Exploring Shopping Behaviour to Improve Marketing of Organic Fruits

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Abstract

The aim of this research was to facilitate the continued growth of the organic sector by investigating why some buyers chose organic products and others chose non-organic products. A decision process model to explore this choice for fresh fruits was developed from the existing literature and modified on the basis of the results from 20 in-depth interviews. Subsequently 300 useable responses were obtained from a questionnaire randomly distributed in one city in Australia where there was a wide range of organic fruit products available. Fresh fruits were found to be frequent, low value purchases, with most people buying weekly and spending just less than \$A2 (€1.5) per person per week. A small number of products account for the majority of expenditure, with the top ten accounting for almost 90%. Most food buyers used a fruit barn as their main source and topped up at a supermarket, purchasing from both on a weekly basis. The choice method used to purchase individual products varied, with non-seasonal fruits generally being purchased as staples and seasonal fruits as a treat. Impulse purchases are common for products where hedonic attributes are important such as fruit, and especially seasonal fruit. Most fruits were not seen as destination products (a planned purchase where the buyer is prepared to make a special effort to purchase it), and substitute products were readily available. The identification of organic food buyers remained elusive as they were spread throughout the community in which they comprised a significant 37%. However, with an overall market share of around 1.5%, it is evident that most of them only purchased organic food occasionally. The reasons that they chose organic food were principally related to the hedonic attributes of health and taste. Concern for the environment was of less importance.

INTRODUCTION

Much of the previous research into organic fruits has focussed on production issues that relate to the challenge of increasing supply to meet the expanding market. The relatively small amount of research which has explored the origins of demand has tended to focus on identifying buyers with demographic variables and/or understanding their attitudes. These studies have highlighted the gap between buyers' generally positive attitudes towards organic food, which may even go so far as an intention to buy, and the fact that these intentions do not always result in actual purchases of organic products. The generally accepted explanation is that the limited availability and higher price of organic products are reducing sales. This research aims to contribute to our understanding of organic food buyers by exploring the purchase context, and as such, provide some insights into the following conundrum: If consumer perception is that organic food is better for your health and better for the environment, then why are sales less than 2% of the total market share? It is worth noting that, although organic farming is generally found to have slightly superior environmental claims, the scientific support for its superior health claims is not as clear.

Although it is a rapidly growing market, the organic food sector is relatively small at around $A400 million, or 1.5% of the food market. A full range of organic products are available including many foods (fruits, vegetables, herbs, seeds, grains, cereals, nuts, dairy products, eggs, lamb, beef and chicken), fibres (wool and cotton) and pharmaceuticals (echinacea, liquorice, tea tree and eucalyptus oils). Fresh fruits and vegetables form the largest product group, at approximately half the value of all sales (Hudson, 1996) and have a market share of around 4%.

Some organic fresh fruits and vegetables are purchased from specialised retail outlets, such as home delivery services or co-operatives. However, the mainstream supermarkets have a dominant share of all grocery sales (around 80%) and are all increasing their offer of organic products, including fresh fruits. Thus, in order to understand why some buyers choose organic products and others choose non-organic, it is important to understand their choice of a retail outlet as well as their choice of individual products.

LITERATURE REVIEW

The review of the literature considers those issues that are relevant to the shopping behaviour for organic fresh fruit purchases in Australia. It has been organised into the following sections: fresh fruits purchased, types of retail outlet, attributes of fresh fruits and finally buyer purchasing behaviour.

Fresh Fruits Purchased

It appears that the average Australian purchases a wide range of fresh fruits. Statistics were identified for a total of 20 individual products (Table 1); however, the range of products is substantially larger. For example, the list does not include passionfruit or blueberries, both of which are commonly available, and it would be even longer if fresh herbs were included. However, a small number of products account for the majority of expenditure and amount bought; the top three fruits in Table 1 account for approximately 50% and the top ten account for almost 90%.

