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**Australia Fresh fruits and vegetables: Why do so many of them remain unbranded?**

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**Abstract**

Most fresh fruits and vegetables are unbranded. However, buyers are assisted with brands when purchasing most other grocery products.

Brands have the potential to be of value to buyers and to the organisations that own them. However, research has shown that brands are only valuable to buyers when the attribute being sought fluctuates and is hidden from them at the time of purchase. Such as tastes with respect to apples. On this basis, for example, brands are relevant for apples, oranges, rockmelons and grapes, but not for potatoes, onions or mushrooms.

However, it may not even be possible to develop successful brands with products for which they are relevant. This is due to the difficulty of reducing fluctuations in the attributes sought and hence being able to present a consistent product to the buyer as well as the difficulty of the organisation investing in the brand receiving some benefit. Thus, many fresh fruit and vegetable products are likely to remain unbranded.

## Introduction

An important aspect of marketing is the desire to understand the issues upon which buyers make their purchase choices. This understanding may then be used to influence their choice in various ways. Consideration of product attributes is one perspective that is commonly used to increase our understanding of buyer choice (Assael 1998; Bagozzi 1986; Bech-Larsen et al. 1997; Pay et al. 1996; Thøgersen 1996). This reductionist perspective assumes that a product maybe seen as an aggregation of components or characteristics which, in this article, will be called attributes. Further, the reasons for purchase are related to these attributes.

Although the notion of attributes maybe intuitively appealing, there are significant complexities associated with research into buyer choices using them. There is an implicit assumption in much marketing literature, and practice, that buyer's are able to identify the attributes at the time of purchase. Price is an example. Hence, it is possible for buyers to compare substitute products on the basis of price. However, some attributes are not easy for the buyer to identify. Taste is an example. How does the buyer evaluate the taste of an apple prior to purchasing it? A particular production method, such organic, offers another example.

### Attributes: determinant and fluctuating

Not all attributes are used by buyers, and those that are used differ in their contribution to the buyer's choice (Lumpkin et al. 1985:77). In fact many attributes are irrelevant to buyers. Attributes that buyers are aware of maybe referred to as salient attributes (Engel et al. 1995:224; Myers and Alpert 1977:106). Salient attributes become determinant attributes, that is, choice criteria, when they directly influence buyer's choice (Lumpkin et al. 1985:77; Piggott and Wright 1992:237).

Some attributes fluctuate, that is, they are always present but they vary. Taste and price are examples of fluctuating attributes. Fluctuating attributes are contrasted to discrete ones. A brand is an example of a discrete attribute. It is either present or absent. Organic is another example of a discrete attribute. The product is either organic or not and hence there is no such thing as partially organic.

The taste of many fresh fruits and vegetables fluctuates between shopping trips. The reasons for this relate to the biological and climatic influences in production and to ripening and loss of freshness through the distribution chain up until the product is eaten. An example of fluctuations in taste is found with apples. A component of taste that is important to buyers with apples is texture and this fluctuates from being crisp to floury (HRDC 1990:90).

The price of many fresh fruits and vegetables also fluctuates between shopping trips (ABS 1998; Owen 1996:172). The reasons for this include changes in product quality, the fact that many retail outlets use cost plus pricing based on fluctuating prices from wholesalers, and price changes initiated by these retail outlets.

On any one day the wholesale price of fresh fruits and vegetables covers a wide range. Further, there are price fluctuations throughout the year. For example, on one day the range of wholesale prices of bananas has been reported to cover \$4.00 to \$13.00 per box, with over half (55%) of the sales between \$8.00 and \$10.00 per box. Further, the average wholesale prices for bananas is estimated to range from \$10.00 to almost \$30.00 per box during one year (Borrell et al. 1993:30, 44).

Many fresh fruit and vegetable retail outlets determine the final price based on a cost plus approach but with frequent deviations from this to reflect actions of competitors (Borrell et al. 1993:27) including the periodic use of price promotions or discounts.

Products where there are fluctuations in the determinant attributes provide challenges for buyers. These are particularly problematic when the buyer is unable to investigate the determinant attributes prior to purchase. Such situations maybe analysed by using the distinction between search, experience, and credence attributes.

### Search, experience and credence attributes

Study of information exchange in the interaction between product and buyer has contributed a classification of attributes according to the ability of the buyer to identify them. The distinction between search and experience attributes was made by Nelson (1970:312). He suggested that there are two types of attributes depending on the way in which the buyer gathers information about them.

