

5. Brand management

5.1 Introduction

In this chapter brand management data provided by the survey is analysed. The question of brand dominance or brand leadership is discussed as are the use by packers' of sales representatives and packer consumer information promotion.

Prior to the survey one packer confirmed that they were investigating the feasibility of employing a sales representative for the Sydney area. The duties of the representative would be those of a normal sales representative employed to interact at the retail level. Sales, promotion, quality assurance advice and information would be high on the agenda. It was envisaged that retailer education would feature prominently in the proposed list of duties (Pagett, pers. comm. July 93). From time to time during the survey it was obvious that retailers had the desire to improve their product but in many instances simply lacked the knowledge to do so. One instance recalled was of a retailer who had purchased a bin of small unlabelled apples. These apples were not selling despite a relatively low price. The retailer had sliced a few apples and left them on a plate for customers to try. Within minutes of course they had turned brown and looked quite awful. One solution would have been to place the sliced apples in a jug of iced water and to provide a set of tongs. A simple solution but one which eluded the retailer. The apples tasted quite good to the author.

In the US the California Kiwifruit Commission employs field merchandisers. In 1989 these merchandising teams increased in-store Kiwifruit advertising by 70% over the previous year with a corresponding 35% increase in sales. Bob Blomquist of DDB Needham explained *they are not selling Kiwifruit, they are selling fresh, healthy, sexy and California* (Mungall 1990, 17).

At the wholesale level it was revealed that the packer considering the employment of a sales representative sold all its product through selected wholesalers under contract. In the Newcastle Markets only one wholesaler carried this packer's product with quality control said to be the priority in the contractual arrangements (Pagett, pers. comm. July 93). The contractual arrangements of packers and wholesalers do not feature in this study because of the obvious difficulties in obtaining detailed information.

In discussing the differences between chocolate wrappings and fruit labels as part of the two-way communication between producer and consumer, Pope comments that we need to find room for a consumer reference address and 008 telephone number on produce labels (Pope 1993, 174). The implication is of course that these items are an integral part of the two-way communication consumers of branded products have come to expect.

Because the focus of the study is the retail/consumer interface it was decided that the level of employment of sales representatives by packers, and the level of packer promotion of consumer information hot-lines, would give a useful indication of the brand promotional support currently being offered to retailers.

5.2 The hypotheses

The hypotheses to be tested are:

- A1.1 *Displays consisting of labelled apples of one of the two leading brands constituted less than 50% of the labelled displays surveyed;*
- A1.2 *Displays consisting of labelled apples of the leading brand constituted 10% of the labelled displays surveyed;*
- A1.3 *Displays consisting of labelled apples of the leading brand constituted 10% of all displays surveyed;*
- A1.4 *Retailers of labelled apples are aware that apple packers of labelled apples employ sales representatives who regularly visit retail apple outlets; and*
- A1.5 *Packers of labelled apples have effectively promoted 008-styled consumer information hot-lines to apple retailers.*

The definition of *leading brand/s* refers to the number of occurrences during the survey of displays which contained that brand's apples. In other words, the two leading brands for hypothesis A1.1 are the two brands whose apples appeared in displays most often. It is acknowledged that because of the lack of volume data this definition of market dominance is questionable. The unexpected dominance of the market by these two players according to this criterion, however, and the market dominance of Batlow in particular, is worthy of comment.

5.3 Australian domestic apple brands

Table 5.1 details the names of the brands of apples sighted during the survey. Appendix I details the names of brands sighted prior to and during the survey. The *prior to* knowledge was restricted to Armidale. The *brand number* was used to identify the brand for survey and data analysis purposes. Since the survey, however, the author has become aware of the existence of other apple brands indicating a growing number of packers are adopting brand labelling.

Table 5.1

Domestic Australian apple brands sighted during the survey

Brand number	Brand name
1.	Batlow
2.	Nightingale Bros.
3.	Top - Qual Tasmania
4.	Black Diamond
5.	Pickworth's Finest
6.	Cleamar
7.	Joyson
8.	Montague
10.	Ellimatta Orchards - South Australia
11.	R.J Armstrong P/L
12.	Mountain Fresh - Inglewood
13.	Jef Tompson
14.	Red Rich Orchards
15.	Ladybird - Eastfield Orchards
16.	Manjimup Archway Orchards
17.	Super Froot - Orange N.S.W.

Compiled by the author.