This information only provides an indication of what individuals eat as it refers to the average buyer, who in reality is unlikely to exist. It is probable that actual purchases by individuals will vary significantly from this average, with some purchasing significantly more, and others less, as well as varying widely in the range of individual products bought (How, 1990). Also, price differences are significant for fresh fruits; for example the actual price of oranges may vary by up to +/-50% throughout the year (ABS, 1998). Hence, the expenditure should be regarded as no more than an approximate indicator. The reasons for such a wide price variation are many and include issues such as product quality, selection of a retail outlet and the season of the year.

Although per capita consumption of fruit has risen at an average of 1% per annum over the last 50 years (ABS, 2000), the amount spent by the average Australian household on purchases of fresh fruits is relatively modest when compared to other food related expenditures. The average amount spent by individuals on fresh fruits is just over $A2 per week, which is less than the average individual weekly expenditure on alcoholic beverages ($A9.10) or tobacco ($A4.70) (ABS, 2005). The expenditures on fruits do not account for the fact that the amount of home-grown fruits has been estimated at around 4% of total amount eaten, with the most popular products being lemons, apples, oranges and bananas (ABS, 1994).

Another important consideration is the range of organic fresh fruits that are available. All of the 20 individual fruit products listed in Table 1 are available on a regular basis from organic suppliers (Greenline, 2008).

Types of Retail Outlets

In most regions in Australia, food buyers may select from a number of different fresh fruit and vegetable retail outlets. These retail outlets may be a supermarket, a fruit barn, a fruit shop, or a farmer's market. There are other sources, such as home delivery services which may include taking orders over the Internet where fresh fruits and vegetables may be purchased. However, these sources represent a very small percentage (<2%) of the market (HRDC, 1990). In most urban areas there is at least one supermarket and either a fruit barn or fruit shop accessible to food buyers.

In Australia three supermarket chains dominate the grocery industry, claiming approximately 80% of the market (Choice, 2008). Their fruit and vegetable sections are an important part of their image as providers of healthy food, and in spite of relatively high wastage, the produce sections make a significant contribution to profitability. Supermarkets typically dedicate 200 to 400 m^2 of selling space to fresh fruits and vegetables. A fruit barn is typically a large warehouse-style fresh fruit and vegetable retail outlet with a similar amount of selling space as a supermarket and may include a small number of other products such as milk, bread and pasta. A fruit shop is smaller than a fruit barn and typically has less than 100 m^2 of selling space, has a smaller range of fresh fruits and vegetables and very few other products. A limited number of buyers have access to a farmer's market, typically on a monthly basis, which includes stalls where producers provide direct sales of fresh fruits and vegetables to the consumer.

The above retail outlets provide a wide range of high quality products which reflect what buyers prefer to purchase. However, product selection is constrained by the availability of products from the supply chain. Most fruits are grown in Australia, including pineapples and mangoes in the tropics and apples and cherries in the temperate regions. Imports of fresh fruits are relatively low (6% of sales) (Coombs, 1995).

In Australia, organic fresh fruits and vegetables are available in most supermarkets and some fruit barns and fruit shops (Choice, 2000). Other outlets, such as health food stores and home delivery, or different distribution and ownership schemes including community supported agriculture and box schemes, are relatively rare.

Fresh Fruit Product Attributes

The attributes of fresh fruits that are attractive to buyers are health, taste, satiation, and the time or convenience in preparation and eating (Pearson, 2000). These attributes may be divided into those which are primarily *utilitarian* and those that are primarily *hedonic* (van Trijp and Meulenberg, 1996). Utilitarian attributes focus on product functions such as satisfying hunger and providing nourishment (Bowbrick, 1992), whilst hedonic attributes are those that facilitate fulfilment of pleasure seeking goals such as sensory gratification. In a retail outlet, buyers focus on specific attributes of individual products which relate to hedonic aspects of quality (taste, ripeness, freshness, integrity and variety) as well as utility (convenience and price) (Table 2).

