

Commercial Strategies in the Olive Oil Bottling Sector in Spain: A Strategic Group Analysis

Alfonso Vargas Sánchez
Yolanda Pelayo Díaz
Jean-Pierre Lévy-Mangin

ABSTRACT. The main objective of this study is to analyse the olive oil bottling sector in Spain, applying the strategic group methodology to a group of firms from the sector. The study is divided in four sections:

- Identification of the strategic groups, using multivariate statistical techniques.
- Characterization of the groups, analysing their internal structure, delimiting and explaining their strategies.
- The positioning.
- And differences in the results of the groups.

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Alfonso Vargas Sánchez is Full Professor of Business Strategy, University of Huelva (Spain) (E-mail: vargas@uhu.es). Yolanda Pelayo Díaz is Lecturer of Business Management, University of Huelva (Spain) (E-mail: pelayo@uhu.es). Jean-Pierre Lévy-Mangin is Professor, Université du Québec en Outaouais (Canada) (E-mail: jean-pierre.levy-mangin@uqo.ca).

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INTRODUCTION

The olive oil bottling sector in Spain is distributed among a high number of companies, but only a few of them have the control of the market. It is a sector with a high concentration oligopoly, in which big groups seek to monopolize a part of the market as big as possible through processes of concentration or by acquiring established companies with brands and market shares already consolidated.

In this context, the main aim of this paper is, from a series of competitive dimensions, to identify the commercial strategies followed by the olive oil bottling sector in Spain, as well as the product-market niches which are not exploited enough by these companies.

For such a purpose, the methodology of the strategic groups has been used, a term introduced by Hunt in 1972, which we shall explain later on.

THE CONCEPT OF STRATEGIC GROUP

As many studies have made it clear, strategic groups are potentially a useful theoretical tool for analysing firm strategy, and a useful aid for managers who must study competitors, take strategic decisions and develop successful strategies.

However, one of the difficulties is how to define the groups, since there is no universally accepted formal meaning for the term.

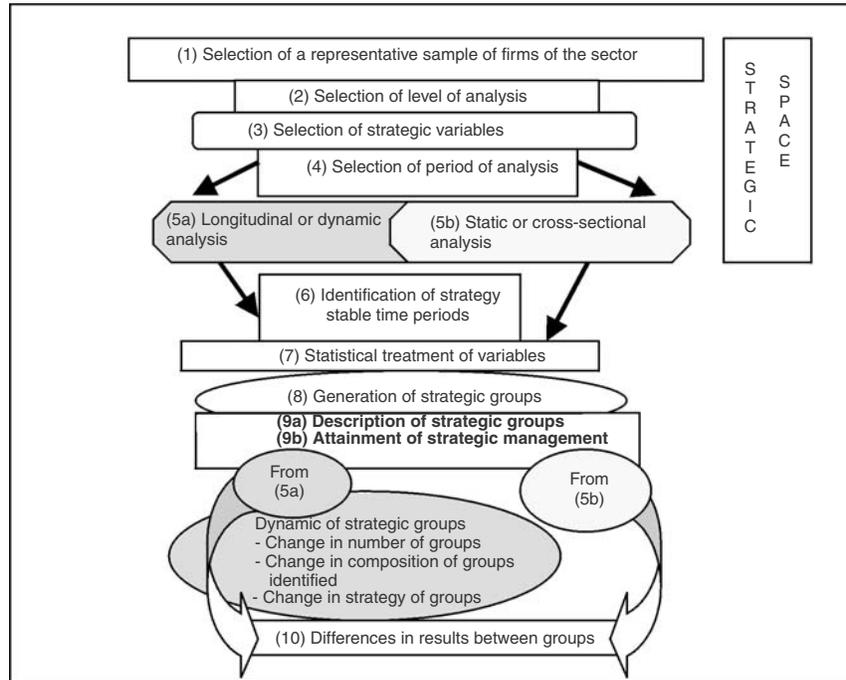
Based on the most relevant authors in this field (such as Hunt, 1972; Caves & Porter, 1977; Porter, 1979; McGee & Thomas, 1986; Cool & Schendel, 1987; Hatten & Hatten, 1987; Mascarenhas & Aaker, 1987; Barney & Hoskisson, 1990; Reger & Huff, 1993), we choose the definition proposed by Céspedes (1996; p. 27), which considers a strategic group as a grouping of business within an industrial sector separated from others by mobility barriers.

