# ABSTRACT

Analysis of brand performance based on the relationship between brand size and consumer choice behaviour is a common procedure for repertoire and subscription markets. The more popular a brand (the more customers it has), the more often those customers tend to buy it. Thus, loyalty (repeat purchase) is a function of brand size as captured by the Dirichlet model and the Double Jeopardy Law. The law-like relationship between brand size and repeat buying has been shown to hold for large brands—the top ten or even twenty brands in a category. But little work has been done to analyse whether the same rules apply for smaller brands, yet, this is important since small brands by far outnumber their larger opponents in any category.

This paper documents and quantifies negative deviations from the Double Jeopardy line for low market share brands in 35 UK FMCG categories consisting of 430 brands and 37 ‘others’. In this, deficit in repeat purchase is discussed from the point of a brand’s size. This work redresses gaps in our knowledge of small brand performance metrics. Initial findings show small brands tend to underperform their expected loyalty metrics. More research is underway into small brand dynamics (growth/decline) and microbrands—that are too small to show up in panel data.

# INTRODUCTION

The well-established behavioural regularities that describe consumer purchasing for large brands might make predicting a small brand’s performance as straightforward as that of any other brand. However, a lack of depth in data, especially from panel datasets focused on market leading brands limits the accuracy and reliability of BPM forecasts (Pare et al., 2006). Moreover, research on (very) low share brands is scarce; and most discussion of small brands relies on unproven implications deduced from analysis of buying behaviour for the leading brands.

Seminal work by Fader and Schmittlein (1993) showed that very high share brands may command higher than expected loyalty, i.e., they are above the DJ curve, a finding the authors called “Triple Jeopardy.” At the other end, Pare et al. (2006) found that half of the small and mid-sized labels (>1% share) they studies repeatedly (over time) underperformed their loyalty predictions. Between them these studies suggest that very large and very small brands may not actually sit on the DJ curve. This may not concern the few super large brands, but is of critical importance to the masses of low share entities if they are to make realistic assessments of their marketing performance. Therefore, this research explores more deeply the small brand end of the DJ relationship. By looking at x-y-plots of individual and aggregated brand’s theoretical and observed penetrations and purchase frequencies, we explore whether there is a deficit in loyalty for very low share brands.

# DOUBLE JEOPARDY

The Double Jeopardy claim that within a set of competitive options, small brands suffer twice by having fewer buyers (first jeopardy) who purchase them less often (second jeopardy), says that brands differ greatly in penetrations, but less in repeat purchase (Sharp, 2010; McDonald, 2005). The Double Jeopardy line is usually plotted as the relationship between purchase frequency (x-axis) and penetration (y-axis). The resulting upwards sloping line divides the field into above and below average brands. (Alsopp and Jarvis, 2003),

Generally, the observed values for most brands are quite close to the line. However, some studies such as Fader and Schmittlein’s have reported brands that drift off the line (defined as difference of +/-10% from the theoretical norm). However, thus far, the majority of brands, especially the smaller ones that are exceptions to the rule, have not been fully investigated nor understood (Ehrenberg et al., 1990).

The focus of the present study is on negative deviations of low share labels and the amalgamated brand ‘others’ across categories. Further, the degree to which private labels (often small in size) impact results due to their often higher than expected loyalty figures is assessed.

# METHOD & DATA

Most research into Double Jeopardy deviations follows Barnard et al. (1994) direct comparison approach, making it easy to summarise and interpret results. By investigating differences between theoretical and observed brand metrics, the present study applies this method. The consumer purchase data used here is from a five-year (2009-15) longitudinal Taylor Nelson Sofres (TNS) panel provided by the Ehrenberg Centre of Research in Marketing, including 15,000 United Kingdom households.

Raw numbers are extracted with the help of Powerview. Overall, 430 brands and 37 ‘others’ are included in the analysis to derive standard quantitative brand performance metrics. These can then be assessed in a context of existing knowledge about buying behaviour in FMCG categories (Saunders et al., 2012, Barwise, 1995).

