

Agribusiness Review - Vol. 9 - 2001

Paper 8
ISSN 1883-5675

How to increase organic food sales: Results from research based on market segmentation and product attributes

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- [Abstract](#)
- [Introduction](#)
- [Materials and Methods](#)
- [Results](#)
- [Discussion and conclusions](#)
- [Acknowledgements](#)
- [References](#)

Acknowledgements

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Abstract

This paper presents results from research on organic food buyers. The empirical research is based on food buyer's knowledge, market segmentation and the attributes of organic fresh fruits and vegetables.

Almost all food buyers have an accurate knowledge of what organic means in relation to food. The market segmentation leads to two opportunities to increase sales of

organic fresh fruits and vegetables. First, promotion that is aimed at increasing sales to existing organic buyers should emphasise the fact that this product is seen as being more healthy and of a higher quality. Second, promotion that is aimed at selling organic fresh fruits and vegetables to buyers who currently purchase conventional products has to consider two issues: the inconvenience of many organic food outlets and the higher price of many organic foods. In situations where organic food is available at convenient outlets, 20% is the maximum price premium at which a significant number of buyers will still consider purchasing it.

Hence, the results from this research suggest that increasing organic food sales may best be achieved by promoting its positive health and quality aspects and making it available in convenient retail outlets at a maximum price premium of no more than 20%.

Introduction

If organic fresh fruits and vegetables are better for the buyer and better for the environment, why are sales still very low? For example, in Australia organic food has a market share of less than 1% ([Dumaresq and Greene 1997](#)). Initially it was felt that the reason for the low level of sales might be that the industry was dominated by producers rather than a balance of producers and marketers. However, an extensive literature review identified numerous publications reporting on various aspects of marketing organic fresh fruits and vegetables (See for example [Hassall 1990](#) , [Loneragan 1995](#) , [Parigi and Clarke 1994](#) , [Sparling et al 1993](#) , [Tregear et al 1993](#) , [Wandel and Bugge 1997](#)).

The reasons given by buyers for both purchasing and not purchasing organic fresh fruits and vegetables have been identified in this literature. However, nowhere were these factors integrated into a model that would attempt to explain the relationship between these reasons.

The model developed for this research uses market segmentation of food buyers as a precursor to considering how product attributes influence the choice that they make between organic and conventional food. Improving the understanding of these factors provides information with which to develop marketing strategies to potentially increase the sales of organic food.

Materials and Methods

Literature Review

Market segmentation

Consideration of the total market of all buyers leads to two relevant market segments: those who purchase organic food and those who purchase conventional food. This differs from the three market segments commonly identified in the literature that are based on the differing reasons given by buyers for purchasing organic food. These market segments are environment, health, and taste ([Ott et al 1991](#) , [Pearson and Neeson 1997](#)). These three market segments are significant in that buyers within each of them do benefit from different marketing efforts. However, this market segmentation excludes those buyers who do not purchase organic food.

Attributes of organic fresh fruits and vegetables

A review of the marketing literature has confirmed that frequent, low-value purchases, such as of fresh fruits and vegetables, are dominated by habit ([Hoyer 1984](#) ; [Assael 1998:127](#)). However, insights into these habits might be gained by looking at the attributes of the product that are important to the buyer ([Sparling et al 1993](#)). The reasons for purchase are related to these attributes. Further, fresh fruits and vegetables were chosen as the product category for this research as they dominate organic food sales in many countries, including Australia ([Hassall 1990](#)).

The positive and negative attributes of organic fresh fruits and vegetables that are important to buyers are identified in the food literature ([Gaudion 1993](#) , [Goldman and Clancy 1991](#) , [Groff et al 1993](#) , [Hassall 1990](#) , [Holt 1992](#) , [Huang 1996](#) , [Hutchins and Greenhalgh 1995](#) , [Lehmann 1996](#) , [Loneragan 1995](#) , [Ott et al 1991](#) , [Parigi and Clarke](#)

1994 , Sparks and Shepherd 1992 , Sparling et al 1993 , Tregear et al 1993 , Wandel and Bugge 1997) . The categorisation and ranking of attributes varies among publications, and may vary according to a specific product and culture.

There appears to be a general trend in ranking of the positive attributes. In order of decreasing frequency, the three dominant positive attributes mentioned have been health, taste and environment.

Eating fresh fruits and vegetables is generally seen as being important to maintaining human health (Pearson 2000) . The major health benefits of organic fresh fruits and vegetables is that they are nutritionally valuable and free of artificial chemicals. Some publications report that buyers claim organic fresh fruits and vegetables also taste better (Tregear et al 1993: 12) . In addition, a number of studies confirm that many people believe that organic fresh fruits and vegetables have been produced in a more environmentally compatible manner than conventional fresh fruits and vegetables (Woese et al 1997: 282) .

Negative attributes lead to organic products not being purchased, or only occasionally purchased, and these are also identified in the literature previously mentioned. The two dominant ones are inconvenience of retail outlets, and high price. Scepticism about the credibility of the organic claim, lack of awareness, and poor appearance were also mentioned by a small number of buyers.

