Behavioural Brand Loyalty Measures and Consumer Responses to Brand Attributes

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Abstract
Consumer associations to brand attributes are a core part of Consumer Based Brand Equity (CBBE), and behavioural loyalty (buying frequency or share of wallet) is a key outcome of CBBE. In this research, we test the relationship between past behavioural loyalty and current brand associations. We draw on data where past purchases tracked for a year and brand associations from the same individuals. The results show that both buying frequency and share of wallet have positive relationships with brand associations. The exception was that, the results for 100% loyals were mixed. 100% loyals for smaller brands have a lower propensity to associate the brand with the attribute than those with a lower share of wallet. We also found that 100% loyals were more likely to associate the brand with more attributes than non-100% loyals at the same buying frequency. This suggests that share of wallet is a greater driver of brand association responses than buying frequency.

Key words: Brand attributes, Customer loyalty, purchase frequency, share of wallet, 100% loyals
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Introduction
Underlying any brand’s customer base is considerable heterogeneity (Rust, Lemon and Zeithaml, 2004). There is not just one type of customer, but many different customers with different levels of experience in the consumption of the brand and its competitors in the marketplace. The NBD-Dirichlet Model (Goodhardt, Ehrenberg and Chatfield, 1984) shows predictable distributions of frequencies of buying both the category and the brand and allocations of purchases to the brand versus competitors in packaged goods markets. However, the NBD-Dirichlet Model is a brand level model, and underpinning it is the underlying variation between customers within any brand’s customer base in how they buy specific brands. The key brand performance metrics that underpin the model can be broadly divided into two groups. These are *penetration*, which is how many people buy the brand in the time period and *loyalty*, which is the weight or frequency of purchase in the same time period. It is the loyalty metrics that are of most relevance to this paper.

Consumer based brand equity (CBBE) is conceptualised as the aspects of brand knowledge that create a differential effect in behaviour towards the brand (Keller, 1993; Keller, 2003). Components of CBBE include the awareness, perceptions and attitude towards the brand. Behavioural loyalty, which is evidenced in buying more often or one brand more than competitors, can be considered a differential output of CBBE.

There has been much attention on the aggregate level accuracy of the NBD-Dirichlet model and its generalisability across categories, time and countries (for a comprehensive discussion see Ehrenberg, Uncles and Goodhardt, 2004). Most of the analysis that examines the relationship between contributing to a brand’s market share and CBBE has focused on the differential between the brand’s customer base versus those who do not currently buy the brand (as per Barwise and Ehrenberg, 1985; Hoek, Dunnett, Wright and Gendall, 2000). All of these studies confirm that buying/using a brand is correlated with higher CBBE.

However, there is a paucity of literature that examines the relationship between the heterogeneity in customer loyalty and CBBE. An early paper by Cannon, Ehrenberg and Goodhardt (1970) examined the differential response between self-report solely loyal customers and those that used multiple brands. They found that solely loyals had a systematically higher response rate than multi-brand users (Cannon et al., 1970). More recently, Brakus, Schmitt and Zarantonella (2009) found a positive relationship between their operationalisation of customer experience, which includes dimensions of CBBE, such as perceptions about brand personality, and claimed brand loyalty. This research draws on cross-sectional data and therefore has direction of effect issues, and the loyalty measure was a single, self-report measure. Our research overcomes both of these limitations. Our investigation into customer loyalty to the brand draws on data collected over a year via a longitudinal panel. We also investigate two different dimensions of behavioural loyalty: frequency of buying the brand and share of wallet given to the brand versus competitors determined via actual purchases. Finally, we use longitudinal data—the consumer behaviour is collected from the year prior to the CBBE. So we are looking at the relationship between past loyalty and current CBBE. Understanding the relationship between customer loyalty and CBBE in this direction is an important foundation for future modeling of the CBBE to loyalty relationship. Contributing to this knowledge base is the aim of this paper.
First, we discuss CBBE and how it is investigated in this research. We then detail the different measures of loyalty that we examine and our postulates for the outcomes of the research. The data and method discussion follow this.

**CBBE**

CBBE is based on the thoughts and feelings about the brand in consumer memory that influence their buying behaviour. These thoughts and feelings however, are in-turn influenced by prior behaviour, creating a feedback loop. While there are many sub-components of CBBE reported in the literature (for example see Keller, 2003), our attention is on a fundamental part of CBBE: the associations that consumers hold about the brand. Within this we examine both more traditional brand image attributes and those relating to personality traits (as per Aaker, 1997).