IDENTIFICATION OF STRATEGIC GROUPS

Leading from the line of work proposed by Más Ruiz (1996; p. 23), which consists of developing empirically the groups with multivariate techniques under the perspective of Strategic Management, the methodology proposed is the following (Figure 1):

We shall now explain each of these stages.

FIGURE 1. Methodology for the Identification of Strategic Groups



Selection of a Representative Sample of the Firms in the Sector to Analyze (Step 1 in the Model)

The first stage of the proposed methodology consists of choosing a representative sample of the firms in the sector to analyse.

In order to obtain the sample from the population of olive oil bottling firms in Spain, we could only use sales statistics for the sale of bottled branded olive oil, annually published by ANIERAC (The National Association of Edible Oils Bottling and Refining Industries).

This sample is of the intentional or opinion-related type in which the person who chooses it tries to make it representative, and how representative it is depends on his or her opinion and intuition.

For the sample, approximately 80% of the market share of the olive oil market were chosen (including virgin oils), considering a total of 14 firms, which are the following: Grupo Koipe, Aceites La Masía S.A., Aceites Coosur S.A., Agribética S.A., Aceites Borges Pont S.A., Aceites

del Sur S.A., Aceites Ybarra S.A., Mueloliva S.L., Aceites Maeva S.L., Aceites Monterreal S.L., Olilán S.A., Euroлива Cía Oleícola S.L., Emilio Vallejo S.A., Hermanos Ayala Sousa S.L.

The main sources of information used were:

- For the primary internal information, the personal interview was used, complemented by a structured questionnaire, which allowed us to obtain a global view that adequately reflected the key aspects of the strategic diversity of the sector.
- For secondary external information, we had access to the Annual Accounts and the Management Report of the firms under analysis.

Selection of the Level of the Analysis (Step 2 in the Model)

It was important to identify the group of factors that explained the level of competitiveness achieved by the firms, or the aspects that allowed us to understand the strategy they followed, at the global or corporate level as well as at the business and functional level.

Selection of the Strategic Variables (Step 3 in the Model)

The selection of the variables which were to characterize the group strategy is an arduous and difficult task since they are different for each case, and to do so you must profoundly know the sector under analysis. In this respect, Más Ruiz (1996; p. 24) says that the dimensions are universal and invariable between industries, with their specification being situational using concrete variables in each one of them. In any case, the strategic dimensions considered should be consistent with those that the theory deems to be the most important, in order to distinguish between competitors' approximations to their market.

For the selection of the variables we opted for the classification proposed by Iglesias (1997), who orders them in three blocks: variables of business behaviour, variables of strategic objectives and variables related with the strategy. The set of variables that have been used in this study can be observed in Table 2.

Selection of Period of Analysis (Steps 4, 5a, 5b in the Model)

Firm strategy changes over time, since firms move in changing environments and they have to adapt their strategies to these environments.

Thus, the following question arises: when do the strategic groups get defined?

Many studies have used static or cross-sectional analyses, but it is implicit that these groups are a stable element in the market structure. In this type of analysis we cannot know whether these groups are stable over time. In carrying out an analysis of this type we would be assuming that the relations within groups are unchangeable, stressing equilibrium, leading to an incorrect interpretation when these conditions are not met.

In the present work we choose a longitudinal or dynamic analysis with as timeframe, the period between (and including) 1996 and 1999. This is because strategy is a dynamic process, through which, firms adapt to their environment in order to fit their behaviour to it. For this reason we must identify the time periods in which firms show a strategically stable behaviour.