5.4 Brand dominance

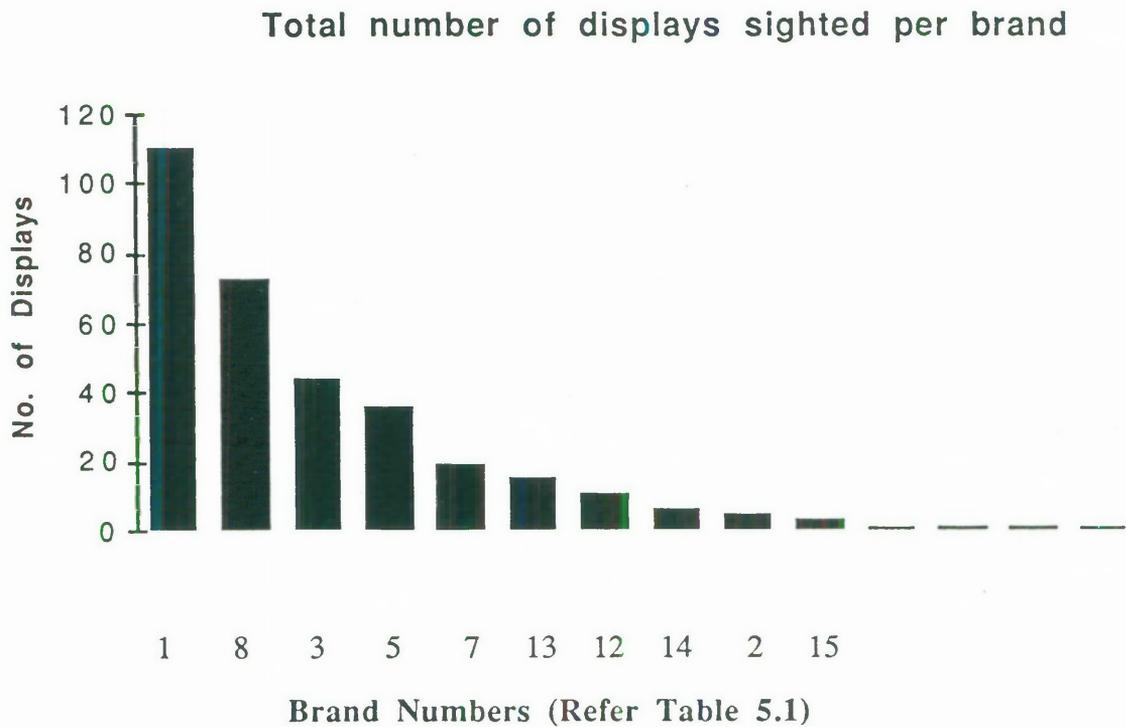
Interestingly enough there was evidence of brand dominance in the surveyed market. Of the two hundred and ninety displays containing brand labelled apples, one brand featured in 37.9% of the displays. The second most frequently encountered brand comprised 24.8% of the labelled apple market. That the two dominant brands comprised 62.76% of the labelled market in terms of occurrences in displays is in itself important. More important, however, is the acknowledged fact that the quality of the fruit of the leading brand was widely regarded as the worst in years. The quality problem was confirmed by the marketing manager of that firm (Sept. 93, pers. comm.). It was also generally acknowledged that the second player had gained some market share in the preceding twelve months. The implications, although not confirmed by this study, are that the brand image of the number one player was still effective enough for it to retain sufficient consumer loyalty to remain the market leader. An extremely important hypothesis and one worthy of further study.

It could be said of course that it was a push strategy that was responsible for the dominance of one brand. As discussed elsewhere in this paper, however, this brand was also the prominent brand supplying storewide brand specific promotion material to retailers and the brand which claimed to be actively and consciously following a combination of both push and pull, focusing increasingly on pull (Pagett, pers. comm, July 93). The extent of the dominance is visible from the data provided in Table 5.2 and Figure 5.1.

Table 5.2
Total number of displays sighted per brand

Brand number	Number of displays	Brand number	Number of displays
1	110	2	5
8	72	15	3
3	44	4	1
5	36	6	1
7	19	10	1
13	15	11	1
12	11	16	1
14	6	17	1

Figure 5.1



Given the sample of 290 labelled displays, the proportion of displays comprising of labelled apples of at least one of the two leading brands was .6276. The probability is .95 that the interval .57 to .68 includes the real population proportion of the two leading brands' share of apple displays.

The first hypothesis of interest related to brand dominance is:

H_0 : *The proportion of displays consisting of labelled apples of one of the two leading brands is equal to .5 of the labelled displays surveyed.*

The alternative hypothesis is:

H_1 : *The proportion of displays consisting of labelled apples of one of the two leading brands is greater than .5 of the labelled displays surveyed.*

Using an alpha of .025 and thus a 'Table z' value of 1.96 the null hypothesis ($\Pi = .5$) was rejected in favour of the alternative hypothesis, $p = .6276$, $z = 4.493$. The implication is that hypothesis A1.1 should be rejected; that is, reject the contention that *Displays consisting of labelled apples of one of the two leading brands constituted less than 50% of the labelled displays surveyed.*

Given the sample of 290 labelled displays, the proportion of displays comprising of labelled apples of the leading brand was .3793. The probability is .95 that the interval .32 to .43 includes the real population proportion of the leading brand's share of apple displays.

The second hypothesis of interest related to brand dominance is:

H₀: The proportion of displays consisting of labelled apples of the leading brand is equal to .1 of the labelled displays surveyed.

The alternative hypothesis is:

H₁: The proportion of displays consisting of labelled apples of the leading brand is greater than .1 of the labelled displays surveyed.

Using an alpha of .025 and thus a 'Table z' value of 1.96 the null hypothesis ($\Pi = .1$) was rejected in favour of the alternative hypothesis, $p = .3793$, $z = 9.8$. The implication is that hypothesis A1.2 should be rejected; that is, reject the contention that *Displays consisting of labelled apples of the leading brand constituted 10% of the labelled displays surveyed.*

Given the entire sample of 425 displays, the proportion of displays comprising of labelled apples of the leading brand was .2588. The probability is .95 that the interval .21 to .30 includes the real population proportion of the leading brand's share of all apple displays.

The third hypothesis of interest related to brand dominance is:

H₀: The proportion of displays consisting of labelled apples of the leading brand is equal to .1 of all displays surveyed.

The alternative hypothesis is:

H₁: The proportion of displays consisting of labelled apples of the leading brand is greater than .1 of all displays surveyed.

Using an alpha of .025 and thus a 'Table z' value of 1.96 the null hypothesis ($\Pi = .1$) was rejected in favour of the alternative hypothesis, $p = .2588$, $z = 7.49$. The implication is that hypothesis A1.3 should be rejected: that is, reject the contention that *Displays consisting of labelled apples of the leading brand constituted 10% of all displays surveyed.* The total market share of Batlow in the Newcastle area, at least at the time of the survey, and based upon its proportion of the displays, would appear to exceed 20%.

5.5 Packer sales representatives and consumer hot-lines

The two hypotheses relevant to this section are:

A1.4 Retailers of labelled apples are aware that apple packers of labelled apples employ sales representatives who regularly visit retail apple outlets; and

A1.5 Packers of labelled apples have effectively promoted 008-styled consumer information hot-lines to apple retailers.

