Ample consumption period available until use-by dates: a potential, marketing position for store brands

Ample Consumption Period Available until Use-by Dates - A Potential Marketing Position for Store Brands

ABSTRACT. Traditionally store brands in Australia are viewed with suspicion in regard to their quality and are usually purchased because of the "value for money" that they offer. Australian supermarket majors are considering introducing a new suite of store brands in the higher price brackets. The danger of moving upscale however is that these store brands are relinquishing their value for money appeal and will come head to head with the manufactured brands. Store brands will now require some *quality* dimension to compete. This paper after studying the attitudes and behavioural response of grocery shoppers to use by dates, is proposing that that the promise of "generous" use-by dates as a surrogate for quality, could be considered as a positioning plank to promote store brands as alternatives to manufactured brands. Logit analysis is employed to explain shoppers' perception and response to use-by dates, of products that they regularly buy, and of alternative products which they have never bought before if the use-by dates of their regular items are perceived to be too short.

KEYWORDS. Store brands, use-by dates

INTRODUCTION

There does not seem to be any documented studies of the number of purchased products that remain unconsumed by their use-by dates and are then compellingly binned by consumers. It is reasonable to assume that consumers would consider those products that make available more shelf life, as an added value to their purchase. There is also no gainsaying that consumers who are uncomfortable with the expiry date of a particular item, would consider purchasing another brand or from another store, or perhaps even downsize to facilitate complete consumption of the item by the use-by date. Yet it is surprising that retailers almost never emphasize when communicating to their customers, that what is being offered is “mint” fresh or at least have a considerable shelf life. Promoting their merchandise on the availability of generous “use-by dates” could presumably encourage their patrons to buy a larger quantity of the item’s brand.

BACKGROUND

Date marking provides valuable information to consumers on the quality of the product they are purchasing. It offers a practical guide to consumers on the estimated length of time during which a product will retain certain expected characteristics relating to quality. Many supermarkets today are going out on a promise of being fresh food people – consumers go in the store expecting it, and may not look for use-by dates. However, McCormack (2002) reports, that in an investigation of stores to check the freshness of items that they stocked, supermarkets in four Australian capital cities were found guilty of offering a diverse range of food products that were well passed their used-by dates. These products included commonly

purchased items of milk, meat and produce. Notably, this survey did not identify any store brands that had gone past their expiry dates, perhaps because retailers have better control over the inventory management of their own store brands. When store brands for some reason have gone bad inside their expiry dates, there is evidence that retailers have been quick to withdraw them from the shelves. Gilchrist (2005) reports that Coles, Australia's biggest supermarket major, recalled its home brand spring water nationally on suspicion that algae had turned it green and the water could lead to some negative health effects. On the other hand, store brands may not have come out delinquent in this survey, simply because the salience of private labels in Australia is small compared to most of the developed world.

In a report of ACNielsen, Kerslake (2001) identified that the penetration of private labels in Australia has stubbornly remained at around 12% for the past 20 years- 3% less than the global average and considerably less than, for instance, Britain's 31 % private label proportion. But the pariah status of private labels is about to change. In recent times however, the Australian majors have begun to be challenged with new entrants like Aldi whose range predominantly consists of their own labels. In order to defend themselves, the major Australian retailers are considering introducing a new suite of their own store brands albeit in the higher price segments. Porter (2005) states that Australia's biggest retailer Coles intends lifting the proportion of its own-label products from 13 per cent to 30 per cent of stock keping units (SKUs) by 2007 and rival Woolworths to around 20 per cent over the next 18 months. Coles itself is proposing a three tier approach with a premium label at the top end which differentiates from own-label releases of the past. Porter (2005) adds that the premium own-label brands are intended to be projected as high-value, high quality products designed to appeal to a greater range of customers.

LITERATURE REVIEW

Baltas (1997) identifies a risk of "going upscale" for store label products. He believes when moving upscale, stores may lose their traditional clientele and compete for a different segment attached to the different strengths of national brands. The traditional value for money approach of store labels has the advantage that it avoids direct competition with the national brands. Miranda and Joshi.(2003), believe that Australian retail firms may be able to achieve a competitive difference for their private label program if they are able to position their store brands on some quality dimension, that gives their customers the reassurance that the firm's own brands will perform as well as the manufacturer brands.

