CHAPTER SEVEN: PRICING STRATEGY

The Importance of Price to the Irish Honey Industry

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A useful technique called conjoint analysis or trade-off analysis can be used to measure the trade-off between price and other product features so that their effects on product preference can be established. Respondents are not asked direct questions about price, instead product profiles consisting of product features (e.g. packaging type, label, brand name, etc.) and price are described and respondents are asked to name their preferred profile. From their answers the effect of price and other product features can be measured using a computer model. The marketing implications of this technique are many, including ascertaining if price is an important variable in the decision to purchase and what level of price a manufacturer should charge for her product in order to give the consumer the highest utility or value for her purchase.

This case study utilises data from the Irish honey market to ascertain how important price is and which level of price provides the highest level of utility for the consumer. It then seeks to ascertain if segments/clusters of consumers exist who derive different levels of utility from different levels of price. Manufacturers can then alter their price to suit the particular segment they are targeting.

Beekeeping in Ireland is for some an absorbing hobby and for others a valuable farm income supplement. It is estimated that there were 2,000 beekeepers in Ireland managing 22,000 colonies (hives) of bees in 1998. The majority of beekeepers have a small number of hives - a 1990 census of population of both colonies and beekeepers, noted that 78% of beekeepers had 1-10 hives. In 1997, honey production was 198 tonnes or nearly 11% of Irish needs - consumption was 1,779 tonnes. A clear deficit exists that could be made up by increased production. The EU itself only produces half its needs, with the remainder being imported from New Zealand, Mexico and Russia.

The conjoint analysis procedure will now be outlined:

Establishing the attributes

Product attributes are components or characteristics of the product. Conjoint analysis starts with the determination of relevant attributes that are believed to influence a consumer's preference between one honey and another honey product.

A focus group was conducted with eight female consumers of honey. The recruitment criteria was as follows:

Female buyers and consumers of honey.
All had to consume honey at least once a month.
ABC1 socio-economic group.
Age from 30-60 years.

Three attributes were identified which were very important for consumers of any honey, but which did not differentiate between honeys. These were that a honey should be:
Pure,
Irish and
A healthy nutritional product.

It was subsequently decided to anchor all conjoint analysis profiles with a label stating that the honey was "Pure 100% Irish Honey". The important differentiating attributes were:
Texture of the honey;
Colour of the honey;
Source of the honey;
Price; and
Packaging.

Determination of attribute levels

Having determined relevant attributes, levels must be assigned to them. Two further focus groups were conducted, again with eight women in each group. The objective for both these groups was to identify the levels associated with the five attributes, identified by the first focus group. These attribute levels were as follows:

Texture - thick and runny,
Colour - dark golden and light golden,
Source - mass produced and made by a small scale producer,
Price - €2.48, €2.73 and €3.11,
Packaging - 227g (8 oz) shaped glass jar and 454g (1 lb) plain glass jar.

These levels were identified by the focus groups. The levels of the price were chosen in a way that the "middle" level reflected the average price paid for a jar of honey, irrespective of the size of the jar. Price was unique among the identified attributes, in that consumers felt that there were three realistic prices that they could pay for honey. Any price below €2.48 and above €3.11 was not considered realistic for a jar of honey. This is useful information for manufacturers as they now know the range to charge for their product.

Generation of scenarios for respondents

Having established the relevant attributes and their levels, hypothetical scenarios with different combinations of attributes were presented to individuals. This study gave rise to 48 possible combinations (2 x 2 x 2 x 3 x 2)[1]. Clearly it would have been unrealistic to ask individuals their preferences for so many scenarios. This study utilised a statistical computer model, to reduce the number of profiles to a manageable size, while at the

[1] This corresponded to texture x colour x source x price x packaging.

same time maintaining representativeness. Thus there were fewer judgments to be made by the respondents. This reduced the number of profiles to be evaluated to eight.

The *full-profile* approach was utilised as the means of presentation to the respondents. In this approach, respondents were asked to rate the full product descriptions (full product profiles or combinations of levels of all the attributes) according to preference. In this case the list of attributes is not long, so respondents were not expected to have difficulties in distinguishing between them. A rating scale was utilised over a rank scale due to possible time constraints on respondents. The scale was anchored from 1 to 9, with 1 being "dislike extremely" and 9 being "like extremely".