Two observable packer activities considered to be relevant to branding were:

1. the employment of sales representatives; and
2. the creation by the packer of a means of recourse by the consumer for defective product.

Item one was addressed by asking retailers how many times the most frequently visiting apple brand representative had called on them in the last twelve months. This was Question fourteen of the interview. Only two respondents recalled ever having seen a representative of an apple packer in their outlets, and this had not occurred in the last twelve months. The owner of two large Sydney fruit and vegetable outlets not included in the survey, commented that direct packer/retailer interaction was non-existent (Sept. 93, pers. comm). While the size of the packing operation will be a self-evident limitation to the extension of the packer/retailer interface, it is difficult to understand the lack of activity in this area by the larger packers. By brand labelling, packers have prima facie incorporated pull strategies in their marketing plans.

Retailers were also asked if they were aware of any apple packer which had communicated to consumers the existence of a brand consumer information network. A consumer hot-line was used as an example. The responses from retailers were at times comical with a one hundred percent negative response. Some retailers showed me the packer name, address and telephone number on the sides of apple cartons but none were aware of a 008-style consumer hot-line.

It would seem appropriate to reject both of the hypotheses.

5.6 Conclusion

All five of the hypotheses proposed in this chapter have been rejected. The implication of the rejection of the first three hypotheses is that some apple brands are capable of dominating the market, although the reason for this domination cannot in this paper be directly attributed to branding. The author is a little unsure as to what it can be attributed given the apparent market share held by the leading brand in a year when it is acknowledged that its fruit is not as good as it has been. This is further complicated when later in this paper some evidence of a price premium for this brand is found.

The level of brand management support found from the two criteria tested in this chapter appears to be somewhere between low and non-existent both the related hypothesis being rejected without resorting to statistical analysis.

6. The occurrence of labelled, non-labelled and mixed-labelled apple displays

6.1 Introduction

The hypotheses to be tested in this section are:

- A1.6 *The majority of apple retailers do not stock labelled apples.*
- A2.3 *Aggregate industry apple displays in retail apple outlets are predominantly multi-brand displays.*
- A2.4 *The aggregate industry number of non-labelled apple displays in retail apple outlets is greater than the aggregate industry number of labelled apple displays.*
- A2.5 *There are more individual retail apple outlets with multi-brand apple displays than there are individual retail apple outlets with single-brand apple displays.*
- A2.6 *The majority of individual retail apple outlets have more non-labelled apple displays than labelled apple displays.*

The intention in this section is to identify current industry practices in the stocking of labelled apples by retailers. If, for instance, the number of retail outlets which do not carry labelled apples is relatively high, apple packers would have to reassess the acceptance of labelled apples by the retail section of their channels of distribution. Even if retailers carry labelled apples, the proportion of labelled apple displays in their outlets will give some indication of the value they place on the marketability of those apples. Of course, this is not to say that the reason retailers stock labelled apples is predominantly because of the labels. It could be that retailers are indifferent to labels. If this were the case, however, it is argued that retailers would be unlikely to separate their apples into single label displays. In this section we test the aggregate occurrences of the various categories of displays to establish the occurrence on an industry wide basis of labelled and non-labelled apple displays.

6.2 The number of apples displays surveyed

The total number of displays of apples viewed in the fifty-six retail outlets numbered four hundred and twenty-nine. Three of these displays were discarded because they were organic and therefore atypical of the sample. One additional display was discarded for the purpose of this analysis because although it was labelled the label was a varietal label rather than a brand label, the only one in a sample of four hundred and twenty-nine apple displays. Further discussion of this aspect of the survey is contained in the Chapter eight.

6.3 Organic apple displays

The field survey did not address the occurrence of organic apples but, as a point of interest, only two of the fifty-six retail outlets visited carried organic apples in the week of the survey. One near-city retail outlet had one display while the other, a residential area outlet, had two organic apple displays. The number of pieces of fruit in each of these organic apple displays was about six. None were labelled but the prices per kilo appear to be above the norm for average apples of the same size. The researcher did not identify the varieties of the apples in the organic displays. Table 6.1 details the price of the organic apples and the average prices for non-organic apples of that size where the price was quoted in dollars per kilogram.

Table 6.1
Organic and non-organic apple prices quoted in \$ per kg

Size	Non-organic			Organic
	n	Mean price \$ per kg	Standard deviation	\$ per kg n=3
Small	87	2.01	0.47	2.99 and 4.29
Medium	49	2.21	0.52	3.49
Large	108	2.57	0.60	2.99

The average price for premium non-organic large fruit priced on a single apple basis was \$1.09 per apple. The standard deviation was 0.28. No formal hypotheses have been tested here but it would seem appropriate to conclude that sales of organic apples in the survey are marginal, indeed nearly non-existent. In addition, prices of organic apples are likely to be lower than for premium fruit which is priced on a single apple basis. In drawing any conclusions from this data it should be remembered that the organic to non-organic sample ratio was 3:426.

6.4 Apple retail outlets and the stocking of labelled apples

The hypothesis to be tested in this section is:

A1.6 The majority of apple retailers do not stock labelled apples.

6.5 The observation survey

This contention was addressed in the observation survey at Question 3.6 to Question 3.9 inclusive. Apple displays were categorised as either:

Q3.6 Non-labelled;

Q3.7 Labelled and Non-labelled;

Q3.8 More-than-one-label; or

Q3.9 One-only-label.

The result of this observation of displays summarised in Table 6.2 was that there was not a single apple retail outlet surveyed that did not carry labelled apples.

Table 6.2

The occurrence of retail outlets with labelled apple displays

n = 56	Without	With
Absolute frequency	0	56
Relative frequency	0	1

6.6 The interview

Since the observation survey was cross-sectional in nature (Emory 1985, 61) the issue was also addressed in the Interview at Question Four. Question Four asked the respondents how often they had stocked apples with adhesive brand-name labels on them in the last three months. The survey question and answer format are detailed in Table 6.3.