A host of early studies have sought to seek the association of the propensity to buy store brands with demographic and/or socio-economic characteristics of consumers. For instance, Frank and Boyd (1965) concluded that households with virtually identical socio-economic and total consumption characteristics consume both manufacturer brands and private labels. Similarly, Burger and Schott (1972) found that private-label buyers were spread across all socio-economic groups and that behavioral variables were better predictors. Szymanski and Busch (1987) reached similar conclusions about the poor performance of individual demographic and psychographic factors relative to store brand preferences. More recently, Richardson *et al.* (1994) identified familiarity with store brands, extrinsic cues usage in product evaluation, perceived quality variation, perceived risk, perceived value for money and occupation as factors influencing own-label proneness. Morris (1979), and Quelch and Hardine (1996) observed that socio-economic factors also offer poor explanations between market factors and store brand success, though Sethuraman and Coles (1999) observed that it was possible that consumers with lower income pay higher prices

manufactured brands as insurance against product failure. In his study, Baltas (1997) identified that store brand buyers shop more frequently the category. He also observed that customers who usually search for price cuts and special offers were store brand prone.

According to Wright (1997), product labels are often required to carry promotional offers and were so designed such as to attract the attention of shoppers and help them to identify brands in the aisles. In an earlier study, Davies and Wright (1993) identified that that the importance that the consumer ascribed to a product's label, is product specific and contingent on how the information on the label fits in with the consumer's prior knowledge and attitudes. Davies and Wright (1993) believe that if the consumer has purchased the same brand over many years, their attitudes and beliefs towards issues like value and presentation of the packaging would be overlooked. However, when considering another brand, the consumer's impression of the product is influenced by the analysis of the label. While enunciating a code of practice for label design, Humphries (1998), observed that, of all the information on the label, the product name is the principle means outlining to the consumer what the product exactly is. The label information and expiry dates must also be easy to read and must position the customer to make efficient purchases. In a recent study, Huq *et al.* (2005) found that *perishability* is an important piece of information to consumers as it refers to the physical deterioration of a product, implying either a fixed or random product lifetime, after which the product unit has no value to the consumer. A study by the Australian Government Department of Health and Ageing (2003) confirms that consumers are not only sighting expiry dates, but are indeed seeking more extensive information from labels, (directions, product description and composition) to make informed and healthy choices.

Recent studies by Tsiros and Heilman (2005) show that consumers who shop more frequently the category, check use-by dates more often than less frequent shoppers. These researchers also found a willingness of these customers to stop the aging process like cooking or freezing the perishable groceries.

RESEARCH PROBLEM

Consumers go in to the stores expecting fresh stock and may not look for use-by dates. Not to belie their patrons' trust, most retailers regularly do a stock take and dispose items that are precariously close to their use-by dates through some kind of promotional deals. If stores can be apologetic about their products being too close to use-by dates and offer specially marked merchandise at discounts, there is no reason to believe that they cannot grow bolder in claiming that their products, untouched by time, are potentially offering better value. Herein lays an opportunity for stores keen on establishing their own brands as an alternative to manufacturer brands - to adopt the marketing position of "ample availability of use-by-date".

Specifically the research will examine the shoppers' perception and response to use-by dates of products that they regularly buy and again to alternative products (which they have never bought before) if the use-by dates on their regular items are too short.

RESEARCH METHOD

The Research methodology included the personal administration of a structured questionnaire among 473 randomly selected grocery shoppers across Melbourne, exiting one of Australia's biggest supermarkets, namely, Safeway. This retailer has stores in most of the city's shopping centres and has its own stable of store labels across a range of food and non

food items, called "HomeBrand," with a stylized font printed in red on a white label/packaging. This store label is priced between 5% and 15% lower than manufacturer brands. The survey was conducted over a two-week period in the second quarter of 2005.