The most obvious procedure available to the consumer [buyer]... is search. [that is a search attribute] ... But there are goods [products] for which this search procedure is inappropriate - goods it will pay the consumer [buyer] to evaluate by purchase rather than by search. ... We will call this information process experience. [that is an experience attribute].

The distinction of a third type of attribute was suggested by Darby and Karni (1973:68).

...search qualities which are known before purchase, experience qualities which are known costlessly only after purchase, and credence qualities which are expensive to judge even after purchase. [here is the third attribute, a credence attribute].

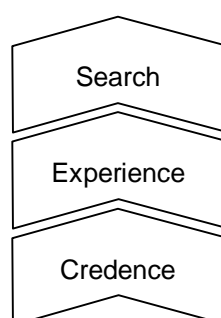
So credence attributes are those that the buyer is unable to identify either prior to, or after, purchase. A credence attribute has the potential to be particularly problematic as the buyer has no way of identifying its existence through either search or experience.

Organic is an example of a credence attribute. In relation to food, organic requires that no artificial chemicals be used on the product (Horsley 2000:5). The buyer does not have the resources to investigate the production and distribution systems and hence they may rely on the reputation of the retail outlet, that confirms that the product is organic, or on a brand, that indicates an independent organisation has certified that the product is organic (Bech-Larson 2000:2; Philipsen and Anderson 1998:3).

An example of research using the distinction between search, experience and credence attributes is found in the labelling, or branding, of foods. Caswell and Mojduszka (1996) suggest that the provision of specific information in a product label allows for the transformation of what were experience or credence attributes into search attributes. Furthermore, it is possible to reduce the search cost by providing a brand on the product and hence make it easier for the buyers to identify it (Bowbrick 1992:54).

The relevance of these types of transformations would appear to be based on the hypothesis that buyers prefer, *ceteris paribus*, search attributes to experience attributes, and experience attributes to credence attributes (Anderson 1994:7). Figure 1 shows this hierarchy of attributes.

**Figure 1 Buyer's hierarchy of preferred attributes**



Thus, buyers prefer to make their purchase choices based on an evaluation of search attributes. Consideration of the intrinsic/extrinsic and revealed/hidden classification of attributes also adds to our understanding of the challenges buyers face when purchasing products with fluctuations in their determinant attributes.

#### Intrinsic/extrinsic and revealed/hidden attributes

Szybillo and Jacoby (1974) stated that attributes may be classified into those that are intrinsic or extrinsic to the product, and those that are revealed or hidden to the buyer.

Figure 2 shows some of the salient attributes of individual fresh fruit and vegetable products on this classification.

**Figure 2 Intrinsic/extrinsic and revealed/hidden classification of attributes**

Attribute:	Intrinsic	Extrinsic
Revealed	colour	price or brand
Hidden	taste	organic

Intrinsic attributes are defined as those inherent in the product, such as taste or colour of an apple, which, if changed, would result in a change to the product itself. By way of contrast, extrinsic attributes are defined as those that are independent of the product, such as price or brand. Hence, extrinsic attributes may be manipulated without the need to modify the physical product (Oude Ophius and van Trijp 1995:180). Thus, for example, the retail outlet may influence buyer choice by changing the price of individual products when they are offered for sale.

Revealed attributes are those that the buyer is able to identify at the time of purchase which they can not do with hidden attributes. For example, colour is a revealed attribute whilst taste is a hidden one. This distinction is of particular relevance to the buyer who is only able to identify revealed attributes at the time of purchase, whilst the identification of many hidden attributes is only possible after purchase. Hence, a revealed attribute is a search attribute, whilst an experience attribute is an example of a hidden attribute.

Where a buyer is looking for an intrinsic attribute that is revealed, such as colour, visual inspection is adequate. If, however, the buyer is seeking an intrinsic attribute that is hidden, such as taste, it is problematic for them, unless of course tasting is allowed in the retail outlet. In situations where the buyer is seeking information regarding a hidden attribute they may infer information from a revealed attribute such as price, or use their own experience, or even seek advice from the staff in the retail outlet (Riezbos 1994:27; von Alvensleben and Meier 1991:154). For example, a buyer may infer that green apples are consistently more tasty than red apples, or that more expensive apples are consistently more tasty. This inference is based on experience and uses the revealed attributes of colour or price as indicators for the hidden attribute of taste.