The network of associations held about a brand in consumer memory is referred to as the brand’s image and can encompass functional qualities, benefits, purchase and consumption situations (Keller, 1993). This is thought to underpin the brand’s propensity to be considered and chosen by consumers. The network of associations can make the brand more likely to be thought of in a choice situation (Nedungadi, 1990; Romaniuk, 2003). This network can also make the brand more likely to be considered suitable in the choice situation by confirming the brand is able to fulfill the customer needs at that time (Bettman, 1979). Therefore, there are considerable benefits in linking the brand with strong (accessible), favourable associations (Keller, 1993).

Brand image is typically assessed through the linkages between the brand and attributes considered important in the category (Keller, 1993). The approaches for measurement include rating, ranking or free choice associations, with free choice being the most commonly used in practice (Barnard and Ehrenberg, 1990; Driesener and Romaniuk, 2006). In a free choice approach, consumers are free to link any brand in the category with each of the attributes. Within this set are brands that the consumer buys.

Brand personality is the linking of human personality traits with brands, such as sincerity, fun and ruggedness (Aaker, 1997; Azoulay and Zapferer, 2003). Although measured in the same way as brand image, using rating scales or free choice association, these perceptions are commonly separated out as a distinct section of CBBE (e.g. Keller, 2003). Therefore, we will examine these associations separately from more general brand image associations. However these similarity in measurement and that these are also associations within consumer memory means our hypotheses will be the same for personality traits as for image attributes.

We now discuss different aspects of brand loyalty relevant to this paper, and following this how consumers with different levels of loyalty might be expected to differ in the associations they hold about the brand.

**Brand Loyalty**

Brand loyalty metrics have a long history in marketing, dating back to at least Guest (1944). Within this long history has been discussion about conceptualisations and operationalisations, and the integration of both behavioural and attitudinal components (e.g., Dick and Basu, 1994). In the interest of being succinct and relevant, this section will focus on the behavioural operationalisations of loyalty. Within this area, our focus is on two in particular:

- **Buying frequency** - Buying the brand more frequently than other consumers
- **Share of Wallet** - Spending a greater share of wallet on a brand than other consumers.
Both of these are, from the firm’s perspective, desirable consumer behaviours and something to encourage.

**Buying frequency**

In any time period, some customers will buy a brand very little (i.e., once or twice) while other customers will buy it a lot (i.e., five or more times). Across a brand’s customer base, the Dirichlet Multinomial Distribution (Goodhardt et al., 1984) can describe this distribution. However, we are interested in the impact that the act of buying a brand more frequently is likely to have on CBBE. There are three key ways in which consumers develop and reinforce memories about a brand. These are exposure to marketing communications, receiving word-of-mouth and direct personal experience (Krishnan, 1996). Of these, direct personal experience has the strongest influence (Burnkrant and Unnava, 1995). This means that those who buy the brand more frequently should have much stronger associations in memory than those who buy the brand less frequently. This is our first hypothesis:

**H1:** Customers who buy the brand more frequently will have stronger associations about that brand than those who buy the brand less frequently.

**Share of Wallet**

A market consists of brands and competitors. In packaged goods markets, consumers typically have a repertoire of brands that they switch between over time (Sharp, Wright and Goodhardt, 2002). Therefore across a customer base, there are different relative weights of purchases that are allocated to the brand versus that to competitors. Some of a brand’s customers will buy it exclusively or near exclusively, while others will have the brand as a small part of their repertoire (Ehrenberg, 2000). We are interested in the impact that the act of allocation of the share of purchases in the category to one brand is likely to have on CBBE.

A key factor that influences how easily information can be accessed from memory is the number of competitor brands that are also linked to the target node (Heil, Rösler and Hennighausen, 1994). Therefore, we posit that there will be a positive relationship between share of category requirements and propensity to give brand associations. This leads to the next hypothesis:

**H2:** Customers who have a high share of wallet for a brand will have stronger brand associations than those with a low share of category requirements.

**The special case of 100% loyals**

Those who only buy one brand, and therefore are 100% loyal to that brand, are a special case with two opposing forces on their propensity to give brand associations. They only receive direct experience reinforcement for one brand, which should increase their propensity to give associations for that brand. However, they are also disproportionately likely to be light category buyers and to the frequency of this reinforcement about the brand will be low, which could dampen responses. This means that the propensity for 100% loyals to give brand associations will be moderated by frequency. However the lower level of competitor awareness means that they should be higher than those buying with equivalent frequency who also buy competitor brands. This leads to the third hypothesis:

**H3:** 100% loyals will have a higher propensity to give a brand association than consumers with the same frequency of buying the brand, but who also buy competitors.
Research Method
In this research, we draw on data in two packaged goods categories in the UK. In the data, past buying behaviour was collected as part of a consumer panel, and then panel members were surveyed about their perceptions of brands in the category. The sample size was 8,000 in each category. The duration of buying behaviour was 12 months, which allowed us to identify differences between different types of brand buyers.

