

This study provides first insights into the field of organic purchase behaviour in a discount supermarket, and the results therefore deliver helpful contributions. In spite of the previously stated limitation that a convenient sample does not allow generalizations, it is interesting to note that the respondents who seem to speak for a rather eco-minded part of German society are satisfied with different forms of distributing organic foods. That means that even committed buyers of organic food welcome new sales channels that open the market for a new group of especially price-sensitive buyers.

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