Identification of the Strategy Stable Time Periods (SSTP's) (Step 6 in the Model)

Recognizing the groups taking as basis the timeframe 1996-1999 in which, the firm's strategy is considered as the selection of a group of values with respect to a series of variables defined by the strategic dimensions of the sector, and these values change over time. We must identify those periods of time for which the group structure is more stable within each period, before studying the existing groups.

To determine the number of SSTP's which exist in the timeframe of the study, the Friedman Test was applied, a non-parametric test for related samples, in this case samples from different years.

In short, we are trying to test if the samples from each year come from a population in which the distribution of all the variables is the same. We propose the following hypotheses:

H_0 : *the distribution of the variables for each year is the same.*

H_1 : *the distribution of the variables for each year is not the same.*

Of the total number of variables, 90.52% accepted the null hypothesis, that the distribution of the variables for each year was the same, which is therefore a sufficiently high level to claim that the strategic behaviour of the sector remained stable in the four years of the study, there being no factors provoking significant change in the way the firms competed in this time period.

Statistical Treatment of the Strategic Variables (Step 7 in the Model)

The methodology of grouping based on “Strategic Factors” proposed by Galbraith and Schendel (1983) will be applied. This consists of two stages: a factorial analysis of principal components and a cluster analysis.

Factor Analysis (Step 7 in the Model)

Using factor analysis the interdependencies between the chosen variables were studied, with the aim of identifying a series of factors that could explain the interrelations. These factors will serve as inputs for the subsequent conglomerate, or cluster, analysis.

The main factors method was used to reduce the high initial number of variables, and a small number of factors was found to explain most of the observed variance, since we wanted to limit the loss of information and reduce the dimensionality by leaving only non-correlated factors.

Before going on to extract the factors, we examined the matrix of correlations between the variables, with the aim of measuring how appropriate using factor analysis was on this group of variables. These tests are as follows:

- The determinant of the matrix.
- The Barlett sphericity test.
- The KMO measure.

In our case, the value of the determinant of the matrix is 0.000, which means that the correlations between the variables are very high, and that therefore, a factorial analysis is appropriate on this data. The values of the Barlett and KMO measures were not obtained using the statistics program SPSS, since the test was a Chi-squared test, meaning that the number of degrees of freedom was so high that it could not be calculated. But we believe that the value of the determinant is enough to confirm the validity of using the factorial analysis on the matrix of original data.

Using SPSS 10.0 for Windows, the initial statistics were as follows (Table 1):

In view of these results we opted for six factors which allow the reduction of data explaining 78.686% of the total variability, with eigenvalues higher than 1. For the matrix of the rotated components we applied the Varimax method. We now proceed to interpret the factors, identifying the variables which determine them, and giving them a

TABLE 1. Variance Explained by Each Factor

| COMPONENT | EIGENVALUE | % OF VARIANCE | % ACCUMULATED |
|-----------|------------|---------------|---------------|
| 1 | 10.919 | 21.838 | 21.838 |
| 2 | 8.257 | 16.514 | 38.352 |
| 3 | 7.325 | 14.649 | 53.002 |
| 4 | 5.406 | 10.813 | 63.814 |
| 5 | 3.917 | 7.834 | 71.648 |
| 6 | 3.519 | 7.038 | 78.686 |
| 7 | 3.162 | 6.324 | 85.010 |
| 8 | 2.326 | 4.651 | 89.661 |
| 9 | 1.840 | 3.680 | 93.341 |
| 10 | 1.389 | 2.779 | 96.120 |
| 11 | 0.901 | 1.803 | 97.922 |
| 12 | 0.774 | 1.548 | 99.470 |
| 13 | 0.265 | 0.530 | 100 |

Extraction Method: Main Factors Method

name according to their content. The interpretation takes the following form:

F₁: ECONOMIES OF SCALE

The first factor appears to be related mainly to those values related to market share of each type of oil, except virgin oil, and to those related to total assets, number of fixed employees and sales. It is therefore a factor which contains all those variables which determine the SIZE and the CONCENTRATION, for which we have decided to call it ECONOMIES OF SCALE.