Organic fresh fruits and vegetables are often sold in retail outlets, such as health food stores and by home delivery services (Lonergan 1995) , that are not as convenient as those selling conventional fresh fruits and vegetables, such as supermarkets. Because convenience is the most important attribute for the majority of fresh fruit and vegetable buyers in most developed countries (Cheeseman and Breddin, 1994: 15) , the inconvenience of organic retailers is a significant barrier to increasing sales. For example, Australians are generally affluent and urbanized. They purchase most, in excess of 60% (Anon 1997) , of their fresh fruits and vegetables in supermarkets, where they are offered a wide choice of products. The component of retail convenience most commonly mentioned by fresh fruit and vegetable buyers is 'one stop shopping', that is, where one retail outlet provides the complete range of products required and offers quick shopping and convenient parking (Yuen et al 1994: 455) .

Consideration of the reasons why some buyers purchase organic food whilst others purchase conventional food led to the following model. This model explains the relationship between different market segments, product attributes and the resulting choice that buyers make between organic and conventional food.

Figure 1 Model relating product attributes to buyer's choice of organic food

The model shown in Figure 1 suggests that all food buyers may be separated into two segments: those who purchase conventional food, and those who purchase organic food. Buyers who currently purchase organic food have already assessed the attributes of these products and choose organic food. However, the buyers who currently purchase conventional food are potential organic food buyers. By manipulation of the attributes of organic food these conventional food buyers may be convinced to change from purchasing conventional food to purchasing organic food.

The first attribute of organic food that is considered is that of the convenience of the retail outlet. In many situations conventional food buyers will continue purchasing conventional food. However, in situations where the convenience of the retail outlet selling organic food is comparable, or higher, than that selling conventional food then these conventional food buyers may consider purchasing organic food. These buyers may then consider the final attribute of organic food that acts as a barrier to them choosing it, that of its high price. In situations where the high price of organic food is overcome, these existing conventional food buyers may change their behaviour and choose to purchase organic food.


Empirical research based on this model leads to the identification of specific marketing strategies that will assist in increasing sales of organic food.

Method for empirical research

The population selected for the empirical research was Armidale, a regional University city of 20,000 people in northern NSW. From a demographic perspective Armidale is

representative of Australia. However, it is important to note that from a socio-economic perspective Armidale has a greater proportion of its population involved with education, 9% compared to 3% for Australia. And a commensurately lower proportion of its population employed in manufacturing, 1% compared to 5% ([ABS, 1996](#)).

The empirical research commenced with interviews followed by a questionnaire. A total of 20 in-depth interviews using open-ended questions were conducted with household food buyers. These buyers were selected to represent the main stages in the household life cycle. The information gathered in the interviews was used to design the questionnaire. The questionnaire was randomly distributed to 1,000 households in Armidale. This represented a sample of 1 in every 5 households in this population.

The questionnaire required the main food buyer in the household to respond to a range of questions in relation to buying fresh fruits and vegetables ([Appendix 1](#) ). The response rate was 33% out of which a total of 300 questionnaires were useable. These responses were analysed using descriptive statistics.

Results

The presentation of the results commences with consideration of whether buyers know what organic means and whether they purchase organic food. This is followed by discussion of the reasons why some buyers choose organic food. The final section considers the results in relation to conventional food buyer's hypothetical response to organic food availability and price premiums.

Buyer's knowledge of what organic means

The vast majority of household food buyers know that, in relation to food, organic means grown without chemicals (89%). The four options available in the questionnaire were: don't know, hydroponic, biodynamic, and grown without chemicals. Only a small number of buyers (6%) did not know what organic meant and a few (5%) confused organic with biodynamic and hydroponic.

These results are significant at a 95% confidence level ($t_2 = 656.9$). In addition, a small number of questionnaire respondents indicated that they felt organic food was best described with two of the options given to them. Five respondents indicated 'biodynamic' and 'grown without chemicals' and four respondents indicated 'hydroponic' and 'grown without chemicals'.

Identification of organic and conventional food buyers

Over one third (37%) of the questionnaire respondents indicated that they buy organic food products. However, it is likely that many of these buyers only include a small number of organic products in their basket of purchases. As one respondent commented, I only buy organic food 'occasionally if it is available in supermarkets.'

Organic food buyers reasons for purchasing

There are a number of important reasons given by food buyers for purchasing organic food. The following comment from a questionnaire respondent suggests that some organic food buyers feel that organic food is better due to the lack of chemicals, superior taste and being fresher.

However, they also note that they still buy conventional food due to the higher price of organic food, 'Organic food is so much better for you and tastes so much better and fresher. All of my food would be organic if I could afford it. It is more expensive so unfortunately I have to buy the stuff full of chemicals from the supermarkets which does not taste as good.'

In relation to protection of the environment, one questionnaire respondent stated that, 'it comes down to an ethical and moral thing for me as well. I want to support the farmer

who is doing the right thing by the earth [environment].'