The categories were both different types of beverages, each including six national brands of different sizes. The brand association data collection was conducted online in 2008.

Brand association measurement
The free choice, pick any measurement technique was used to collect the brand associations. This technique is a free response measure, where respondents are presented with an image attribute (e.g., gentle on clothes) and asks which, if any, of the listed brands they associate with the attribute (Barnard and Ehrenberg, 1990). There were 16 traditional brand image attributes (e.g. good value for money, strong flavour) and five personality traits (e.g., successful, upper class) used in each of the categories. Marketers and researchers who are experts within the industry developed the attribute list.

Brand loyalty measurement
Two brand loyalty measures were used in this study: buying frequency and share of wallet. To obtain buying frequency, we calculated how many times a consumer bought a particular brand during a year. To calculate the share of wallet, for each consumer we computed the share of a particular brand buying in the total category buying. Prior to analysis, we tested to see the level of correlation between the two loyalty measures at individual level. Non-buyers of the brand were excluded form this analysis. The average correlation between loyalty measures was .382 (see Table 1 for full results). This gives confidence that there are two distinct constructs at the individual consumer level.

Table 1: Correlations between Brand Loyalty measures.

<table>
<thead>
<tr>
<th>Category 1</th>
<th>Correlation Coeff.</th>
<th>Category 2</th>
<th>Correlation Coeff.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand 1</td>
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<td>Brand 1</td>
<td>.301</td>
</tr>
<tr>
<td>Brand 2</td>
<td>.412</td>
<td>Brand 2</td>
<td>.331</td>
</tr>
<tr>
<td>Brand 3</td>
<td>.387</td>
<td>Brand 3</td>
<td>.384</td>
</tr>
<tr>
<td>Brand 4</td>
<td>.469</td>
<td>Brand 4</td>
<td>.434</td>
</tr>
<tr>
<td>Brand 5</td>
<td>.412</td>
<td>Brand 5</td>
<td>.338</td>
</tr>
<tr>
<td>Brand 6</td>
<td>.425</td>
<td>Brand 6</td>
<td>.354</td>
</tr>
<tr>
<td>Average</td>
<td>.408</td>
<td>Average</td>
<td>.357</td>
</tr>
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</table>

Results
To test H1, we divided customers into five groups based on buying frequency: zero times, which is a control group across brands and loyalty measures); once only, two times, three or four times, and five or more times. For each brand, this variable was cross-tabulated with the responses to each of the brand image and personality attributes tracked. Table 2 displays the results for both categories. Chi-squared tests were used to determine significant differences between groups. All differences between image and personality attribute responses at different levels were statistically significant at the $p<.001$ level. Therefore, for ease of display, the results are aggregated and presented by brands. Therefore, H1 is supported.

Table 2: Average % Responses for brand attributes and personality traits - buying frequency
To test H2, we performed a similar division of the share of wallet variable into five levels. The categories used were zero (again as a non-buyer control group); 0>=20%; 20%>=50%; 50%>=99%; 100%. Chi-squared tests were again used to identify significant differences between loyalty segments and the response levels for image and personality attributes. The key finding (See Table 3) was that loyalty was positively related to response levels up to the 50-99% category.

However the difference between 50-99% and 100% loyal varied across brands. For large share brands, the results were in line with what was expected. However, for smaller share brands, there were frequent instances of statistically significant results in the opposite direction, with 100% loyals having a lower response level than those only 50-99% loyal. We further explore this counter-intuitive finding in the 100% loyals section. Therefore, H2 is supported for all loyalty levels except for 100% loyals.

To test H3 regarding 100% loyals, for each buying frequency, we divided people into 100% loyals or not, and compared the propensity to give brand associations from each sub-group of buying frequency. Given that there were substantive similarities in the underlying patterns for individual attributes, and to show the results as succinctly as possible, we added up the number of attributes for each brand given by each respondent and present the results only for image attributes and for one category. We used one-way ANOVA’s to test for significant differences between the 100% loyals and the non-100% loyals at each level of buying frequency. The results (see Table 4), show that 100% loyals tend to give a greater number of associations than those who also use competitor brands. This was evident for each level of buying frequency. The percentage difference was higher for the once only buyers (average 45%), then around 30% for the twice and 3-4 times buyers. The difference between 100% loyals and non-100% loyals was lowest and less consistent for the heavy buyers (average of 11%). This suggests that the presence of competitor brands in a person’s repertoire dampens their propensity to give associations for the target brand.
Table 3: Average % Responses for brand attributes and personality traits – Share of wallet