F₂: SPECIALIZATION WITH FOCUS ON VIRGIN OLIVE OIL AND THE INTERNATIONAL MARKET

The second factor is related with those variables which measure the level of internationalisation, and the specialization in the niche of virgin olive oil, so that we can speak in terms of a factor which represents the SPECIALIZATION WITH FOCUS ON GEOGRAPHIC PRODUCT-MARKET, with the product being virgin olive oil and the market international.

F₃: FOCUS ON OLIVE OIL AND ON THE HYPERMARKETS AS CLIENTS

This factor groups variables that measure the specialization in olive oil, as well as variables related with the attempt at differentiation and the focus on one specific client, the hypermarkets. We have therefore

called it FOCUS ON PRODUCT-CLIENTS, with the product being olive oil and the clients being the hypermarkets.

F₄: NON-DIFFERENTIATION, NON-INTEGRATION AND POLICY OF LOW PRICES

In this fourth factor we see, in the negative sense, those variables related to the brand, the quality, vertical integration and price policy, so we have called this the factor of NON-DIFFERENTIATION, of NON-INTEGRATION AND of the POLICY OF LOW PRICES.

F₅: BRAND STRATEGY AND DIVERSIFICATION WITH FOCUS ON SUPERMARKETS AS CLIENTS

This factor contains, in the negative sense, all those variables related with own brands, and in the positive sense, a concentration on sales to supermarkets and on other products such as pomaces, vinegars and sauces. We have therefore called it the factor which contains the BRAND STRATEGY AND DIVERSIFICATION WITH FOCUS ON SUPERMARKETS.

F₆: INTERNATIONAL GROWTH WITH POLICY OF HIGH PRICES

And finally, the factor that groups all those variables of specialization in bulk sales to international markets with variables of price in the negative sense (which means high prices), so we have called it INTERNATIONAL GROWTH WITH POLICY OF HIGH PRICES.

Table 2 shows a summary of the factors with their respective names, as well as the variables' description with their corresponding sign, which indicates the direction of the interpretation of the variable in the factor.

Once the factors have been obtained, the firms are grouped according to their factorial scores using a hierarchical type cluster analysis.

Cluster Analysis (Step 7 in the Model)

The advantage of this method is that the process of conglomerate formation can be followed stage by stage, so that the number of conglomerates can be chosen "at posteriori" depending on the solution obtained in each stage.