The respondents were specifically asked about the frequency with which they read the use-by dates of items that they bought regularly and about those that they had never bought before if they perceived the use-by dates indicated on their regular items as too short. The respondents were asked to rank the importance they ascribed to various aspects of information that appeared on labels like, name of product/manufacturer, product composition, usage instruction, product description, use-by date and country of manufacture. The questionnaire also sought responses variables identified in the literature like the customers' frequency of shopping, proneness to price specials, inclination to switch to alternate brands, extent of patronizing home brands and selected demographics like occupation and age.

The intention of our research was to investigate what elements of use-by date driven attitudes and behaviour of shoppers, could be considered to position a new suite of upscale store labels, to be introduced shortly by Australia's leading grocers. The objective of the positioning exercise would be to encourage customers of national brands to shift to the new store brands and thereafter to retain their patronage of the store brands. Our investigation separately addressed attitudes to labels of *regularly purchased brands* and attitudes to labels of *alternative brands that had never been purchased before*. Since our aim is to find out how the variables considered cogent in the literature on purchase behavior explain the shoppers' inclination to consider the use-by date on product labels, we focus on the following binary response measures:

REGUBD: *When you read the labels of products that you regularly buy, do you take note of product use-by date?* (yes / no);

NEVUBD: *When you read the labels of products that you have never bought before, do you take note of product use-by date?* (yes / no).

We have modeled these dummy variables with Binomial Logit models. [1]

Model

Binomial regression models in general can be looked at from several angles. One possible approach is based on a continuous but unobservable, also called latent, variable Y^*, which is supposed to be linearly related to a set of explanatory variables, X_1, X_2, …, X_K. In symbols

$$y_i^* = \beta_0 + \beta_1 x_{1,i} + \beta_2 x_{2,i} + ... + \beta_K x_{K,i} + \varepsilon_i = \mathbf{X}_i\boldsymbol{\beta} + \varepsilon_i \qquad (1)$$

where $\mathbf{X}_i$ is an $n \times K$ matrix of n observations on the K explanatory variables, $\boldsymbol{\beta}$ is a $(K+1) \times 1$ vector of the coefficients, and ε_i is a stochastic error term.

In the present context, the latent variable can be some unobserved measure of the importance of use-by date ascribed by the respondent. It is mapped onto an observable binomial variable Y, like any of the two dependent variables, by the following rule:

[1] see e.g. Franses and Paap (2001), chapter 4.

$$y_i = \begin{cases} 1 \text{ if } y_i^* > 0 \\ 0 \text{ if } y_i^* \le 0 \end{cases} \qquad (2)$$

The combination of expressions (1) and (2) yields the following binomial regression model:

$$\begin{aligned} P(y_i = 1 \mid \mathbf{X}_i) &= P(y_i^* > 0 \mid \mathbf{X}_i) = P(\mathbf{X}_i\boldsymbol{\beta} + \varepsilon_i > 0 \mid \mathbf{X}_i) = F(\mathbf{X}_i\boldsymbol{\beta}) \\ P(y_i = 0 \mid \mathbf{X}_i) &= P(y_i^* \le 0 \mid \mathbf{X}_i) = 1 - F(\mathbf{X}_i\boldsymbol{\beta}) \end{aligned} \qquad (3)$$

where F denotes the cumulative probability distribution function of ε_i. As regards this error term, there are many possible choices, but the two most popular options are the standard normal and logistic random variables. In the latter case, F is the cumulative standard logistic distribution function,

$$F(\mathbf{X}_i\boldsymbol{\beta}) = \frac{e^{\mathbf{X}_i\boldsymbol{\beta}}}{1 + e^{\mathbf{X}_i\boldsymbol{\beta}}} \qquad (4)$$

and the resultant model is called a Binomial Logit model. It is a non-linear regression model whose unknown parameters can be estimated by the Maximum Likelihood method.[2] Due to non-linearity, the coefficients cannot be interpreted in the usual way, namely, as the marginal effects of the explanatory variables on the dependent variable. However, the signs of the regression coefficients determine the directions of these effects. Namely, a positive slope estimate means that the probability of 'success', i.e. $Y = 1$, is an increasing function of the corresponding explanatory variable, while a negative slope estimate implies just the opposite.

