Is designation of origin an important cue driving consumer loyalty behaviour? Evidence from scanner data on dry-cured ham

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Is Designation of Origin an Important Cue Driving Consumer Loyalty Behaviour?  
Evidence from Scanner Data on Dry-cured Ham

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Abstract

Reference to origin and region has become a factor of differentiation and added value for food product companies. Although previous studies argue that designation of origin can be considered as an extrinsic cue affecting consumer preferences, the main concern which still exists is whether designation of origin influences their actual purchase behaviour and, moreover, behavioural loyalty towards them. For measuring loyalty we applied the Dirichlet model on scanner supermarket data on dry-cured ham, a common local French food product. Results show that designation of origin is not that an important driver of loyalty comparing to price and brand name.

Introduction

For over 15 years the European Union’s Common Agricultural Policy has recognized and supported the potential of differentiating quality agricultural food products from conventional, mass produced ones, on a regional basis. EU Regulation 510/2006 lays down rules and procedures for the production of agricultural food products as Protected Designation of Origin (PDOs) and Protected Geographical Indications (PGIs). Aim of this strategy is to protect regional food products and provide the producers with a powerful marketing cue which may add a significant comparative advantage to their business (Dimara, Petrou & Skuras, 2004). From the consumer perspective, such quality labels provide guarantee to consumers and enhance awareness of such products (Ilbery & Kneafsey, 2000).

Local food products are said to constitute a niche market across Europe with around 7-9% of the total food consumption, especially those with designation of origin label. It is argued (Giraud, 1997) that if specific marketing actions will be adopted it can be considered to reach not more than 15%. Since 1992, more than 526 agricultural food products and foodstuffs have been registered (Dimara et al., 2004; Ilbery, Kneafsey & Bamford, 2001; Parrott, Wilson & Murdoch, 2002). An analysis of the distribution of registered regional products at a national level shows that the take-up of this protective device is concentrated in southern European countries illustrating an alternative geography of food (Jordana, 2000; Parrott et al., 2002).

On the outbreak of recent food crises consumer concerns on product authenticity and traceability has been increased (Dimara et al., 2004). Many studies provide evidence of the value laid by consumers on products that are associated with geographical regions and examine how the image of a region influences preferences and evaluations of products (Chambers et al., 2007; Ilbery, Kneafsey & Bamford, 2000; Ittersum, Candel & Meulenberg, 2003; Lans, Ittersum, de Cicco & Loseby, 2001; Roininen, Arvola & Lahtenmaki, 2006; Skuras and Dimara, 2004). Moreover, consumer place more importance on designation of origin labels (Luz Loreiro & McCluskey, 2000; Roosen, Lusk & Fox, 2003) whereas it is
commonly argued that they could be considered as any other extrinsic cue like brand, price or warranty of the retailer (Verlegh & Steenkamp, 1999).

While strategies need to be applied in order to achieve a higher market share, the question that still remains is how local food products should be positioned. It is important to get a deeper understanding of the market performance of such products and whether designation of origin could be considered as a discriminating factor affecting consumer loyalty behaviour. Until now, none of the studies has ever tried to measure designation of origin from the perspective of actual behaviour.

In a previous study on wine loyalty, Jarvis, Rungie and Lockshin (2003) wondered whether consumers are loyal to specific brands or loyal to specific attributes of the products. This suggests that there is not one category of products but different categories, based on the product attributes, and each category has different loyalty levels (Dore, 2001). We share the same opinion and, moreover, for local food products this suggestion may have implications, as attributes such as designation of origin, seem to influence consumer behavioural loyalty more than their brands actually do.

Aim of this study is to provide input on the way a local food product, such as dry-cured ham, performs in the market using actual purchase data. Objectives of this study are: 1) to identify whether local food products, such as dry-cured ham, show similar patterns to other product categories or they are unique, requiring unique branding strategies, and 2) to identify whether attributes of local food products, such as designation of origin labels, are important drivers of behavioural loyalty.

**Material and Method**

**Measuring loyalty**

Brand loyalty is now a well established concept. Copeland (1923) first defined loyalty as “an extreme attitude towards a product which might have a special effect on buyer behaviour” which was considered as one of most cogent descriptions ever proposed. It took 50 years of research until Jacoby and Chestnut (1978) suggested that loyalty is two-dimensional, being behavioural and attitudinal as well. The two-dimensional loyalty approach helped to identify loyalty segments and to recommend marketing strategies to reach those segments (Sharp, Sharp & Wright, 1999).

Behavioural loyalty has been suggested to be measured with the use of various parameters which are commonly known as Brand Performance Measures (BPMs). Typical BPMs are the market share, penetration, purchase frequency and share of category requirements (SCR). Brand Performance Measures can be used as an input in the development and calibration of various theoretical models describing patterns and regularities of buyer behaviour, such as Natural Monopoly, Double Jeopardy and Duplication of Purchase Law (Ehrenberg, Uncles & Goodhardt, 2004).