Situations such as this, where the determinant attribute is hidden, are common in fresh fruit and vegetable purchases (HRDC 1990:31). Over half (54%) of the buyers surveyed for this report stated that they had experienced situations where the revealed attributes look satisfactory only to be disappointed with unsatisfactory hidden attributes.

Thus, it would appear that buyers of fresh fruits and vegetables are often seeking information about hidden attributes. They currently use other revealed attributes to infer information about these hidden attributes. A brand could be used instead of these other revealed attributes to assist them. Consideration of why there are so few branded fresh fruits and vegetables follows.

### **Brands and fresh fruits and vegetables**

Although brands are relatively common with most grocery products, they are not common with fresh fruits and vegetables (Kohls and Uhl 1990:488; Loch 1997:1; van Trijp and Meulenberg 1996:286). A brand is defined as being the 'name, term, sign, symbol, design, or a combination of these used to identify and differentiate products' (AHC 1997:2) and hence the term brand includes concepts such as brand name and product label. The brand is usually attached to the product itself; examples include a tag tied to it or an adhesive sticker (Milgate 1994:20).

In some cases fresh fruits and vegetables are packed in appropriate sized containers to which the brand maybe attached. Research has reported that virtually all buyers (96%) prefer the ability to select products from a bulk display over pre-packaged products (HRDC 1990:50); however, not all fresh fruits and vegetables are sold loose in a bulk display. An example of a situation where buyers prefer the product to be packed is the grape 'bunch bag'. This highly convenient 'pick up and take away' plastic bag full of grapes is very popular with buyers (Anon. 1998:66).

Some fresh fruits and vegetables are branded and buyers may perceive these brands to be of value. For example, there are a number of international fruit and vegetable brands used in Australia, such as ENZA for New Zealand apple and pears, Dole for fruits and vegetables from the USA, Cape for South African fruits, and Sunkist for Californian citrus (AHC 1997:5). In addition to the international brands, they may exist at the local, or regional, level. An example of a regional brand is the Batlow brand of apples (Borrell et al. 1993:6).

In relation to apples, it has been reported that of all the displays in retail outlets approximately half included branded products, although there were a significant number of mixed displays that included branded and non-branded apples (Yabsley 1994:42). In general the apples were graded for size, and brand information included the product variety. It was also noted that there was a greater proportion of branded product in supermarkets than in fruit barns or fruit shops. Branding of fresh fruits and vegetables in supermarkets is important as it enables all employees to more easily identify the product (Batt and Sadler 1998:1).

Thus, only a few fresh fruits and vegetables are branded. The reasons why this is so involve both the organisations involved in the supply chain and the buyers.

### **Organisations and brands**

There are a number of organisational reasons why there are so few brands on fresh fruits and vegetables.

Firstly, there is an absence of material differentiation between the products provided by competing suppliers (Riezbos 1994:62; Yabsley and Wright 1994:5). This maybe a consequence of the inability of the competing suppliers to reduce the variations in quality, that is, fluctuations in determinant attributes, for many fresh fruits and vegetables.

Secondly, a brand requires investment. For example, it is costly to put brand labels on each individual banana (Borrell et al. 1993:32). So the decision to invest in a brand would be expected to at least recoup the cost of that investment in terms of increased product price, increased product sales or a defensive position such as maintenance of market share in a declining market. It has been reported that the existence of a brand does not lead to a higher price for fresh fruits and vegetables (Pay et al. 1996:17). However, these authors suggest that the existence of the brand may have led to an increased market share.

Thirdly, those who pay for the brand may not be those who reap the benefit. In the fruit and vegetable industry, with many retail outlets and many organisations involved in the supply chain, the motivation for any individual organisation to invest in a brand, when other organisations may also benefit from this investment, is likely to be limited (Borrell et al. 1993:vi). For example, it has been suggested that producers pay for the cost of putting brands on individual products without receiving a higher price for their products (Batt and Sadler 1998:1).

### **Buyers and brands**

There are a number of reasons why there are so few brands on fresh fruits and vegetables that relate to the buyers.