This study utilised a verbal description approach. Each verbal description of the potential honey was placed on a profile card. This meant that each respondent was given eight profile cards, with each card defining the levels of each of the five attributes. Each card contained a simple sketch of a honey jar (size was dependant on the packaging of the profile), with a statement that the honey was "Pure 100% Irish Honey". Underneath this sketch in bullet point form, it was stated that the honey, for example, was thick in texture; had a dark golden colour; was produced by a small-scale producer; priced at € 2.73 and packaged in a 227g jar.

The eight conjoint profile cards were administered to 153 respondents. Respondents were chosen at random in both Cork and Dublin. The overall study involved an analysis of both commercial and small producer honeys, so areas had to be chosen where both types of product were on sale. Commercial brands of honey are available in both markets. However, in Cork there are also a large number of small-scale producers with markets in the area, while Dublin consumers had less access to the products of these producers. Respondents had to have eaten honey at least once in the last month.

Establishing Preferences & Estimating Utilities

All 153 respondents interviewed provided a set of rating scores for the profile cards. Based on these scores, the conjoint analysis procedure calculated the contribution of each product attribute to the respondent's preference. The contribution of the attribute level is termed its "part-worth utility". Conjoint analysis uses the utility ranges to compute importance scores for each attribute.

Results;

Conjoint analysis - Part-worths and relative importance of attributes

Table I shows the part-worth utility scores for each level of each attribute. Respondents overall felt that price was the most important factor (26%), closely followed by texture (25%), packaging (19%), scale of production (17%), and finally the colour of the honey (13%). Price was therefore twice as important for respondents as the colour of the honey. Price and texture accounted for just over 50% of the importance all consumers attached to the attributes of a honey. The colour of the honey was the least valued attribute.

Within the attributes, the utilities of each level were also investigated[2]. With regard to the price of honey, €3.11 had a negative utility (U = -0.5375), while a price of €2.73 had a higher utility (U = 0.2439) and a price of €2.48 had the highest utility (U = 0.2936). A honey from a small producer had more utility (U = 0.5877) than one that was produced on a mass scale (U = -0.5877). The remaining utilities can be read from Table I.

Table I: Results of Conjoint Analysis. (n = 153)

Attribute	Level	Utility	Relative Importance (%)
Texture	Thick	0.4801	25
	Runny	-0.4801	
Colour	Light golden	-0.0315	13
	Dark golden	0.0315	
Scale of production	Small	0.5877	17
	Mass	-0.5877	
Price	€2.48	0.2936	26
	€2.73	0.2439	
	€3.11	-0.5375	
Packaging	8 oz (227g) shaped glass	-0.6291	19
	1 lb (454g) plain glass	0.6291	

Pearson's R = 0.997. Kendall's tau = 1.000. p = 0.0000. These statistics show that that the data fit to the model was very good.

The utility of the price attribute shows that consumers in this survey were price conscious, deriving a higher utility from a honey of a lower price. They can also be judged as being in some way price sensitive, as they derived a higher utility from the larger 1 lb (454g) jar than from the smaller 8 oz (227g) shaped glass jar. The degree to which the bigger jar was preferred due to its larger size could not be determined, but certainly from conducting the questionnaire, a lot of people preferred the larger jar as it gave them value for money. If a producer were to charge €2.73 instead of €2.48 for their honey, there would be a consequent loss in utility of 0.0497 (0.2936 - 0.2439). However, if the producer were to package his honey in a 454g plain glass jar instead of a 227g shaped glass jar, there would be a consequent rise in utility of 1.2582 (0.6291 + 0.6291). If this larger jar of honey was priced at €2.73 instead of €2.48 the utility would rise by 1.2085 (1.2582 - 0.0497). Alternatively if the price was reduced from €3.11 to €2.48 and the honey was packaged in the plain 454g plain glass container instead of a 227g shaped glass jar, there would be a consequent rise in utility of 2.0893 (0.8311 + 1.2582). The implication is clear that these 153 consumers would derive a higher utility from a cheaper honey, packaged in larger jars.

[2] The closer the utility to 1, the higher the value derived by the consumer.

Market Segmentation

The market was segmented on the attribute of scale, to ascertain if clearly defined clusters of consumers existed. Scale was considered the most appropriate basis for segmentation as it would divide the respondents according to those who obtained a high utility for a honey from a small-scale producer and from a larger-scale producer. The overall purpose of this study was to identify the reasons why consumers purchased from small-scale producers rather than purchasing mass-produced honeys. This segmentation process was conducted using the same computer programme as previously outlined. A three-cluster solution was found to have the best fit. The first cluster contained 17 respondents, the second contained 72 and the third contained 64.