One of the most widely used theoretical models and with high generalizations in marketing is the Dirichlet model (Bhattacharya, 1997; Ehrenberg et al., 2004; Uncles, Ehrenberg & Hammond, 1995). The model has been found to fit empirically in many product categories (Uncles et al., 1995) and have substantial applications in marketing (Ehrenberg, 1988; Ehrenberg et al., 2004; Ehrenberg & Uncles, 1999; Rungie & Goodhardt, 2004; Uncles et al.,
1995) providing useful benchmarks for predicting patterns, which have been observed empirically, and loyalty as well.

As mentioned before BPMs can be used as predictors of loyalty, with SCR being one of the most important measures. Stern and Hammond (2004) note that SCR has potential weaknesses and, in order to address them, they introduced additional measures of loyalty. In this case, they introduced the polarization index $\phi$, which is related to the $S$ parameter of the Dirichlet model (see Ehrenberg, 1988; Ehrenberg et al., 2004). The polarization index $\phi$ is calculated with the following formula:

$$\phi = 1 \left( \frac{S}{\text{penetration}} \right)$$

Both indexes ($\phi$ and $S$) capture changes in the heterogeneity in consumer choice thus they can be used to predict loyalty on an attribute level of the products. But as $S$ varies from 0 to infinity, $\phi$ may vary from zero to one. Values of $\phi$ close to zero indicate pure homogeneity on consumer choice, which means that there are high switching levels in the product category as all buyers have the same propensity to buy individual brands from it and vice versa (Fader & Schmittlein, 1993; Stern and Hammond, 2004).

Data

Scanner data on dry-cured ham from four supermarkets in region Auvergne in France were collected for a period of one year (March 2003 - March 2004). The panel consisted of loyalty card holders ($N=789$). In total 10 different dry-cured ham brands were recorded, all being sold in the self service of the stores (overall number of recorded purchases = 4,674).

Each product was categorized according to the type of brand (Distributor, Commercial and No Frills), on whether it had a PGI label or not and according to its price (High, Medium and Low price). The price of each product was first standardized according to the total number of slices and their total weight. The Dirichlet model was fitted to the data using the DIRICHLET software (Kearns, Bound and Goodhardt, 1998).

Results and Discussion

Table 1 presents a number of brand performance measures for each individual brand. “O” refers to the observed values from the panel and “T” to the theoretical ones, as predicted from the Dirichlet model. The correlation coefficient for penetration between observed and theoretical values is 0.98 and for SCR 0.72 suggesting the good fit of the model and its good predictability power (Uncles et al., 1995). It should be mentioned that aim of this paper is not to investigate whether the model fits well on the observed data but on whether the data fit well on the model’s predictions since the model has been found to fit in many product categories (Uncles et al., 1995).

On the average brand the theoretical model predictions fall very close to the observed ones. The market share is 10.0% with a penetration of 25.7%. The purchase frequency of the average brand in the product category is about 7 packages and of the brand level almost 2 packages on an annual basis. The share of category requirements is 31.7% sugesting that on an average annual basis 31.7% of the purchases are made on the specific brands.

According to individual brands the model under-predicts most of the measures (i.e. SCR) for the larger brands and over-predicts for the smaller ones. This trend has been observed in almost all cases analysed (Ehrenberg et al., 2004; Ehrenberg & Goodhardt, 1979). Whilst in
some cases this trend is larger than usual, this might probably exist due to that as the product category consists of many small brands with low purchase frequencies.

Table 1 Observed and theoretical brand performance measures

<table>
<thead>
<tr>
<th>Products</th>
<th>Market Share (%)</th>
<th>Penetration (%)</th>
<th>Purchases Per Buyer of the...</th>
<th>Share of Category Requirements (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>O</td>
<td>T</td>
<td>O</td>
<td>T</td>
</tr>
<tr>
<td>1 Ham_2</td>
<td>22.9</td>
<td>23.2</td>
<td>54.8</td>
<td>52.7</td>
</tr>
<tr>
<td>2 Ham_3</td>
<td>18.7</td>
<td>18.9</td>
<td>44.5</td>
<td>45.5</td>
</tr>
<tr>
<td>3 Ham_4</td>
<td>12.3</td>
<td>12.5</td>
<td>31.2</td>
<td>32.6</td>
</tr>
<tr>
<td>4 Ham_6</td>
<td>11.0</td>
<td>11.1</td>
<td>28.9</td>
<td>29.6</td>
</tr>
<tr>
<td>5 Ham_5</td>
<td>9.5</td>
<td>9.7</td>
<td>29.3</td>
<td>26.3</td>
</tr>
<tr>
<td>6 Ham_7</td>
<td>7.0</td>
<td>7.1</td>
<td>14.4</td>
<td>20.1</td>
</tr>
<tr>
<td>7 Ham_8</td>
<td>7.4</td>
<td>7.5</td>
<td>20.4</td>
<td>20.9</td>
</tr>
<tr>
<td>8 Ham_1</td>
<td>6.0</td>
<td>6.1</td>
<td>16.8</td>
<td>17.3</td>
</tr>
<tr>
<td>9 Ham_9</td>
<td>3.7</td>
<td>3.8</td>
<td>11.7</td>
<td>11.1</td>
</tr>
<tr>
<td>10 Ham_10</td>
<td>1.5</td>
<td>1.5</td>
<td>4.9</td>
<td>4.7</td>
</tr>
</tbody>
</table>