Table 6.3

Interview question four

Q4. In the last three months how often have you stocked apples with sticky **brand-name** labels on them? You know, sticky **brand-name** labels with brand names like "Nightingale Bros" or "Top-Qual" written on them.

Q4.

ALL	MORE	ABOUT	A	NEVER
THE	OFTEN	HALF	FEW	
TIME	THAN NOT	THE TIME	TIMES	

Although Question Four is also cross-sectional, at least it is a wider section. The reason three months was used as the time-frame is that the researcher did not think the respondents' memories would be reliable enough were the time-frame extended further into the past. The researcher also thought he detected some confusion with some respondents between the concept of how often they stocked labelled apples during the last three months, and, what percentage of the apples they stocked in the last three months were labelled. The researcher took great care to explain the question when administering the survey.

6.7 Interview results - All outlets

The results from Question Four are summarised in Tables 6.4, 6.5 and 6.7. It is significant that 89% of respondents claimed they had had labelled apples in their retail outlets at least "more often than not" during the last three months. The probability is .95 that the interval .97 to .81 includes the real population proportion of respondents claiming 'more often than not' and 'all the time'. The results for all outlets are given in Table 6.4.

Table 6.4

The occasions that retail outlets stocked labelled apples in the past three months

n = 56	All the time	More often than not	About half the time	A few times	Don't Know
Absolute frequency	34	16	4	1	1
Relative frequency	0.6071	0.2857	0.0714	0.0179	0.0179

The response from the one outlet which responded "never" was recorded as "don't know". The retail outlet had:

- three *One-only-label* displays;
- one *Labelled and non-labelled* display;
- one *More-than-one-label* display; and
- three *Non-labelled* displays.

That is, the outlet had more labelled displays than non-labelled.

6.8 Interview results - Supermarket chains

Table 6.5 details the supermarket chains' responses to Question Four. Of the three supermarket chains surveyed two responded "All the time" while one responded "More often than not". If the response "More often than not" is regarded as say, 75% of the time, then all the supermarket chains claimed that all their outlets stocked labelled apples at least 75% of the time in the last three months.

Table 6.5

The occasions that supermarket chains stocked labelled apples in the past three months

n = 3	All the time	More often than not	About half the time	A few times	Don't Know
Absolute frequency	2	1	0	0	0
Relative frequency	0.6666	0.3333	0	0	0

6.9 Analysis of supermarket chain responses to question four

It is interesting that the one chain which did not respond "All the time" had only one *Non-labelled* apple display out of a total of nineteen displays observed in the three outlets that were visited. This is a relative frequency of 0.9474 for labelled displays. It is the researcher's view that the respondent was being cautious and that the surveyed outlets, rather than the head office response, were likely to reflect the norm. This is backed up by the floor staff of the chain. Although I was not authorised to speak with the Fruit and Vegetable managers at individual outlets of this chain, I did introduce myself to them as a courtesy. Every single one of them considered that "these days we always stock labelled apples". The implication is that all outlets of the three supermarket chains carried labelled apples all the time in the three months preceding the survey. The absolute and relative frequencies of the occurrences of labelled apple displays in all of the thirteen supermarket outlets visited are summarised in Table 6.6.

Table 6.6

The frequency of supermarket labelled apple displays

Supermarket chains	Total displays sighted	Labelled displays	Relative frequency of labelled displays
1	23	20	0.8696
2	28	18	0.6429
3*	19	18	0.9474

* the chain which responded "More often than not" rather than "All the time"

6.10 Interview results - Non-supermarkets

The responses to Question Four from non-supermarket outlets are detailed in Table 6.7.

Table 6.7

The occasions that non-supermarket outlets stocked labelled apples in the past three months

n = 43	All the time	More often than not	About half the time	A few times	Don't Know
Absolute frequency	24	13	4	1	1
Relative frequency	0.5581	0.3023	0.093	0.0233	0.0233

6.11 Analysis of non-supermarket responses to question four

The probability is .95 that the interval .96 to .75 includes the real population proportion of non-supermarkets responding with 'more often than not' and 'all the time'. At first glance the results for non-supermarkets where 86% of respondents claimed to have stocked labelled apples 'more often than not' in the three months prior to the survey are not as strong as for supermarkets. This is consistent with the observed behaviour of supermarkets which consistently indicates that supermarkets stock brand labelled apples rather than non-labelled apples. Further analysis of the responses, however, is revealing. Of the four outlets who responded "About half the time" to Question four, three were owned by the one extended family. The three outlets were virtual facsimiles of each other where labelled displays predominated. Table 6.8 details the displays surveyed. The researcher's strong feeling is that the response to Question Four from the family representative was conservative.

Table 6.8

The occurrence of labelled displays in three of the outlets who responded "About half the time" to question four

Outlet number	Total displays	Non-labelled displays	Labelled displays	Relative frequency of labelled displays
13	14	3	11	0.7857
14	14	4	10	0.7143
15	14	4	10	0.7143

The remaining outlet that responded "About half the time" had only one display with labelled apples. That display was a *More-than-one-label* display. It would be reasonable to assume that this response accurately reflected the norm for this outlet. It may be presumptuous of me, but there were clear indications that this owner was competing on price with two major supermarket chains in the same complex. The researcher rated this outlet as one of the most unsophisticated surveyed.

The response from the one outlet that responded with "A few times", Table 6.7, is considered to be quite indicative of the outlet's normal behaviour. Only two of its eight apple displays were labelled. One of those two was a mixed *Labelled and non-labelled* display while the other was a *One-only-label* display. This outlet was competing with outlets in a major shopping city and appeared to be competing on price.

6.12 Discussion

Given that every retail outlet visited stocked labelled apples, and given the response to Question Four in the interview, it is appropriate to reject hypothesis A1.6:

The majority of apple retailers do not stock labelled apples.