Buyer Purchasing Behaviour

Fresh fruits tend to be frequent purchases, usually on a weekly basis but sometimes more often, and are relatively low-priced (HRDC, 1990; Yuen et al., 1994). It has been suggested that buyer involvement for these products is low; therefore, few alternatives are compared and not very many product attributes are considered. In the decision making, buyers resort to the application of simple choice methods that reduce this potentially complex task into something relatively simple. This enables them to make quick and almost effortless decisions (Hoyer and Brown, 1990). In fact, it has been stated that buyers choice methods for fresh fruit and vegetable purchases are dominated by consideration of price and performance (Hansen and Sørensen, 1993). Fresh fruit and vegetable buyers will tend to purchase the lowest priced product; however, this will be tempered with consideration of the performance issues, such as product integrity and convenience.

Impulse buying generally relates to purchase decisions that are made inside the retail outlet. These are 'unplanned' or 'spur of the moment' purchases which are triggered by a product display or in-store promotion. It would appear that 'planned impulse' is a commonly used buyer's choice method for fresh fruit and vegetable purchases. For example, the majority of buyers (64%) agree with the statement that 'I don't really plan my fruit and vegetable requirements...I just see what there is at the time I purchase.'(HRDC, 1990). However, some fresh fruit and vegetable products are planned rather than impulse purchases. A destination product is a planned purchase where the buyer is prepared to make a special effort to purchase it, such as going to another retail outlet when confronted with a 'stock-out' (a.k.a. the product of choice is 'sold out'). In contrast, for some planned purchases, the buyer is willing to purchase alternatives or substitute products. A staple is a product that is purchased regularly which may be compared to a treat that is only purchased occasionally, perhaps for a special occasion

This review of buyer purchase behaviour indicates that individual fresh fruits are likely to vary in terms of those that are seen as destination products, purchased as a staple or treat, out of impulse, and for which substitute products are available.

METHOD

The research method started with a preliminary exploratory study which was used to inform the main descriptive study that followed. All respondents were those who purchased most of the food for the household. The preliminary study consisted of semi-structured interviews with the main food buyer for the household and was designed to be completed in 30 minutes. A convenience sample of 20 interviews were completed. Of these, 15 were with individuals who represented the main stages in the family life cycle. This included parents with infant or primary or secondary age school children, parents where children had left home, single parent households and households of non-related adults. The remaining five interviews were with known organic food buyers.

The main study consisted of a questionnaire, with mainly closed questions, that was designed to be completed in 10-15 minutes. Pilot testing of the questionnaire showed that including a large number of individual products resulted in considerable fatigue for the respondent. Thus only the seven products that were purchased by the highest percentage of respondents in the preliminary study were included in the questionnaire: apples, bananas, oranges, strawberries, rockmelons, grapes and peaches. The sample population for study was Armidale as it is generally representative of Australia from a demographic perspective. It is a university city of 20,000 people in northern New South Wales, and the retail outlets which sell fresh fruit (including organic fruit) were representative of those found throughout Australia. Armidale has two supermarkets and one fruit barn that had a limited range of organic food products available on a consistent basis and three fruit shops. Buyers were also able to purchase organic fresh fruits from a co-operative and a home delivery service. The questionnaire was designed with the intention of using descriptive statistics in the data analysis. One thousand questionnaires were distributed via Australia Post representing a random one in five sample of the population. A total of 300 useable questionnaires were returned.

RESULTS AND DISCUSSION

The results and discussion have been organised under the following three sections: organic food buyers, buyer behaviour in relation to retail outlet and buyer behaviour in relation to individual products.

Organic Food Buyers

The vast majority (89%) of food buyers perceived that, in relation to food, organic means grown without synthetic chemicals. Over one third (37%) indicated that they bought organic food products but most made these purchases only occasionally. As a result organic food is still a niche, with a 1.5% market share. As one commented, '[I only buy organic food] occasionally if it is available in supermarkets and fruit shops.' Almost all (95%) organic food buyers purchased organic fresh fruits and vegetables, making it the most commonly purchased product group, with approximately one third of respondents purchasing organic produce regularly, and slightly less than two thirds occasionally. This results in organic fresh fruits and vegetables having a market share of around 4%. Almost all (92%) of the non-organic food buyers would buy organic food products if they were available where they shopped at a comparable price and quality. Further, a large percentage (41%) indicated that they would pay up to 20% more.