Firstly, buyers are frustrated with branded products that are not consistent, that is, they do not provide the guarantee expected (Borrell et al. 1993:6). This lack of consistency emerges from the fluctuations inherent in some of the determinant attributes for fresh fruits and vegetables. The brand is expected to offer a degree of implied assurance, or guarantee, that the product is similar to other products with the same brand (Bowbrick 1992:55; van Trijp and Meulenberg 1996:274). Hence, the brand should assure uniform and predictable quality (AHC 1997:1) and it fails to have value to buyers if, in their experience, the quality of the branded product varies significantly (Yabsley and Wright 1994:3). It has been reported that the just over half (54%) of buyers felt that brands on individual fresh fruits and vegetables were not a good indicator of quality (HRDC 1990:64). These results suggest that brands are only relevant to buyers in certain situations and that many buyers ignore them, perhaps due to the fact that they are not good indicators of quality.

Secondly, brands may not be equally relevant for all fresh fruits and vegetables (Owen et al. 2000:8). For example, in general brands are more relevant for fruits as their quality fluctuates more than it does for vegetables. Further, the benefits of a brand to buyers are likely to increase in situations where quality is difficult for them to evaluate at the time of purchase. For example, on the basis of this analysis, brands are relevant for apples, oranges, rockmelons and grapes, but not relevant for potatoes, onions or mushrooms.

Thus, the benefits of branding fresh fruits and vegetables is problematic. From the buyer's perspective it appears that the situation where a brand is most valuable is when the determinant attribute is difficult to identify, that is, it is hidden, and it fluctuates, and the supply chain is able to reduce these fluctuations. However, from the perspective of the organisations involved in the supply chain it appears that a brand is most valuable when material differentiation can be achieved between the products offered by competing suppliers and the brand offers its owner benefits that exceed its costs. The relatively low level of branding of fresh fruits and vegetables may indicate that the convergence of these situations seldom occurs.

### How do buyers cope with the hidden fluctuating attributes of fresh fruits and vegetables?

Consideration of the determinant attributes for 13 of the most frequently purchased fresh fruits and vegetables (Table 1) provides insights into how hidden fluctuating attributes of fresh fruits and vegetables.

**Table 1 Ranking of determinant attributes**

Ranking of attribute	First	Second	Third
<b>Fruits:</b>			
- Apple	Taste 90%	Blemishes 76%	Price 70%
- Banana	Ripeness 89%	Price 74%	Size 48%
- Orange	Taste 84%	Price 77%	Blemishes 73%
- Rockmelon	Taste 98%	Price 84%	Blemishes 81%
- Strawberry	Freshness 98%	Taste 97%	Price 84%
<b>Seasonal fruits:</b>			
- Grape	Taste 99%	Freshness 89%	Price 78%
- Peach	Ripeness 99%	Taste 98%	Price 85%
<b>Vegetables:</b>			
- Cauliflower	Freshness 96%	Price 79%	Size 71%
- Lettuce	Freshness 99%	Price 76%	Size 67%
- Mushroom	Freshness 98%	Price 75%	Size 68%
- Onion	Freshness 91%	Price 63%	Size 57%
- Potato	Freshness 95%	No greening 90%	Price 68%
- Tomato	Freshness 97%	Taste 96%	Price 77%

(The attribute and its rating have been listed, for example, Apple taste 90%. The data is based on a 5 point scale, ranging from 'not important' (0) through to 'very important' (4). The rating was calculated by summing the number of respondents who indicated that the attribute was 'fairly to very important' or 'very important', that is 3 or 4, and dividing this by the total number of respondents.

At a 95% confidence level the following differences between the attributes are significant: Apples, first and second  $Z = 4.54$ ; Bananas, first and second, second and third  $Z = 4.66, 6.43$ ; Oranges, first and second  $Z = 2.10$ ; Strawberries, second and third  $Z = 5.04$ ; Rockmelons, first and second  $Z = 5.49$ ; Grapes, first and second, second and third  $Z = 5.03, 3.54$ ; Peaches, second and third  $Z = 5.23$ ; Potatoes, first and second, second and third  $Z = 2.32, 6.62$ ; Tomatoes, second and third  $Z = 6.71$ ; Onions, first and second  $Z = 7.98$ ; Lettuces, first and second, second and third  $Z = 8.30, 2.38$ ; Cauliflowers, first and second, second and third  $Z = 5.84, 2.01$ ; Mushrooms, first and second  $Z = 7.51$ ) (Pearson 2001:175)

Taste, ripeness and freshness are the most important determinant attributes. All three of these are hidden fluctuating attributes. The less important determinant attributes of price, blemishes, size and no greening, are all revealed attributes.