The result of this aspect of the survey indicates that at worst, apple retailers are indifferent to the stocking of labelled apples.

6.13 Multi-brand displays

We continue with the argument that the marketing behaviour of apple retailers should reflect their beliefs or at least their best available response to those beliefs. If apple retailers are indifferent to brand labels on apples then they should be indifferent as to how they display those labelled apples. That is, do they display one brand of labelled apples mixed with other brands of labelled apples? Do they mix brand labelled and non-labelled apples into the one display? If the apples are pre-packed, do they pack labelled and non-labelled apples in the same pack? Moreover, how prevalent is this behaviour as a percentage of all displays for the industry, and what proportion of displays on an individual retailer basis are of this nature? While these indicators are not definitive, together with the other activities surveyed they form a package of behaviours which should give some indication of the behaviour of the industry, and by implication, the regard apple retailers have for brand labelled product.

The contention is that on an aggregate industry basis, multi-brand displays are more common than single-brand displays. If the contention is accepted then this would imply that apple retailers are rather indifferent to brand labelled apples. The argument is that, if apple retailers are not conscious of the part they play in the marketing of brand labelled apples, they would not bother to segregate brand from brand.

6.14 The hypothesis

The hypothesis to be tested in this section is:

A2.3 Aggregate industry apple displays in retail apple outlets are predominantly multi-brand displays.

6.15 Definitions and explanation of apple display categories

Table 6.9, which follows immediately, defines the terms used to categorise the apple displays.

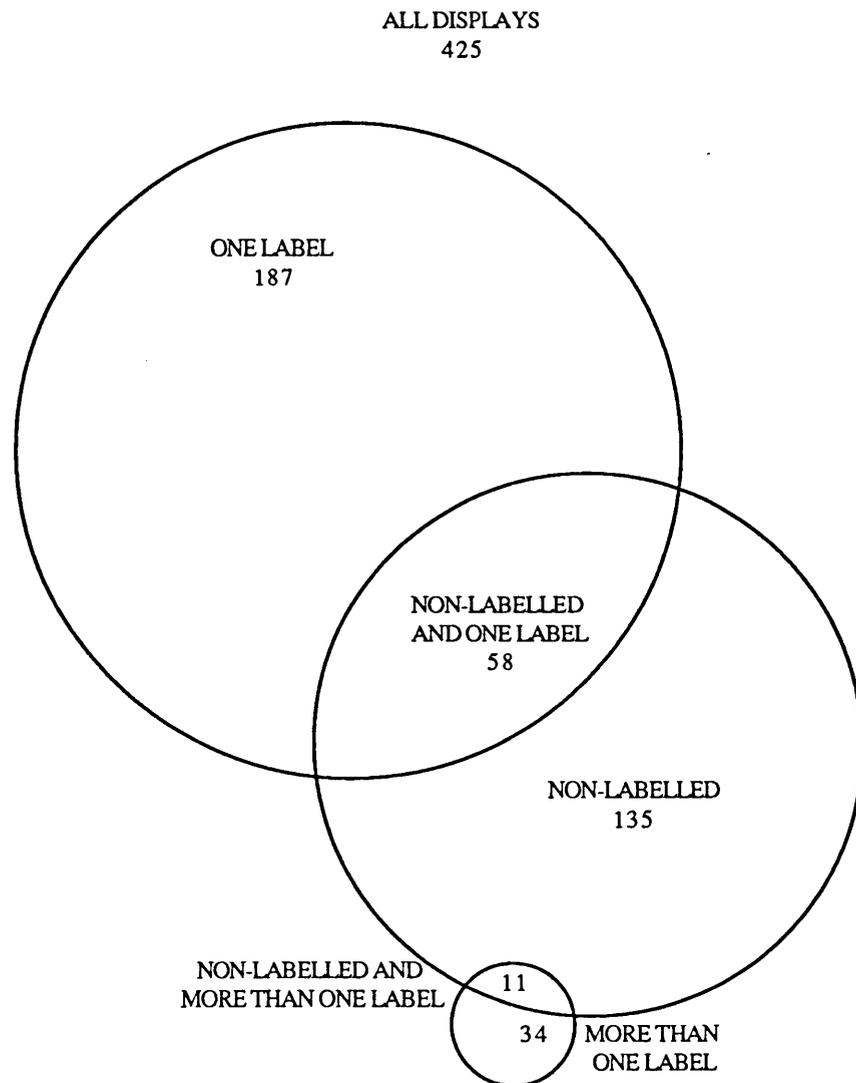
Table 6.9
Definitions of survey terms

Term	Definition
<i>non-labelled</i>	the display consists entirely of apples with no adhesive brand labels on them.
<i>one-only-label</i>	the display consists of apples all of which have an identical adhesive brand label on them.
<i>single-brand</i>	the entire display consists of apples all of which have an identical adhesive brand label on them or it consists of apples all of which are non-labelled.
<i>more-than-one-label</i>	the display consists of apples of different brands all of which have adhesive brand labels on them.
<i>non-labelled and one-only-label</i>	the display consists of non-labelled apples together with apples all of which have an identical adhesive brand label on them.
<i>non-labelled and more-than-one-label</i>	the display consists of non-labelled apples together with apples of different brands all of which have adhesive brand labels on them.

The results are given for all displays surveyed (Figure 6.1 and Table 6.10), and have then been stratified into supermarket (Figure 6.2 and Table 6.11), and non-supermarket (Figure 6.3 and Table 6.12), retail outlets. Table 6.13 is a consolidation of the data. The tables imply that non-labelled displays are regarded as single labelled displays. The rationale for this categorisation is that non-labelled displays can be regarded as a generic or home-brand product. To the consumer non-labelled displays are both variety-specific and size-specific. In addition non-labelled displays are differentiated from labelled displays by the absence of adhesive brand labels. Indeed, consumers may consider these generic products as a product more closely identified with the outlet than the producer.