Independent Variables

We considered six groups of ~~in a multinomial logit model~~independent variables. The first includes various *aspects of shopping behavior and satisfaction*, such as

LABREG / LABNEV: *Do you read the labels of products that you regularly buy / have not bought before?* (yes / no);

CARE: *Do you generally take care to store the items that you have purchased in conditions described by the label?* (yes / no);

LONG: *How long have you been shopping at this store?* (less than 6 months / between 6-12 months / more than a year);

OFTEN: *How often do you shop at this store?* (monthly / fortnightly / weekly / more often);

TIME: *How much time do you spend on average during each visit to this store?* (less than 15 min / 15-30 min / 31-45 min / more than 45 min);

BILL: *How much is the average size of your grocery bill?* (less than $50 / $51-$100 / $101-$150 / more than $150);

REPRSP: *Do you respond to price specials for items that are not your preferred brand?* (1: never, 2: sometimes, 3: often, 4: very often);

[2] We used the *Binary* estimation option of *EViews* 5.1.

SATISF: *Overall satisfaction of your shopping experience in this store on a scale of 1 to 5* (1: least satisfied, ... , 5: most satisfied).

The second group of independent variables consists of a single variable which measures the proportion of *purchases of the store brand*. It is defined as

HOMEB: *On average, what percentage of your shopping bill do you spend on Home Brand products?* (0-20 / 21-40 / 41-60/ over 60).

The third group is concerned with *sighting* of various *features on product labels*, namely

REGNAM / NEVNAM: *When you read the labels of products that you regularly buy / have not bought before, do you take note of the name of manufacturer?* (yes / no);

REGADR / NEVADR: *When you read the labels of products that you regularly buy / have not bought before, do you take note of the address of manufacturer or distributor?* (yes / no);

REGCOU / NEVCOU: *When you read the labels of products that you regularly buy / have not bought before, do you take note of the country of manufacturer?* (yes / no);

REGCOM / NEVCOM: *When you read the labels of products that you regularly buy / have not bought before, do you take note of product composition?* (yes / no);

REGDES / NEVDES: *When you read the labels of products that you regularly buy / have not bought before, do you take note of product description?* (yes / no);

REGDIR / NEVDIR: *When you read the labels of products that you regularly buy / have not bought before, do you take note of directions of product usage?* (yes / no);

REGPRO / NEVPRO: *When you read the labels of products that you regularly buy / have not bought before, do you take note of promotion deals?* (yes / no).

The fourth group comprises the *ranked importance* (1: not important, … , 4: very important) *ascribed* to each of the above-mentioned features (IMPNAM, IMPADR, IMPCOU, IMPCOM, IMPDES, IMPDIR, IMPPRO), and also to some other label features, namely

IMPCOL: *How important to you is the label's background colour*? (1: not important, … , 4: very important);

IMPFON: *How important to you is the label's text font size*? (1: not important, … , 4: very important);

IMPLAN: *How important to you is the label's language*? (1: not important, … , 4: very important).

The fifth group of independent variables is based on the decision shoppers are likely to make in ~~attitudes and~~response to finding the use-by date of their regular purchased item being too short and their response to their regular item being offered at a discounted price.

PREFUBD: *What do you usually do when the use-by date of your preferred item is too short?* (1: buy the item in the usual quantity, 2: buy the item in smaller than usual quantity, 3: buy smaller size(s) of the item, 4: do not buy the item from this store, 5: buy an alternative brand from this store with use-by date appropriate to your product consumption rate, 6: buy the item from another store);

PREFDIS: *What do you usually do when your preferred item is being offered at a discounted price, but has a limited use-by date?* (1: buy the item in the usual quantity, 2: buy the item in smaller than usual quantity, 3: buy the item in greater than usual quantity, 4: do not buy the item).

In the regression analyses these categorical variables were represented by dummy variables denoted as PREFUBD=2, …, PREFUBD=6, and PREFDIS=2, …, PREFDIS=4.[3]

Finally, the sixth group of independent variables includes demographic factors like

GENDER: G*ender* (male / female);
AGE: *Age group* (less than 20 / 20-29 / 30-39 / 40-49 / 50-59 / 60 or over);
EMPL: *Are you employed?* (yes / no).