The qualitative responses from the questionnaire provided insights into buyer's motivations. The non-organic food buyer is perhaps best summarised by the response that organic food is 'Not important to me.' However, there are a number of issues that are relevant to understanding the organic food buyer. The following response provides an insight into the reasons buyers may choose organic food at one time and non-organic food at another time: '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. Also you can't get things that are out of season organically, so if you want a particular fruit or veg [sic] you have to buy from supermarket.' So organic food is perceived by some buyers to be 'better' but it is highly priced and only available seasonally.

Organic food buyers are representative of the wider population from a demographic perspective. Also in terms of their purchase behaviour (choice of retail outlet, shopping frequency, choice method used, importance of product attributes) there are no significant differences. However, slightly more organic food buyers had home-grown fresh fruits and vegetables (66% compared with 57% of non-organic buyers, an increase of 9%) and their gardens were larger, providing significantly more food (+35%). The combination of these factors results in organic food buyers eating a lot more home-grown fresh fruits and vegetables (+44%). The season affected the productivity of these home gardens, with the 'market share' of home-grown for organic food buyers ranging from 6% in winter to 15% in summer. The most important attributes of organic fresh fruits and vegetables were being 'more healthy' and of a 'higher quality', both of which are hedonic attributes. Hence these should form the focus of product promotion and the development of brands for these products (Pearson, 2003; Pearson and Henryks, 2008). Protection of the environment, price, organic certification and buying convenience were of less importance.

Buyer Behaviour in Relation to Retail Outlet

Shopping behaviour was explored by identifying buyer's choice of retail outlet and shopping frequency. Consumers tend to have a preferred retail outlet where they purchase most of their fresh fruits and vegetables. Fruit barns were the most popular choice for this main retail outlet (51%). However, additional supplies were purchased on a regular basis by most buyers (75%). Supermarkets were the most popular choice (58%) for this supplementary retail outlet. Approximately 25% of respondents made purchases every 2-3 days; however the majority (65%) made weekly shopping trips. Product quality, range and price were the most important issues when choosing a retail outlet.

Buyer Behaviour in Relation to Individual Products

The buyer's evaluation of individual products when making a purchase was explored by identifying the product attributes used and their ranking. The rating of the same attribute for different products was relatively consistent (Table 3). For example, the rating of the taste and price only varied 15% (99% to 84% for taste, and 85% to 70% for price). Taste, which is a hedonic attribute, was consistently one of the most highly rated attributes (first for four products and second for the other products).

The buyer's purchase of individual products was explored by identifying the preferred choice method used, such as staple or treat; impulse purchase or not, and whether substitutes were available, or whether it was a destination product. These differed according to the particular product.

Individual products that were purchased on a regular basis were staples in contrast to treats which were only purchased occasionally. Individual products differed widely in terms of whether they were purchased as a staple or a treat (staples varying from 75% to 8%, and treats 78% to 22%) (Table 4). Further, staple and treat were somewhat the opposite of each other, so those products purchased as a staple by many buyers were a treat to only a few. There was very little difference between seasonal and non-seasonal products (for example the average for staple non-seasonal was 44% and seasonal 38%). In summary, seasonal fruits tended to be purchased as treats whilst the year round availability of other fruits meant that they were more commonly purchased as staples.