Figure 6.1

The occurrence of labelled, non-labelled and mixed apple displays



Produced by Ron Coleman

Table 6.10

The occurrence of labelled, non-labelled and mixed apple displays

	<u>Number</u>	<u>%</u>
Non-labelled displays	135	31.8
One-only-label displays	<u>187</u>	<u>44.0</u>
Total: Single-brand displays	<u>322</u>	<u>75.8</u>
Non-labelled & one-only-label displays	58	13.6
Non-labelled & more-than-one-label displays	11	2.6
More-than-one-label displays	<u>34</u>	<u>8.0</u>
Total: Multi-brand displays	<u>103</u>	<u>24.2</u>
Total: All displays	<u>425</u>	<u>100</u>

6.16 Non-labelled displays as single label displays

Analysis of the data will be conducted using two assumptions. The first analysis assumes that non-labelled displays are single-brand displays and compares the occurrences of single-brand displays against the occurrences of multi-brand displays. The second disregards non-labelled displays and compares the occurrence of one-only-label displays, with multi-brand displays.

Given the sample of four hundred and twenty-five apple displays the proportion of multi-brand displays was .2424. The probability is .95 that the interval .28 to .20 includes the real population proportion of multi-brand displays.

6.17 Results for non-labelled displays as single-brand displays

The hypotheses for the first analysis are:

H_0 : *The aggregate proportion of multi-brand displays is = 0.3.*

The alternative hypothesis is:

H_1 : *The aggregate proportion of multi-brand displays is < 0.3.*

The null hypothesis ($\Pi = .3$) was rejected in favour of the alternative hypothesis using an alpha of .025 and thus a 'Table z' value of 1.96, $p = .2424$, $z = -2.7692$.

6.18 One-only label displays and multi-brand displays

Our second analysis also utilises data from Table 6.10. The number of one-only-label displays is 187. The number of multi-brand displays is 103. Given the sample of two hundred and ninety apple displays the proportion of multi-brand displays was .3552. The probability is .95 that the interval .30 to .41 includes the real population proportion for multi-brand displays.

6.19 Results for one-only label displays and multi-brand displays

The hypotheses of interest are:

H_0 : *The aggregate proportion of multi-brand displays is equal to 0.5.*

The alternative hypothesis is:

H_1 : *The aggregate proportion of multi-brand displays is less than 0.5.*

The null hypothesis ($\Pi = .5$) was rejected in favour of the alternative hypothesis using an alpha of .025 and thus a 'Table z' value of 1.96, $p = .3552$, $z = -5.153$.

6.20 Discussion

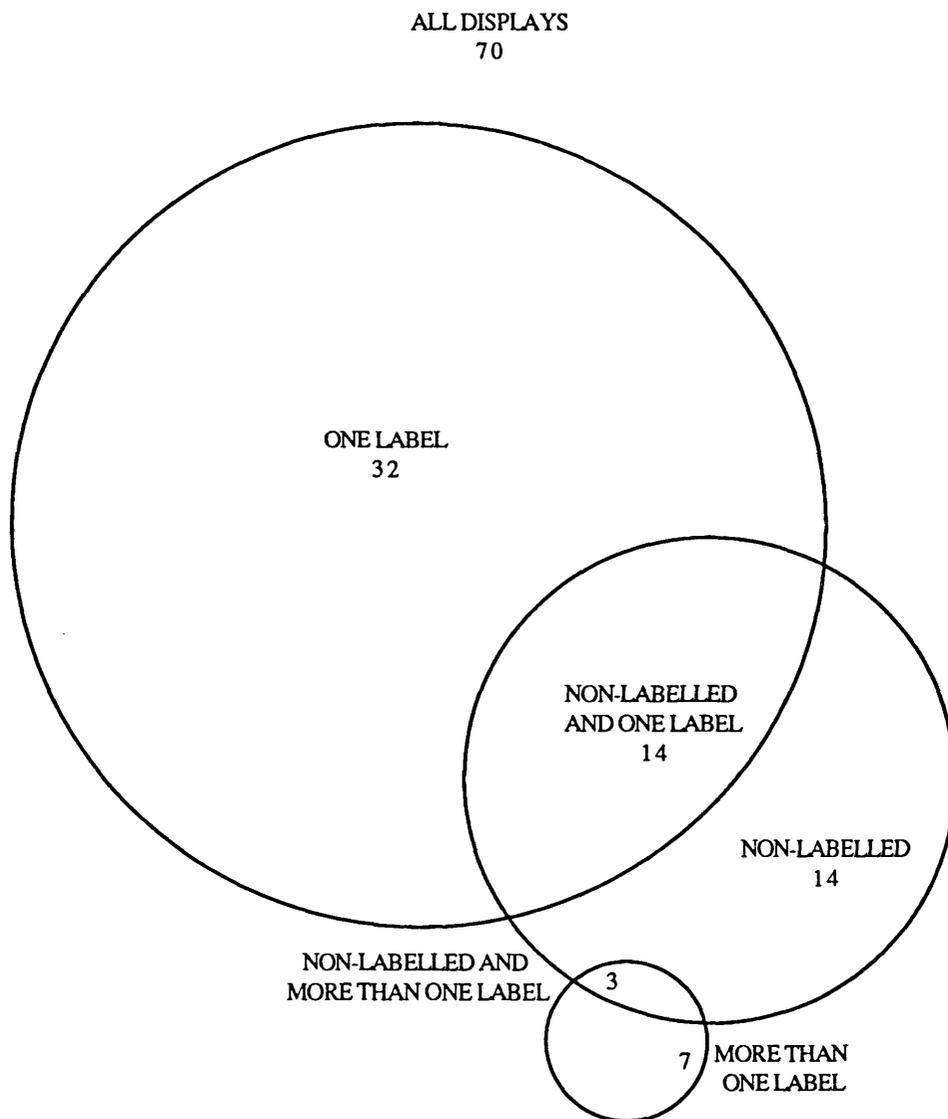
Sufficient evidence has been presented to reject the working hypothesis A2.3:

Aggregate industry apple displays in retail apple outlets are predominantly multi-brand displays.