Average Brand | 10.0 | 10.1 | 25.7 | 26.1 | 2.3 | 2.2 | 7.3 | 6.9 | 31.7 | 32.2

Moving from Ham_2 towards Ham_10, penetrations decrease greatly almost tenfold. Small brands, therefore, not only have fewer buyers than big brands, but also show somewhat lower average purchase frequency. This illustration suggests the existence of the Double Jeopardy effect. However, this trend is rather small due to the low market shares of the products. Some deviations in some products exist (e.g. Ham_7) which can be considered as niche ones. Hence, niche products often tend to defy the double jeopardy trend (Bandyopadhyay & Gupta, 2004; Ehrenberg, Goodhardt & Barwise, 1990; Kahn, Kalwani & Morrison, 1988).

The frequency of consumers of a specific brand, who have bought the whole category, increases slightly from 6.4 to 8.8 with decreasing market share. This is the Natural Monopoly effect, which suggests that large brands monopolize light buyers of the category (Ehrenberg et al., 2004; McPhee, 1963). For the dry-cured ham category the trend is followed less smoothly than the model predicts with some deviations in brands with small market shares.

The classification of the products into different attribute based categories allowed us to determine the different loyalty levels of each attribute and compare them across each category. In order to do so the S and φ indexes for each category is estimated as shown on Table 2. The highest degrees of loyalty are between brand type and price categories where consumers have a low propensity of switching; hence φ is higher. This explains that consumers stay loyal to a specific brand type and price range as well. On the other hand, designation does not have high levels of loyalty suggesting that designation is not an important driver of loyalty. Nevertheless, one would expect that φ would increase as the number of alternatives decrease, enhancing further the expectation that designation is not an important driver of loyalty.
### Table 2 S and φ indexes for different product attributes

<table>
<thead>
<tr>
<th>Categories According to…</th>
<th>S</th>
<th>φ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designation of origin (2 product categories)</td>
<td>3.13</td>
<td>0.24</td>
</tr>
<tr>
<td>Brand type (3 product categories)</td>
<td>1.43</td>
<td>0.41</td>
</tr>
<tr>
<td>Price category (3 product categories)</td>
<td>1.57</td>
<td>0.39</td>
</tr>
<tr>
<td>All Brands (3 product categories)</td>
<td>2.31</td>
<td>0.30</td>
</tr>
</tbody>
</table>

**Conclusion**

This study aimed at analysing the structure of a local food product market, such as the dry-cured ham. For this respect, we used as a benchmarking tool the Dirichlet model and the norms drawn from it, as those have been proved to apply in many product categories, across many countries and time (Ehrenberg et al., 2004; Uncles et al., 1995). Furthermore, an attempt was given to identify which extrinsic product cues of local food products are drivers of behavioural loyalty, by focusing on designation of origin labels.

It seems that in the case of dry-cured ham the observed measures are close to the model predictions. Patterns such as the Double Jeopardy and Natural Monopoly seem to apply with minor differences from previous studied product categories. However, loyalty levels are not high with few solely loyal buyers (on the average brand are 3.4%) indicating that is a repertoire market with niche characteristics. From the managerial perspective, in such type of markets aim should be given not to increase the volume but the margin (Kotler et al., 2005). This is important for the local food products market which is argued to be difficult to increase the consumption of current consumers (Giraud, 1997). Therefore, strategies should emphasise on increasing customers’ loyalty.

When coming to the type branding strategies and loyalty programs that should be followed there is a question on which brand attributes those programs should they focus. In our study designation of origin, when considered as an extrinsic brand cue (Verlegh & Steenkamp, 1999), it did not succeed high levels of loyalty comparing to brand type and price. However, it might constitute an important factor for a segment of consumers and this is an issue for further research. In this respect, designation of origin labels should be considered more as heuristics of product quality and consumer choice rather than loyalty drivers. This has ramifications in the local food product market where marketing managers should be cautious when applying branding strategies aiming at enhancing brand loyalty which based on brand attributes such as labels of origin. From the policy point of view, labels of origin should be further promoted and strengthened as still it does not constitute an important driver of loyalty for consumers.

**Acknowledgement**

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