ANALYSIS and FINDINGS

Preliminary Data Analysis

In order to get a reasonable understanding of our sample data, we first performed a preliminary data analysis making use of various descriptive statistics, cross tabulations, and related hypothesis testing procedures. Some of the key results that emerged are as follows:

a) There are significant correlations, even at the 1% level, between the *sighting of use-by date for regularly purchased items* (REGUBD), the *sighting of use-by date for alternative items that have never been bought before* (NEVUBD), and the *importance ascribed to use-by dates as a feature on product labels* (IMPUSB). However, these relationships are not very strong. The correlation between REGUBD and NEVUBD is 0.330, between REGUBD and IMPUBD it is -0.145, while between NEVUBD and IMPUBD it is -0.178.[4] This suggest that shoppers are more likely to perceive the importance of use-by date on items that they have never bought before than on items that they regularly purchase.

b) We have detected a relatively weak, albeit strongly significant, negative correlation between the *sighting of use-by date for regularly purchased items* (REGUBD) and the *frequency of responding to price specials for items that are not the preferred brand* (REPRSP), but there seems to be no relationship between the *sighting of use-by date for alternative items that have never been bought before* (NEVUBD) and REPRSP. Yet, the *response to brief use-by dates of regularly purchased items* (PREFUBD) and the *frequency of responding to price specials for items that are not the preferred brand* (REPRSP) are significantly related to each other.

d) About 88 % of shoppers acknowledge responding to price specials. It appears that more than 26% of the respondents buy reduced quantities of the alternative brand when their preferred items' use-by dates are too short, and that a little more than 60% of these shoppers are deal prone i.e. buy the same quantity or more of the specially priced alternative brand. Also about 8% of shoppers would buy their preferred item that has passed its use-by date from another store.

e) There is however no relationship (not even at the 10% level) between the *frequency of responding to price specials for items that are not the preferred brand* (REPRSP) and the *response to discounted prices of preferred items with too short use-by dates* (PREFDIS).

f) No correlation has been found between the frequency of shopping at the given store (OFTEN) and the sighting of use-by dates of regularly purchased items (REGUBD). Neither is there a correlation between OFTEN and the importance ascribed to use-by

[3] Since there is an intercept term in the model, we treated the first values of these categorical variables as base categories and included only the remaining five and three dummy variables in the model.

[4] The measurement scales of these and most other variables in our analysis are ordinal, so we measured correlation by Kendall's τ_b statistic.

dates as a feature on the labels (IMPUBD). There is a however a significant, though rather weak, negative correlation between OFTEN and the sighting of use-by dates for alternative items that have never been bought before (NEVUBD).

g) Notably, 29% of shoppers spend at least 40% of their *grocery bills on purchase of home brands* (HOMEB). There is some weak but significant positive correlation between HOMEB and *average grocery bill* (BILL).

h) From the directional measures, it is observed that sighting of use by dates for preferred items bought regularly (REGUBD) increases with the *average grocery bill* (BILL), but decreases with *age of the respondents* (AGE).

Binomial Logit Analysis

We have estimated Binary Logit models for two dummy dependent variables. Our analyses were conditional in the sense that we considered only those respondents who at least "sometimes" read the product labels. In each case we started with an 'unrestricted' specification, and then dropped those independent variables which seemed to be less important and proved to be insignificant both individually and jointly. For the sake of brevity, only the final, 'restricted' specifications are reported in this paper.[5]

The dependent variable in Model 1 is *taking notice of use-by date on labels of products that you regularly buy* (REGUBD). The corresponding final results are reported in Table 1. Although McFadden R^2 is only 0.182, the *LR* and *z*-statistics indicate that all remaining explanatory variables are strongly significant, both as a group and individually.