In situations where the determinant attribute is hidden, and hence the buyer is unable to identify it at the time of purchase, they may use other attributes that are revealed as indicators for the existence of the hidden attribute. For example, in the context of making a purchase decision, buyers may use ripeness as an indicator of taste for apples.

Table 2 lists the hidden determinant attribute and the indicator used for it by food buyers when they are purchasing some fresh fruits and vegetables.

**Table 2 Indicator attribute used for hidden determinant attribute**

	Attribute indicated by:
<b>Fruits:</b>	
- Apple	Taste as indicated by ripeness
- Banana	Ripeness as indicated by colour
- Orange	Taste as indicated by colour
- Rockmelon	Taste as indicated by smell
- Strawberry	Taste as indicated by colour
<b>Seasonal fruits:</b>	
- Grape	Freshness as indicated by green stems
- Peach	Ripeness as indicated by smell
<b>Vegetables:</b>	
- Cauliflower	Freshness as indicated by compact heads
- Onion	Freshness as indicated by no sprouting
- Potato	Freshness as indicated by no sprouting
- Tomato	Taste as indicated by softness

(Pearson 2001:143-4)

Thus, the strategy developed by buyers to cope with hidden attributes includes the use of indicator attributes. Not surprisingly all of these indicators are revealed attributes.

Buyers may use a brand as the revealed indicator attribute. In situations where the determinant attributes are hidden then a brand may be valuable to the buyer (Grunert 1997:157) by allowing them to use it as an indicator for the hidden determinant attribute and hence simplifying the choice task to the consideration of revealed attributes (Yabsley and Wright 1994:2). However, it is important to note that in the converse situation, where the determinant attributes are revealed, then a brand is less likely to have significant value to the buyer. For example, a determinant attribute for a buyer of potatoes is 'no greening of the skin' (Table 1), which is a revealed attribute, then the buyer is unlikely to benefit from additional information such as a brand (Riezbos 1994:32).

Thus, for the brand to be valuable to buyers seeking information about a hidden fluctuating determinant attribute it must accomplish three tasks.

First, there must be an acceptable level of consistency between individual products carrying the same brand purchased on subsequent shopping trips. That is, the branded products must provide an acceptable level of guarantee in relation to the relevant attribute.

Secondly, the prominence, or ease with which the buyer is able to identify the brand must be greater than the prominence of the revealed attribute that they currently use. For example, buyers currently use 'freshness as indicated by no sprouting' for potatoes (Table 2). So, for the brand on this particular product to be successful it must be more prominent than the sprouting on the potatoes.

Thirdly, and related to the previous two tasks, the consistency of the branded product and the ease by which the buyer is able to identify it, must be noticeably greater than the consistency of the products purchased by them using the existing indicator attribute.



## Conclusion and implications

The value of a brand to the buyer is likely to be greatest when the determinant attributes of the product fluctuate and are hidden from them at the time of purchase.

The strategies used by buyers to cope with hidden fluctuating attributes of fresh fruits and vegetables include the use of revealed indicator attributes. A brand has the potential to be a valuable attribute and replace the revealed indicator attribute that is currently being used by these buyers. Table 3 lists the four products for which branding is most relevant, as well as the sought attribute including its indicator that the successful brand will have to overcome.

**Table 3 Products suitable for branding**

	<b>Sought attribute:</b>	<b>Indicator:</b>
Apple	Taste	Ripeness
Grape	Freshness	Green stems
Orange	Taste	Colour
Rockmelon	Taste	Smell

The many other fresh fruits and vegetables are likely to remain unbranded because the brand will not be of sufficient assistance to the buyer.

However, for the following reasons it may not even be possible for successful brands to be developed for the four products listed in Table 3.

To provide the necessary consistency for the buyer, the fluctuations in the determinant attributes for the branded product will have to be kept to a minimum. This requirement is a task for the organisations involved in the supply chain.

In addition, the brand will only survive when the organisation investing in it receives some benefit. With many organisations participating in the supply chain for most fresh fruits and vegetables the ability of the organisation making the investment to receive a benefit is reduced.

Thus many fresh fruit and vegetable products are likely to remain unbranded. These same issues in relation to branding are relevant to other products, such as fresh meats, where the determinant attributes fluctuate and are hidden from the buyer at the time of purchase.

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