It should be noted however that the proportion of multi-brand displays in supermarkets is a little higher than in non-supermarkets. If a larger proportion of supermarket outlets had been included in the sample, the proportion of multi-brand displays for all outlets would have been a little higher. The stratified results, however, are considered to reflect the norm. Multi-brand displays in supermarkets represent 34.3% of displays (Table 6.11), while in non-supermarkets, multi-brand displays represent only 22.2% of displays. These results tend to support the contention discussed elsewhere that the supermarket chains do not market branded apples with the same regard as non-supermarket outlets.

Figure 6.2

*The occurrence of labelled, non-labelled and mixed apple displays
in supermarkets*



Produced by Ron Coleman

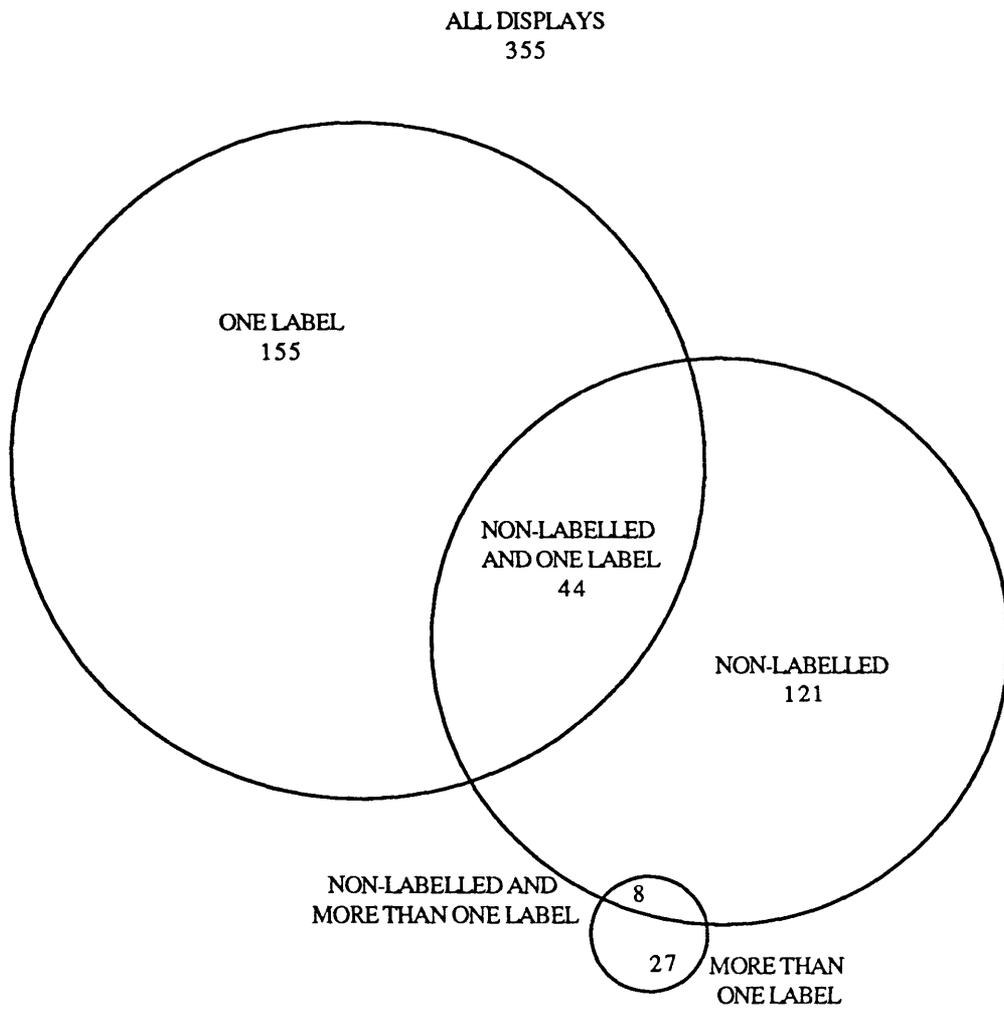
Table 6.11

The occurrence of labelled, non-labelled and mixed apple displays in supermarkets

	<u>Number</u>	<u>%</u>
Non-labelled displays	14	20.0
One-only-label displays	<u>32</u>	<u>45.7</u>
Total: Single-brand displays	<u>46</u>	<u>65.7</u>
Non-labelled & one-only-label displays	14	20.0
Non-labelled & more-than-one-label displays	3	4.3
More-than-one-label displays	<u>7</u>	<u>10.0</u>
Total: Multi-brand displays	<u>24</u>	<u>34.3</u>
Total: All displays	<u>70</u>	<u>100</u>

Figure 6.3

*The occurrence of labelled, non-labelled and mixed apple displays
in non-supermarkets*



Produced by Ron Coleman

	<u>Number</u>	<u>%</u>
Non-labelled displays	121	34.1
One-only-label displays	<u>155</u>	<u>43.7</u>
Total: Single-brand displays	<u>276</u>	<u>77.8</u>
Non-labelled & one-only-label displays	44	12.4
Non-labelled & more-than-one-label displays	8	2.2
More-than-one-label displays	<u>27</u>	<u>7.6</u>
Total: Multi-brand displays	<u>79</u>	<u>22.2</u>
Total: All displays	<u>355</u>	<u>100</u>

6.21 Non-labelled and labelled displays

The working hypothesis to be tested in this section is hypothesis A2.4:

The aggregate industry number of non-labelled apple displays in retail apple outlets is greater than the aggregate industry number of labelled apple displays.