Table 1. Binomial Logit Estimation Results for REGUBD

Dependent Variable: REGUBD
Method: ML – Binary Logit (Quadratic hill climbing)
Included observations: 363

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-2.032530	0.955023	-2.128253	0.0333
LONG	0.445783	0.177802	2.507190	0.0122
CARE	0.650063	0.309124	2.102921	0.0355
REGDIR	0.885120	0.294586	3.004626	0.0027
REGPRO	0.791158	0.303696	2.605103	0.0092
REPRSP	0.550690	0.170140	3.236697	0.0012
IMPADR	0.315950	0.163598	1.931261	0.0535
IMPCOM	-0.324461	0.164899	-1.967634	0.0491
IMPUBD	0.406028	0.144553	2.808860	0.0050
IMPFON	-0.444413	0.166014	-2.676963	0.0074
PREFUBD=6	-1.330995	0.512924	-2.594913	0.0095
Log likelihood	-151.2334	LR statistic (10 df)		67.38115
Restr. log likelihood	-184.9240	Probability (LR stat)		0.000000
		McFadden R-squared		0.182186

[5] All unpublished details are available to interested readers on request.

The signs of the coefficients of Model 1 suggest that the likelihood of *taking notice of use-by date on labels of regularly purchased products* increases

I. With the *importance assigned to product use-by date on product labels* (IMPUBD). This finding is axiomatic.
II. With the *frequency of responding to price specials for items that are not of the preferred brand* (REPRSP). This finding indicates the likely deal-proness of use-by date driven shoppers.
III. With the *period over which the store has been visited* (i.e. store loyalty measured by LONG). This outcome indicates that shoppers might have become accustomed to expect items of low shelf life lives to be made available at discounted prices (as per their deal-proness) and may be actively be seeking such items
IV. For shoppers who *take note of promotion deals* on the labels of products that they regularly purchase (REGPRO). This outcome again points out to the likely opportunism of the use-by date prone shopper to get better value for money.
V. For shoppers who *take care to store the items in conditions prescribed by the label* (CARE). This result vindicates Tsiros and Heilman (2005) findings that use-by date prone shoppers are inclined to preserve the age of item that they buy through storing the item in the way prescribed on the label.
VI. For shoppers who *take note of the directions of product usage* (REGDIR). The number of assortments available and variable usages of the items' variants, is likely to prompt the use-by date prone shopper to seek help from the label's usage instructions

On the other hand, the likelihood of *taking notice of use-by date on labels of regularly purchased products* decreases

I. With the *importance assigned to product composition* (IMPCOM). This finding indicates that the regular user of the brand familiarity with the make-up of the product tends to deflect their attention from the remaining shelf life of the product. National brands have a big advantage in this regard when they run low available shelf life.
II. With the *importance assigned to label's text font size on product labels* (IMPFON). This result also indicates that the regular brand user probably does not need to access label information and is therefore is likely to give little importance to the readability of the label. For the reason of shoppers' apathy with label information on their regular purchase, well known manufacturer brands can get away with short expiration dates.
III. For shoppers who would respond to a limited use-by date by *purchasing their preferred item from another store* (PREFUBD=6). This result is to be expected in view of the earlier finding that the use-by date shopper is likely to be loyal customer.

In Model 2 the dependent variable is *taking notice of use-by date on labels of products which you have never bought before* (NEVUBD). The results are shown in Table 2.

Table 2. Binomial Logit Estimation Results for NEVUBD

Dependent Variable: NEVUBD
Method: ML - Binary Logit (Quadratic hill climbing)
Included observations: 430

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-0.142378	0.904297	-0.157446	0.8749
EMPL	0.591956	0.282789	2.093278	0.0363
HOMEB	-0.475968	0.148442	-3.206425	0.0013
OFTEN	0.266254	0.148377	1.794436	0.0727
LABNEV	0.537418	0.180273	2.981128	0.0029
NEVNAM	0.923444	0.282002	3.274602	0.0011
NEVDES	0.836263	0.293596	2.848345	0.0044
NEVDIR	1.327399	0.295808	4.487368	0.0000
IMPNAM	-0.443431	0.148197	-2.992171	0.0028
IMPDIR	-0.498189	0.164266	-3.032819	0.0024
IMPUBD	0.472668	0.157180	3.007170	0.0026
IMPCOL	-0.355515	0.156771	-2.267727	0.0233
PREFDIS=3	-0.679538	0.341202	-1.991600	0.0464