A buyer may make the decision to purchase a particular product before they enter the retail outlet, or make an impulse purchase whilst in the retail outlet. Impulse purchases varied widely (81% to 26%) (Table 4). Impulse purchases were more common for those products that were less commonly purchased, as there was an inverse relationship between impulse purchases and purchase frequency. Impulse is a frequently used choice method for fresh fruit purchases. The percentage of impulse purchases for individual products varied widely (from 81% to 26%). More than half of food buyers purchased rockmelons, strawberries, peaches and grapes out of impulse. Thus products for which hedonic attributes are important, such as fruit, and especially seasonal fruit, are more likely to be purchased out of impulse. Impulse purchases are unplanned or 'spur of the moment' purchases that are stimulated by what buyers see within the retail outlet. Products displayed in prominent positions, such as where the buyers enter the retail outlet and at the ends of aisles, are likely to attract the most impulse purchases. Thus, in terms of the layout of the product displays in the retail outlet, the highest level of overall sales is likely to be achieved when the products that have a high percentage of impulse purchases are located in these prominent positions. It is also relevant to note that prominent positions are also used by retail outlets to display product price promotions and to influence the visual appeal of the internal environment of the outlet.

When a buyer was confronted with a 'stock out', that is, none of their desired product was available, they had limited alternatives: purchase something else (ie a substitute product), go to another retail outlet (in which case it would be seen as a destination product), or wait until their next shopping trip. In relation to substitutes and destination product (Table 5) as the number of buyers who purchased a product decreased, there was a general increase in the percentage of buyers who would purchase a substitute (33% to 51%) and a reduction in the percentage that saw it as a destination product (40% to 10%). Consideration of the average values for the columns within each category showed that substitutes were available for both seasonal and non-seasonal products (38% and 37%) and that seasonal fruits were less likely to be seen as destination products (17% versus 27%).

Apples, bananas and oranges were the products most likely to be seen as destination products (Pearson, 2001). Buyers tend to be committed to purchasing destination products; that is why they are prepared to go to the effort of finding another retail outlet in response to the product not being available in their first choice of retail outlet. This additional effort is a potential source of inconvenience to the buyer. Indeed, having the desired range of products, that is, at least all the destination products, is an important attribute for the buyer's selection of a retail outlet. Hence, to ensure that sales are not lost it is desirable for retail outlets to ensure that they avoid stock-outs of all the products that are seen as destination products by a large percentage of buyers.

Rockmelons were the only product for which more than half of the buyers felt that substitute products were available. Hence, in order not to lose sales revenue, it is desirable for retail outlets to ensure that they avoid stock-outs of all the products for which substitutes are not readily available. In situations of a stock-out of products for which substitutes are readily available, it may be relevant to display the substitute product in the same area and hence make it easy for buyers to purchase it. Identification of what are the substitute products for each individual product offers an opportunity for future research.

So far, the results for each individual product have been presented according to the particular issue in relation to shopping behaviour. This has enabled comparisons to be made with the other products. However, it is possible to collect all the results for a particular product. With apples for example, the most important attributes were taste as indicated by ripeness and no blemishes. Most (75%) were purchased as a staple, impulse purchases were relatively low (26%), a moderate proportion of buyers saw them as destination products (40%) and substitutes were available (38%).

CONCLUSION

The results from this research suggest that increasing organic food sales may be achieved by promoting its positive health and taste aspects and making it available in convenient retail outlets at a maximum price premium of around 20%. These results also add to the literature by identifying that the choice method used by buyers when they purchase individual fresh fruit products varies widely. The individual products differed in terms of the percentage of buyers who purchased them as a staple or a treat, out of impulse, and as a destination product and who considered substitutes to be available. In general, impulse purchases are common with fruits and substitutes are often available. In order not to lose sales revenue, retail outlets should ensure that they avoid stock-outs of all the products for which substitutes are not readily available and for all destination products. Sales may be increased by displaying the substitute products in the same area as the out-of-stock product and by placing impulse products in prominent positions.

There are a number of limitations associated with the conclusions from this research as well opportunities for further research. Caution should be exercised in the level of precision attributed to any extrapolation of the results into estimates for the whole of Australia due to methodological issues associated with using a self reporting questionnaire rather than actual purchase data. Also, this research does not include the rapidly growing area of fresh fruits that are purchased as part of semi-prepared meals in supermarkets, or consumed as part of restaurant meals or take-away food. Further research opportunities emerge from identifying those products that are purchased as substitutes as well as undertaking this type of shopping behaviour research in other countries with their different product ranges, retail outlets and cultural context.