Table 6.13 summarises the relevant data. Non-labelled displays number 135. The mixed non-labelled and labelled displays will be disregarded which leaves us with 187 one-only-label displays, plus 34 more-than-one label displays. Given the sample of 356 apple displays the proportion of non-labelled displays was .3792. The probability is .95 that the interval .33 to .43 includes the real population proportion of non-labelled apple displays.

The specific hypotheses to be tested are:

H_0 : *The aggregate number of non-labelled apple displays is equal to the aggregate number of labelled apple displays.*

The alternative hypothesis is:

H_1 : *The proportion of aggregate non-labelled apple displays is less than .5.*

The null hypothesis ($\Pi = .5$) was rejected in favour of the alternative hypothesis using an alpha of .025 and thus a 'Table z' value of 1.96, $p = .3792$, $z = -4.7004$.

Table 6.13

Consolidated occurrences of labelled, non-labelled and mixed apple displays

Type of Display	Supermarkets		Non-Supermarkets		Consolidated	
	Number	%	Number	%	Number	%
Non-labelled displays	14	20.0	121	34.0	135	31.8
One-only-label displays	32	45.7	155	43.8	187	44.0
Total: Single-brand displays	46	65.7	276	77.8	322	75.8
Non-labelled & one-only-label	14	20.0	44	12.4	58	13.6
Non-labelled & more-than-one-label	3	4.3	8	2.2	11	2.6
More-than-one-label displays	7	10.0	27	7.6	34	8.0
Total: Multi-brand displays	24	34.3	79	22.2	103	24.2
Total: All displays	70	100.0	355	100.0	425	100.0

The results indicate that on an industry aggregate basis labelled apple displays outnumber non-labelled apple displays. Retailers clearly are not refusing to stock labelled apples. More importantly one-only-label displays outnumber both non-labelled and multi-brand displays.

6.22 Single label, one-only label and multi-labelled displays in individual retail outlets

The aggregate analysis of occurrences of single-brand, one-only label displays and multi-labelled displays has been completed. An item of interest is whether the data is different if we look at individual outlets. Bias may be present if retail outlets with a very large number of apple displays were predominantly disposed to one or other of the behaviour patterns under review.

The hypotheses of interest are:

A2.5 *There are more individual retail apple outlets with multi-brand apple displays than there are individual retail apple outlets with single-brand apple displays; and*

A2.6 *The majority of individual retail apple outlets have more non-labelled apple displays than labelled apple displays.*

6.23 Single and multi-brand displays in individual outlets

The data has been stratified into supermarkets and non-supermarkets. Non-supermarket results are detailed in Table 6.14 and Table 6.15 where they have been further stratified into single-brand displays (non-labelled displays plus one-only label displays), and one-only label displays.

Table 6.14

Single-brand and multi-brand displays in non-supermarkets

Category	No. of outlets
Fewer single-brand than multi-brand	0
Equal number of single-brand and multi-brand	2
More single-brand than multi-brand	41

Table 6.15
One-only label and multi-brand displays in non-supermarkets

Category	No. of outlets
Fewer one-only label than multi-brand	9
Equal number of one-only label and multi-brand	8
More one-only label than multi-brand	26

Remembering that single-brand displays included non-labelled displays as a generic brand, 41 of 43 non-supermarket outlets had more single-brand displays than multi-brand displays. When one-only label displays are compared to multi-brand displays, however, the number of individual outlets with more one-only label displays than multi-brand displays reduces to 26. The result nevertheless represents 60% of outlets.

Supermarket results are detailed in Table 6.16 and Table 6.17. The data has been presented as representing the number of outlets for each chain of supermarket in each category.

Table 6.16
Single-brand and multi-brand displays in supermarkets

Category	Chain 1	Chain 2	Chain 3
Fewer single-brand than multi-brand	0	2	0
Equal number of single-brand and multi-brand	0	2	0
More single-brand than multi-brand	5	1	3

Table 6.17
One-only label and multi-brand displays in supermarkets

Category	Chain 1	Chain 2	Chain 3
Fewer one-only label than multi-brand	1	4	1
Equal number of one-only label and multi-brand	1	1	0
More one-only label than multi-brand	3	0	2

These supermarket chain results indicate that two of the chains tended to segregate branded apples into their own individual brand displays. One chain, however, mixes brands in its displays indicating either indifference to the brand labelling of apples or a conscious effort to nullify apple branding. Indifference appears to be the most likely explanation, however, given that this chain also had a number of one-only label displays.

Hypothesis A2.5 is rejected in relation to non-supermarkets. Hypothesis A2.5 is not rejected in relation to supermarket chains. These results are significant to the industry as they indicate quite different attitudes to brand labelled apples both in intra and inter segments of the retail marketing chain.

6.24 Non-labelled verses labelled apple displays in individual outlets

Results of the data analysis in relation to non-labelled verses labelled apple displays are contained in Table 6.18 and Table 6.19.

Table 6.18
Labelled and non-labelled displays in non-supermarkets

Category	No. of outlets
Fewer labelled than non-labelled	6
Equal number of labelled and non-labelled	2
More labelled than non-labelled	35

Table 6.19
Labelled and non-labelled displays in supermarkets

Category	No. of outlets
Fewer labelled than non-labelled	0
Equal number of labelled and non-labelled	2
More labelled than non-labelled	11

Hypothesis A2.6 is rejected. There does not appear to be any bias in the aggregate industry data in relation to the prevalence of labelled apple displays.

6.25 Conclusion

All the working hypotheses considered in this chapter have been rejected. The implication is that retailers, whatever their motives, stock labelled apples, stock them in larger proportion on an industry wide basis than non-labelled apples, and display them on an industry-wide basis predominantly in one-only-label displays.