All three clusters preferred the 454g plain glass jar and a thick textured honey. However, differences existed with respect to the other attributes for consumers in the three clusters. For cluster 1, in addition to a 454g plain glass jar and a thick textured honey, the ideal product was also dark golden in colour, priced at €2.73 and from a small-scale producer. For cluster 2, the ideal product was similar but light golden in colour. For cluster 3, it was dark golden, priced at €2.48 and mass-produced. Table II shows the importance scores for all 153 consumers as well as the three clusters. Table III details the attribute levels and the utility associated with each level. None of the three clusters derived a positive utility from a price of €3.11.
Cluster one derived the highest utility of all clusters from a honey made by a small-scale producer (Table III) and this attribute also contributed nearly 50% towards the importance associated with buying a honey (Table II). They derived the lowest utility from a price of €2.48. Price was also one of the lowest contributors towards the importance of various honey attributes, when compared to other clusters. Though they gave a positive utility towards the 454g plain glass jar, it was the lowest on a cross-cluster basis. Cluster one, in subsequent analysis, was found to have the highest percentage of single people and the lowest percentage of children. They also had the highest percentage of respondents working full-time and the lowest working part-time.

Though colour was the least important attribute for consumers in cluster two, they were the only consumers to derive a positive utility from a light-coloured honey. This differentiated them from the other clusters, in terms of their ideal honey profile. They derived the highest utility of all three clusters from a price of €2.73 and the lowest utility from €3.11. This group of respondents, however gave a higher utility to €2.48 than cluster one, but this utility is lower than cluster three.

Cluster three considered price as the second most important attribute when buying a honey and obtained the largest positive utility of all clusters from a price of €2.48, while obtaining the lowest utility of all clusters from a price of €2.73. They also derived a negative utility from a price of €3.11. They also obtained the largest positive utility from a 454g jar, compared to the other clusters, and this is reinforced when one considers that of all three clusters, this cluster considered packaging to have the largest importance. They were also the only cluster to derive a positive utility from a honey produced on a mass scale. Cluster three, in further analysis, were found to have the most children.

Table II: Importance scores for each attribute.

Attribute	All consumers (*n* = 153). Importance Score - %.	Cluster 1 (*n* = 17). Importance Score - %.	Cluster 2 (*n* = 72). Importance Score - %.	Cluster 3 (*n* = 64). Importance Score - %.
Texture	25	12	23	29 (a)
Colour	13 (b)	10 (b)	14 (b)	13
Scale of Production	17	49 (a)	20	6 (b)
Price	26 (a)	18	27 (a)	27
Packaging	19	11	16	25

Notes: (a) Most important attribute; (b) Least important attribute

Table III: Utility scores of attributes.

Level of Attribute	All consumers (*n* =153).	Cluster 1 (*n* = 17).	Cluster 2 (*n* = 72).	Cluster 3 (*n* = 64)
Texture - Thick	0.4801	0.3676	0.6302 (a)	0.3367
Runny	-0.4801	-0.3676	-0.6302	-0.3367
Colour – Light golden	-0.0315	-0.1912	0.0017	-0.0262
Dark golden	0.0315	0.1912 (a)	-0.0017	0.0262
Scale - Small	0.5877	2.2353 (a)	0.7691	-0.0746
Mass	-0.5877	-2.2353	-0.7691	0.0746
Price - €2.48	0.2936	0.1176	0.1736	0.4812 (a)
€2.73	0.2439	0.3088	0.4514	-0.0148
€3.11	-0.5375	-0.4265	-0.6250	-0.4664
Packaging – 225g shaped	-0.6291	-0.1176	-0.4149	-1.0181
454g (1 lb) plain glass	0.6291	0.1176	0.4149	1.0181 (a)

Note: (a) cluster with highest utility for this attribute

QUESTIONS

1. In relation to the overall 153 respondents, ascertain the product that provided the least utility.
2. For all three clusters, ascertain the profiles that provided the highest and lowest utility for consumers.
3. Do you think there is an opening for a high-class "gourmet" honey for cluster one? Why? What would be the characteristics of such a honey?