Log likelihood	-176.8441	LR statistic (12 df)	112.7318
Restr. log likelihood	-233.2100	Probability (LR stat)	0.000000
		McFadden R-squared	0.241696

Model 2 indicates that the chances of the shopper *taking notice of use-by date on labels of products never purchased before* increases

I. With the *shopping frequency at the given store* (OFTEN). This result may be a consequence of frequent shoppers' likelihood of having more discretionary time to commit for observing the shelf life.
II. With the *frequency of reading the labels of products never purchased before* (LABNEV). This finding is an outcome of shopper' instrumental conditioning. The result suggests that the consumers' inclination to observe the expiry dates of alternative items is to reduce the risks of items that they are not familiar with.
III. With the *importance assigned to product use-by date on product labels* (IMPUBD). This finding is almost axiomatic.
IV. For shoppers who are *employed* (EMPL). Employed consumers are likely to have less time to shop for the item's replenishment and therefore more inclined to recourse information on use-by dates.
V. For shoppers who *take notice of the name of the manufacturer*, when they consider products that they have never purchased before (NEVNAM). This result is an indication that these shoppers take refuge in the recognition of the manufacturer's name as a proxy reassurance that the unfamiliar item will perform. Store brands can particularly be encouraged from this finding as the items are being merchandised under the signature of the retailer.
VI. For shoppers who *take notice of product description*, when they read the labels of products that they have never purchased before (NEVDES). It is to be expected that shoppers are likely to seek a portrayal of the item that they have

never purchased before to establish whether its performance promises to meet their needs.

VII. For shoppers who *take notice of directions of product usage,* when they read the labels of products that they have never purchased before (NEVDIR). This outcome is evidence of the shoppers' likely behaviour to reduce the physical and functional risk of (non) performance

However, the likelihood of *taking notice of use-by date on labels of products never purchased before* decreases

I. With the *proportion of Home brands* in the shopping basket (HOMEB). It is clear from this result that traditional store brand purchasers are not likely to observe use-by dates on labels even for items that they have never purchased before.

II. With the *importance* ascribed to the *name of the manufacturer* (IMPNAM). It is evident that when consumers consciously ascribe importance to the manufacturer, observation of the use-by date of the alternative item is not upper most in their minds. Unlike the shopper's spontaneous reaction to NEVNAM at the point of purchase, the shopper's likely response to IMPNAM is a rationalized view and gets relegated in terms of importance in favour of more pressing considerations like use-by dates.

III. With the *importance* ascribed to the *directions of product usage* (IMPDIR). This finding indicates that when the consumer consciously ascribes importance to the use-by date, the shopper is less likely to be consumed about usage directions of the alternative item being considered. Here again the hierarchy of effects is at play.

IV. With the *importance* ascribed to the *colour of the label's background* (IMPCOL). It appears from this finding that when the consumer consciously ascribes importance to label colour overlays (attractiveness) or in other words, "distracted with the noise", the shopper is likely to be less cognitive about the use-by date of the alternative item being considered.

V. For shoppers who would *buy greater than usual quantities* of items that have limited use-by dates but are offered at discounted prices (PREFDIS=3). It is apparent that the use-by date shopper is likely to be deal prone.

Apart from the signs of the coefficients, it is also customary to interpret ordered regression models by considering odds ratios. For the Binary Logit model, the odds ratio is given by

$$\frac{P(y_i=1|\mathbf{X}_i)}{P(y_i=0|\mathbf{X}_i)}=\frac{F(\beta_0+\mathbf{X}_i\boldsymbol{\beta})}{1-F(\beta_0+\mathbf{X}_i\boldsymbol{\beta})}=e^{\beta_0+\mathbf{X}_i\boldsymbol{\beta}} \quad (5)$$