Traditionally, a category’s brands are sorted by size based on market share (Table 1). As the present research looks specifically at small brands, each of the 35 categories is divided into a top (red; total: 214) and bottom half (blue; total: 216); ‘other’ brands (an collection of smaller labels) are coloured green. The values for each brand’s penetration and purchase frequency (observed = O and theoretical = T) can then be plotted. The resulting x-y-plot of penetration and loyalty, can now be compared to the Dirichlet-predicted figures (Figure 1).

|  |  |  |  |
| --- | --- | --- | --- |
| **BRANDS (BY SIZE)** | **MARKET SHARE (%)** | **PENETRATION (%)** | **PURCHASE FREQUENCY** |
|  |  |   | O | **T** | O | **T** |
| OTHER |  *Other* | 17 | 32 | 34 | 3 | 3 |
| TOP |  *Persil*  | 16 | 35 | 32 | 3 | 3 |
|  |  *Ariel*  | 14 | 27 | 28 | 3 | 3 |
|  |  *Surf*  | 13 | 28 | 28 | 3 | 3 |
|  |  *Bold*  | 11 | 22 | 22 | 3 | 3 |
|  |  *Daz*  | 7 | 18 | 16 | 2 | 3 |
| BOTTOM |  *Tesco*  | 7 | 14 | 15 | 3 | 3 |
|  |  *Fairy*  | 5 | 12 | 12 | 3 | 3 |
|  |  *Aldi*  | 4 | 7 | 10 | 3 | 3 |
|  |  *Morrisons*  | 2 | 6 | 6 | 2 | 3 |
|  |  *Asda*  | 2 | 4 | 3 | 2 | 3 |

*Table 1: Theoretical & observed data for the ‘Laundry’ category (TNS/Kantar)*

Most brands are on or very near the Double Jeopardy line---i.e. their observed values are just about accurately predicted by the model. Brands that deviate more than +/-10% above or below the norm are considered exceptional.

*Figure 1:* Observed brand performance laundry category yearly data (TNS/Kantar)

The first visual impression reveals that on the left-hand side more brands are below the line whereas on the right a more are above. We will explain this further by looking at all categories together. Variances between observed and theoretical loyalty figures can then be calculated. For each half, bottom and top, the brands on or above and below the line those that varied more than 10% are noted. The same is done for all ‘others’.

After registering consistent deviations with a focus on the negative side occurring across categories, private label brands are identified. To assess their impact on small brand findings (more in THE PRIVATE LABEL ISSUE & DISCUSSION), their numbers and positions (above or below) are listed.

The next sections present results in the following order: First, the numbers of low share brands that deviated (including the direction) and variances in theoretical and observed loyalties is shown. The second part illustrates the extent to which private labels impact the findings. Finally, ‘other’ brands deviations in actual and expected purchase frequencies are displayed.

# FINDINGS—SMALL BRANDS

Given their penetrations the bulk of low share brands (56%) display lower than expected purchase frequencies while two thirds of large brands are above. Thus, there is a clear tendency for the ‘small’ to underperform or conversely, a tendency for the model to overpredict those brand’s loyalty rates.

|  |  |  |  |
| --- | --- | --- | --- |
| **BRANDS** | **TOTAL** | **ON/ABOVE LINE** | **BELOW LINE** |
| TOP HALF | 214 | 66% | 34% |
| BOTTOM HALF | 216 | 44% | 56% |
|  |  |  |  |
| **TOTAL** | 430 | 55% | 45% |

*Table 2: Deviations from the law of Double Jeopardy*

Looking at the extent of deviations of observed from theoretical loyalty figures, Table 3 shows that of the large brands that are above the line; 35% have greater than 10% positive variance (excess loyalty). Conversely, nearly half of low share brands below the line have a negative deviation of 10% or more (a loyalty deficit).

|  |  |  |
| --- | --- | --- |
| **VARIANCE LEVEL** |  **TOP HALF (%)** | **BOTTOM HALF (%)** |
| Positive small  | (<10%) | 29 |  | 16 |  |
| Positive large  | (>10%) | **35** | 21 |
| Negative small  | (<10%) | 16 |  | 17 |  |
| Negative large  | (>10%) | 20 | **46** |
|  |  |  |  |  |  |

*Table 3: Purchase frequency variance distribution across 430 brands*

## THE PRIVATE-LABEL ISSUE

Out of 430 brands, 190 (66+124) are in-store or private label. Dividing the categories in bottom and top halves, Table 4 shows there are 124 private labels in the bottom and 66 in the top half. Private labels are peculiar in that they are only available in the host retailer (Tesco private label can only be bought at Tesco) so they are small brands, but have higher than expected purchase frequencies because they are big within Tesco. Therefore their metrics are different to those of the other small brands (Nenyz-Thiel, ) .