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Tables

Table 1. Expenditure ($A person^{-1} week^{-1}) and amount (kg person^{-1} year^{-1} of fresh fruits purchased in Australia. Source: Pearson, 2000.

Fruits	Expenditure $A person^{-1} week^{-1}*	Amount bought kg person $^{-1}$ annum^{-1}
Banana	0.47	13.8
Orange	0.30	11.6
Apple	0.27	11.8
Pear	0.18	3.8
Rock and honeydew melon	0.15	4.5
Grape	0.13	2.2
Peach	0.11	1.9
Mandarin	0.08	2.4
Pineapple	0.07	3.2
Watermelon	0.06	6.3
Mango	0.05	1.4
Apricot	0.05	0.9
Pawpaw	0.05	0.7
Lemon and lime	0.04	1.1
Strawberry	0.04	0.9
Nectarine	0.03	0.5
Plum	0.03	0.5
Cherry	0.03	0.2
Grapefruit	0.02	0.5
Kiwi fruit	0.02	0.2
Total		
	$A2.18	68.4 kg

*At the current exchange rate, $A1 is worth €0.48

Table 2. Attributes sought for individual products. Sources: (Godfrey, 1996, HRDC, 1990, McKinnon, 1994, Pay et al., 1996, von Alvensleben and Meier, 1991, Yuen et al., 1994).

Attribute*	Taste	Ripeness	Freshness	Integrity	Convenience	Variety	Price
Fruits							
- Apple	Ripeness			No blemishes		Yes	Yes
- Banana		Colour			Size		Yes
- Orange	Colour			No blemishes	Thin skin	Yes	Yes
- Rockmelon	Ripeness/ smell			No blemishes			Yes
- Strawberry	Ripeness/ colour		Freshness		Size		Yes
Seasonal fruits							
- Grape	Taste		Green stems		Seedless	Yes	Yes
- Peach	Taste	Smell/ softness					Yes

*Where relevant, the attribute listed is the one used by buyers to indicate the presence of the attribute desired. For example, the taste attribute sought by buyers of apples is indicated by ripeness.

Table 3. Ranking and rating of attributes for individual products.

Ranking of attribute*	First	Second	Third	Fourth
Fruits				
- Apple	Taste 90%	No blemishes 76%	Price 70%	Variety 68%
- Banana	Ripeness 89%	Price 74%		
- Orange	Taste 84%	Price 77%	No blemishes 73%	Variety 53%
- Rockmelon	Taste 98%	Price 84%	No blemishes 81%	
- Strawberry	Freshness 98%	Taste 97%	Price 84%	Size 51%
Seasonal fruits				
- Grape	Taste 99%	Freshness 89%	Price 78%	Seedless 65%
- Peach	Ripeness 99%	Taste 98%	Price 85%	

*The ranking is based on the importance of that attribute. The percentage provided is those buyers who rated the attribute in one of the top two categories on a five point scale ranging from very important to not important.

Table 4. Staple and treat purchases. Source: (HRDC, 1990).

Purchase frequency*	Staple (%)	Treat (%)	Impulse (%)
Fruits			
- Apple	75	24	26
- Banana	75	22	28
- Orange	53	40	39
- Rockmelon	10	75	72
- Strawberry	8	78	81
		Average	
	44	48	49
Seasonal fruits			
- Grape	45	50	62
- Peach	32	53	75
		Average	
	38	52	68

*Presented as the percentage of buyers who purchased, for example 75% of buyers purchased apples as a staple. Products have been listed in decreasing purchase frequency.

Table 5. Substitute and destination products. Source: (HRDC, 1990).

Response to product not available*	Substitute (%)	Destination (%)
Fruits		
- Apple	38	40
- Banana	28	35
- Orange	33	33
- Strawberry	42	17
- Rockmelon	51	10
	Average	
	38	27
Seasonal fruits		
- Grape	37	20
- Peach	37	14
	Average	
	37	17

*Presented as the percentage of buyers, for example 38% of buyers would purchase a substitute for apples. Products have been listed in decreasing purchase frequency.