The odds ratio can be calculated for any combination of independent variable values. Table 3 shows the odds ratios of *taking notice of use-by date on labels of products never purchased before* (NEVUBD), comparing:
The *percentage of customer's shopping bill spent on Home Brand products* (HOMEB) and the *importance ascribed to use-by dates as a feature on product labels* (IMPUBD).
All other variables in the model have been fixed at their sample medians.[6]

[6] The sample medians are as follows: BILL = 3, AGE = 3, HOMEB = 2, OFTEN = 3, LABREG = 2, REGDES = 1, REGDIR = 1, IMPNAM = 3, IMPCOU = 2, IMPCOM = 3, IMPUBD = 4, IMPCOL = 2, IMPFON = 2, IMPLAN = 3, (PREFUBD=3) = 0.

Table 3: Odds ratios of NEVUBD

IMPUBD	HOMEB (%)			
	0-20	*21-40*	*41-60*	*Over 60*
1: most important	6.150	3.821	2.374	1.475
2	9.867	6.130	3.809	2.366
3	15.830	9.835	6.110	3.796
4: least important	25.395	15.778	9.802	6.090

It is apparent that for each category of IMPUBD, the odds ratio of taking notice of use-by date on labels of products never purchased before is more than four times larger for those shoppers who spend 0-20% of their shopping bill on store brands than for those who spend in excess of 60% of their shopping bill on store brands. Similarly, for each HOMEB category, the odds ratio of taking notice of use-by date on labels of products never purchased before is more than four times larger for those who consider the product use-by date feature of labels least important than for those who consider it most important.

Conclusion

Traditionally store brands in Australia are viewed with suspicion in regard to their quality, and are usually purchased because of the "value for money" that they offer. Even so, our study found that 29% of shoppers spend at least 40 % of their grocery bill on purchase of store brands. The Australian supermarket majors are considering introducing a new suite of store brands in the *higher price bracket*, as a competitive response to new entrants like Aldi, whose business centres on their private labels. In moving upscale however, retailers may lose their traditional clientele for their store brands and compete for a different segment attached to the strengths of national brands. The traditional value for money approach of store labels has the advantage that it avoids direct competition with the national brands. Going head to head with the manufacturer brands will require these higher priced store brands to acquire a *quality dimension*, not widely pursued by manufacturer brands.

This research study demonstrates that the conventional store brand shopper, seeking value for money, is not likely to be use-by date prone. However the *promise of generous availability of use-by dates until consumption*, as a surrogate for quality, could well be made to consumers of manufacturer brands. When making this pledge, it would be useful for retailers to consider the proclivities of use-by date prone shoppers as identified in Models 1 & 2. From this research it is clear that customers who are concerned about the products' shelf life, are likely to ascribe a great deal of importance to use-by dates even of products that they buy regularly and recourse the label/packages for information. It is also evident that use-by date prone shoppers are store loyal, albeit opportunistic and seek bargains. Retailers can expect the more frequent shoppers and those employed, to be the early adopters of the higher priced store brands positioned as having ample available consumption time.

Through the use-by date positioning approach for their store brands, retailers may be able to condition their patrons to consciously compare the expiry dates of their stores brands with those of manufacturer brands and hence provide a strong rationale to switch. In this respect, through appropriate label and package design, retailers need to draw their patrons' attention to the shelf life of their store brands. The use-by dates need to be conspicuously placed on the

label/packages and it is vital that the product description and directions for use are informative and attractive.

Supermarkets' spending on advertising is focused too much on price and not enough on image. Most often there is a disconnect between their desired store image and the image projected by their own label products. Supermarkets need to realize that private label play a big role in building a strong brand equity for their stores and to that effect require to give their target audience compatible messages. Positioning their store labels as offering ample consumption time before they reach their use-by dates will allow the retailer to lay claim to the delivery of *pristine quality* as its business motto.

Future Research

Butchers, bakeries, delicatessens, produce and pharmacists are among the several extended lines of business that supermarkets have incorporated in their premises. Retailers are often hard pressed to select for their portfolio of store brands from among thousands of SKUs. There appears to be a research opportunity to investigate whether the use-by date prone shopper is inclined differently to different categories of perishable and preserved items and the potential to promote some of these as high value store brands on the use-by date platform.

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