Separating the private labels shows for the top half 57% of the 141 are branded products and either on or above the line, while 43% are branded and below. Further, excluding the private labels results in a much clearer tendency of small brands to be below the line: with private labels removed 71% of the smaller brands display a purchase frequency deficit.

|  |  |  |  |
| --- | --- | --- | --- |
| **TOTAL BRANDS** | **DIRECTION** | **TOP HALF** | **BOTTOM HALF** |
| 430 |  | TOTAL | IN-STORE | BRANDED | TOTAL | IN-STORE | BRANDED |
| *ABOVE* | 141 | 56 | 85 (57 %) | 95 | 68 | 27 (29 %) |
| *BELOW* | 73 | 10 | 63 (43 %) | 121 | 56 | 65 (71 %) |
|  |  |  |  |  |  |  |
| ***TOTAL*** | 214 | 66 | 148 | 216 | 124 | 92 |

*Table 4: Private label distribution across 35 categories*

## THE ‘OTHERS’

The 35 categories contain a total of 37 ‘other’ brand clusters, meaning usually one per category. 17 of them are leaders in their categories, but of these only two show excess loyalty (>10%).

7/37 (19%) are either on/above the line. However, the majority of ‘others’ demonstrate the tendency to underperform expected loyalty figures (81%). Table 5 illustrates ‘others’ tend to negative, but mostly smaller (<10%) variances (59%). Thus “Other,” a collection of smaller brands, even in aggregate under-performs, just as other smaller brands generally do.

|  |  |
| --- | --- |
| **VARIANCE LEVEL** | **‘OTHERS’ (%)** |
| Positive small | *(<10%)* | 14 | 19 |
| Positive large | *(>10%)* | 5 |
| Negative small | *(<10%)* | 59 | 81 |
| Negative large | *(>10%)* | 22 |
|  |  |  |  |

*Table 5: 37 ‘others’ loyalty variance distributions*

## SUMMARY FINDINGS

Although research into Double Jeopardy deviations has long been called for (f.e. Pare et al., 2006; Scriven and Bound, 2004; Uncles et al., 2004), little is explored about small brand’s behaviour around the law itself. By examining consumer buying behaviour in 35 categories, this study contributes to the understanding of low share entities and their degree of loyalty deficits:

1. 56% of small brands negatively deviated, thus showing loyalty deficits.
2. 46% of small brands had greater than 10% negative loyalty variance, thus supporting the deficit loyalty finding.
3. 39% of negative-deviating brands are private labels.
4. 81% of ‘other’ brands are under the line, demonstrating a deficit in loyalty.
5. 27% of ‘others’ have more than 10% negative difference.

# DISCUSSION: ODDITIES & PATTERNS

Any brand’s sales is based on its penetration and purchase frequency, which have been shown repeatedly to be near steady-state. The relationship between penetration and purchase frequency is concisely modelled by the NBD-Dirichlet, which predicts competing brands’ probabilities of being preferred (Sharp, 2010).

This rather effortless option-drawing from a memory subset of brands has a zero-order as-if-random effect and comfortably saves constant re-evaluation time (Uncles et al., 1995). This means loyalty is based on repeat purchase (behaviour) and attitudinal measures are of little help (East et al., 2008). It also shows buyer learning has stabilised a long time ago (f.e. Romaniuk and Sharp, 2015; Uncles et al., 2012). Knowing that, most brands within a set of competing options are not only perceived, but even purposely try to be close substitutes (Ehrenberg, 1991), thus compete in a mass market. What customers really want is the category. What they choose from their repertoire is a competitive option expected to fulfil their needs best at the time of purchase. Considering this, Double Jeopardy may help us understand how we can and cannot sell more (Sharp et al., 2014; Ehrenberg et al., 1990).

The present research shows that the Double Jeopardy calculation consistently over-predicts repeat purchase figures for low share brands. Indicating that being small seems to be even worse than expected: Not only do small brands suffer twice, there is also a greater chance of having to deal with clear loyalty deficits.

The consistency with which deficit loyalty occurred dismisses the subject being stamped as sampling error or just not important enough. The use of large datasets covering many categories provides solid empirical evidence that smaller brands suffer a loyalty deficit. This knowledge strengthens understanding of market structure and helps demonstrate a limitation in the model (its over-prediction for small brand BPMs) and so strengthens the model.

As a final note, this study is done as a part of an investigation into SME performance measures. The fact that an estimated 90% of today’s worldwide entities are small or medium literally makes them big business (Chaston, 2009). As such, these findings are just the beginning. Further research on very small entities, not appearing in panel sets is under way to assess the extent that results are reflected in SMS’s consumer data bases to enhance our knowledge of SME capabilities. Implementing the statistical-based relationship between consumer preferences and brand behaviour into economic SME data helps identify the degree to which their link pertains for small and medium sized businesses (econometric modelling).

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