<table>
<thead>
<tr>
<th></th>
<th>0-20%</th>
<th>21-50%</th>
<th>50-99%</th>
<th>100%</th>
<th>0-20%</th>
<th>21-50%</th>
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<td>32</td>
<td>39</td>
<td>46</td>
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<td>36</td>
<td>52</td>
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<td>16</td>
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<th>50-99%</th>
<th>100%</th>
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<th>21-50%</th>
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<td>27</td>
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<td>37</td>
<td>42</td>
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<td>Average</td>
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<td>39</td>
<td>38</td>
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<td>23</td>
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Table 4: Average number of image attribute responses for Coffee

<table>
<thead>
<tr>
<th></th>
<th>Once</th>
<th>Twice</th>
<th>3-4 times</th>
<th>5+ times</th>
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<tbody>
<tr>
<td></td>
<td>100% loyals</td>
<td>Not</td>
<td>100% loyals</td>
<td>Not</td>
</tr>
<tr>
<td>Brand 1</td>
<td>5.6</td>
<td>3.3**</td>
<td>6.3</td>
<td>3.9**</td>
</tr>
<tr>
<td>Brand 2</td>
<td>4.9</td>
<td>3.4**</td>
<td>5.2</td>
<td>3.9*</td>
</tr>
<tr>
<td>Brand 3</td>
<td>4.3</td>
<td>3.5</td>
<td>6.0</td>
<td>5.2</td>
</tr>
<tr>
<td>Brand 4</td>
<td>5.6</td>
<td>3.9**</td>
<td>5.3</td>
<td>4.1**</td>
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<tr>
<td>Brand 5</td>
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<td>3.6**</td>
<td>5.9</td>
<td>4.9</td>
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<tr>
<td>Brand 6</td>
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<td>4.0**</td>
<td>6.7</td>
<td>5.6*</td>
</tr>
<tr>
<td>Average</td>
<td>5.3</td>
<td>3.6</td>
<td>5.9</td>
<td>4.6</td>
</tr>
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</table>

Significant at: *p<0.05, **p<0.01

To further examine the relative influence of each loyalty measure, we conducted some exploratory stepwise linear regressions for each brand. The behavioural loyalty measures as the independent variables, and the number of associations given for the brand as the dependent variable. The results show that both are statistically significant (p<0.001), with total Adjusted R-squareds ranging from 18% to 10%. This suggests that loyalty explains some of the variance in the number of associations a consumer gives, but that there are other factors that explain the number of associations that are elicited.

For five of the six brands, share of wallet was the first variable selected and contributed the most variance (from 15% to 9%). The exception was the smallest brand, where buying frequency was the first variable in the model (explain 8% out of 10% total variance). This suggests that while share of wallet is a larger driver than buying frequency for most brands, for small brands it might be how many times the consumer buys that has the main influence.
the number of associations they can access from memory. Further research is needed to expand and verify this as the model for the smallest brand also explained the lowest amount of variance, so this may be simply an anomaly.

**Discussion**

This paper examines the effects of past brand loyalty and current brand equity. Our analysis is across two packaged goods categories. Two types of loyalty are examined—buying frequency and share of wallet. Our findings suggest that there is a substantive interaction between past brand loyalty and the propensity to give image attribute and personality trait associations to the brand. Those who had bought more of the brand more in the past year were more likely to link the brand with an attribute than those who had not. Further, with the exception of the 100% loyals for smaller brands, the higher the share of wallet, the greater the propensity to give brand associations. This creates a substantive problem in trying to determine cause and effect when modelling CBBE using cross-sectional data. Our results do not solve this problem, as it may be that the more loyals had a higher propensity to give brand associations before they increased their loyalty, but it does reveal the need for substantive care in interpreting any brand attribute/buying behaviour results.

Investigation into 100% brand loyals reveals that, 100% loyals are more likely to give associations about the brand than those with a similar buying frequency, but who also use competitor brands. This supports the early finding by Channon et al (1970) and suggests that share of wallet may be a greater driver of brand associations, and therefore CBBE than buying frequency. Indeed, preliminary regression results where both loyalty measures were regressed against the number of associations for the brand suggested this to be the case. Share of wallet was typically the first brand out in a stepwise regression and explained more variance than buying frequency when regressed against the number of associations that customer give. However, the explanatory power of the two variables is low, explaining under 20% of the total variance in the number of associations given for all brands, suggesting there are other factors at play influencing this part of CBBE. This is an area for future research.

**Limitations and future research**

The key limitation of this research is that it only examines two aspects of CBBE. Extension into other dimensions such as awareness, salience and attitude would be beneficial. Future research should also examine the impact of customer loyalty on competitor brand perceptions and in particular, the difference in the propensity to give competitor perceptions between different levels of share of wallet, which factors in competitor usage, and buying frequency, which does not.

As discussed, multivariate modelling of the relationships between the two different types of loyalty and various dimensions of CBBE would also contribute to our understanding of how using a brand, and its competitors impacts on the memory structures held by consumers.
References