The limited availability of organic food was commented on as being the reason for not purchasing it, 'If organic fresh fruits and vegetables were regularly available in fruit shops or supermarkets I would buy it all the time. I don't have time to go chasing it elsewhere, and ordering it specially is impractical.'

In addition to price and limited availability, concern regarding the credibility of the organic claim was also commented on, 'I don't purchase organic foods because...absence of guarantee that they are pesticide free.'

These comments support the relevant issues that were identified in the literature review. These issues are that the positive aspects of organic food relate to it being more healthy due to the absence of artificial chemicals, its high quality in terms of superior taste and freshness, and that it comes from a production method that is more friendly to the environment. The negative aspects of organic food relate to its high price, to concern regarding the credibility of the organic claim and hence whether it is certified organic, and to the inconvenience of purchasing it because of its limited availability.

Figure 2 provides results for the importance, rated on a 5-point scale, ranging from *not important* (rated 0) through to *very important* (rated 4), of these issues when organic food buyers were deciding whether or not to purchase organic fresh fruits and vegetables.

Figure 2: Importance of product attributes to organic food buyers

As indicated in Figure 2, the most important attribute of organic fresh fruits and vegetables was that they are 'more healthy by being free of chemicals'. Only 3% of respondents indicated that this was 'not important' and the significant majority (79%) indicated that it was 'very important'.

Quality was also a key attribute for the vast majority of organic fresh fruit and vegetable buyers. Higher quality in terms of superior taste and freshness was 'not important' to only 2% of respondents and 57% indicated that it was 'very important'.

Protection of the environment, price and whether certified organic were not as important as health and quality. Finally, the convenience of buying organic fresh fruits and vegetables was the least important issue. However this should not be confused with the availability, or convenience, attribute that will be discussed in relation to buyers of conventional fresh fruits and vegetables. As the previously mentioned results relate to existing organic fresh fruit and vegetable buyers, it was not surprising that convenience was not very important to them, as they have already reconciled themselves to any inconvenience associated with purchasing organic products.

Conventional food buyers response to hypothetical organic availability and price

The most important reason given by conventional food buyers for not purchasing organic food was the inconvenience of the retail outlets that sell organic food. If organic food was available where these buyers currently purchase, then this lack of convenience would no longer be a barrier. In such a situation the buyer may be influenced by other organic product attributes, such as price.

The questionnaire respondents who indicated that they do not buy organic food were asked to complete two questions related to the hypothetical availability and price of organic food.

Almost all (92%) of these conventional food buyers indicated that they would buy organic food products if they were available where they shop at a comparable price and quality. These results are significant at a 95% confidence level ($c^2 = 87.4$).

Further, of the conventional buyers who indicated that they would buy organic food products if it were available at a comparable price and quality where they shop, over half (56%) would not be prepared to pay anything more for these products. However, a large number (41%) indicated that they would pay up to 20% more. Finally, a very small number (3%) indicated that they would pay 20-50% more and no respondents were prepared to pay over 50% more. These results are significant at a 95% confidence level

($c^2 = 175.8$).

Discussion and conclusions

This research confirms previous research on the relevant attributes of organic fresh fruits and vegetables and helps to fill a gap in the literature by integrating these attributes into a model that suggests ways of increasing sales.

The results from this research indicate that almost all food buyers have an accurate knowledge of what organic means in relation to food. Hence, the focus for promotional activities aimed at increasing sales should be on the attributes of organic food, rather than making buyers aware of it.

This research suggests that consideration needs to be given to all fresh fruit and vegetable buyers, not just those who purchase organic fresh fruits and vegetables. This leads to two market segments, those who buy conventional food and hence do not buy organic food and those who already buy organic food.

The key barrier to be addressed for conventional buyers, who represent over half of all buyers, is the inconvenience of organic retail outlets. The results from this research suggest that in situations where organic fresh fruits and vegetables are available where these buyers do their shopping that almost all of these buyers would buy organic fresh fruits and vegetables.

However, the issue of price premiums must also be considered. For these buyers who consider organic fresh fruits and vegetables too expensive, it may be possible to lower the price. However, a more appropriate strategy may be to promote the benefits of organic products. If this is successful, buyers will pay the higher price because they believe that the positive attributes of organic products, namely, health, quality, and to a lesser extent environment, make it worth it.

The size of the price premium is also an issue. The results from this research suggest that 20% is the largest price premium at which there is still a large number of buyers who would consider purchasing organic food.

Finally, promotion aimed at increasing sales of organic food to existing organic food buyers should emphasise the health and quality aspects of these products. It is important to note that there is significant scope to increase the market share of organic food by increasing sales to existing organic food buyers.

Hence, the results from this research suggest that increasing organic food sales may best be achieved by promoting its positive health and quality aspects and making it available in convenient retail outlets at a maximum price premium of around 20%.

The method used in this research may be used as a basis for further research across other food groups (such as dairy and grains) and in other countries. Finally, further segmentation of organic food buyers in terms of their frequency of purchase, such as regularly or occasionally, also provides the opportunity for further research.

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