TABLE 2. Interpretation of the Variables in Each Factor

| FACTOR | NAME | ASSOCIATED VARIABLES |
|--------|--|---|
| F1 | ECONOMIES OF SCALE (SIZE AND CONCENTRATION) | <ul style="list-style-type: none"> Total sales of olive oil (+). Market share of total olive oil (+). Total sales of olive oil, including pomaces (+). Market share of olive oil (+). Number of fixed employees (+). Market share of olive pomaces oil (+). Total assets (+). Sales % of eating olives (+). Differentiation based on advertising (+). |
| F2 | SPECIALIZATION WITH FOCUS ON VIRGIN OLIVE OIL AND THE INTERNATIONAL MARKET | <ul style="list-style-type: none"> Sales % of virgin olive oil (+). Sales % of sunflower oil (-) Effort in R & D (+). Commercial effort (+). Level of internationalisation. Exports bottled oil (+). Market share of virgin olive oil (+). Policy of prices of olive oil with respects to the mean (-). % of the purchases of olive oil from others (+). |
| F3 | FOCUS ON OLIVE OIL AND ON HYPERMARKETS AS CLIENTS | <ul style="list-style-type: none"> Sales % of olive oil (+). Differentiation based on distribution (+). Ease of changing suppliers (+). % of purchases of olive oil from factories (+). % of sales of olive oil to hypermarkets (+). % of sales of olive oil to others (hotels and restaurants and cash) (-). % of sales of virgin olive oil to hypermarkets (+). % of sales of virgin olive oil to others (hotels and restaurants and cash) (-). Level of qualification of personnel (+). Costs positioning (-). |
| F4 | NON-DIFFERENTIATION, NON-INTEGRATION AND POLICY OF LOW PRICES | <ul style="list-style-type: none"> Policy of prices of olive oil with respect to mean (-). % of sales of olive oil to specialist shops (+). % of sales of virgin olive oil to specialist shops (+). Brand identification (-). Quality of product (-). Level of vertical integration (-). Differentiation based on the product range/quality (-). % of purchases of olive oil from factories (+). |
| F5 | BRAND STRATEGY AND DIVERSIFICATION WITH FOCUS ON SUPERMARKETS AS CLIENTS | <ul style="list-style-type: none"> Sales % of olive pomaces oils (-). Sales % of vinegars and sauces (+). Percentage of total sales of olive oil destined for distributor brands (-). Percentage of sales of olive oil destined for distributor brands (-). Percentage of sales of virgin olive oil destined for distributor brands (-). % of sales of olive oil to supermarkets (+). % of sales of virgin olive oil to supermarkets (+). Hierarchical structure of firm (-). |
| F6 | INTERNATIONAL GROWTH WITH POLICY OF HIGH PRICES | <ul style="list-style-type: none"> Level of internationalisation. Bulk export (+). Ease in changing clients (+). % of purchases of olive oil from cooperatives (+). Level of specialization (+). Leadership in technology (-). Price policy (-). |

The cluster method used is the Ward method, which allows us to delimit the strategic profiles that maximize internal homogeneity and heterogeneity between the groups.

The dissimilarity measure used was the squared Euclidean distance. Eventually, observing and analysing the dendrogram allows us to identify the groups, and these results will be used as a basis for applying a non-hierarchical technique.

The best solution obtained was by proposing nine conglomerates, since reducing the number of groups would mean increasing significantly the heterogeneity within some of them, and it would not help at all to clarify the composition of this population based on the competitive strategies that the firms follow.

These conglomerates consist of the following number of firms (Table 3):

In order to improve the grouping, in a second stage the process of gathering data was repeated, this time following a method of centroids reallocation (k-means), in which the number of groups depended on the results of the previous analysis.

On applying the k-means method for nine conglomerates, three cases changed which group they belonged to, and the greatest distance of a case from the centre of its conglomerate (1.224) is less than the least distance between conglomerates (1.860), which indicates the appropriateness of the grouping applied. In fact it is ideal, since in repeating the K-means with fewer pre-defined groups, the distance between one case and the centre of its cluster is greater than the least distance between clusters, which would point out to a lack of homogeneity in the grouping. Therefore, nine is considered the optimal number of groups.

As we have not been able to completely test the conglomerates obtained by the hierarchical cluster, before explaining the strategic behaviours that best define each group, the analysis will be applied discriminately, in order to verify the appropriateness of the grouping applied.

TABLE 3. Clusters Obtained

| CLUSTER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|--------------|---|---|---|---|---|---|---|---|---|
| NO. OF CASES | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |

Discriminant Analysis (Step 7 in the Model)

In order to carry out discriminant analysis, as dependent variable we took the group to which each firm belonged (from 1 to 9), and as independent variables the six factors obtained from the main factors method. However, using this technique in our study can have limitations, since we do not have 20 observations in each group of the dependent variable, or 20 observations for each independent variable. Even so, Luque (2000; p. 383) points out that even in cases where those requirements of the discriminating analysis are not met, it may still be useful to carry out, and even that good discriminating functions can be obtained.

In order to determine whether the discriminating function is really significant, that is, whether it is able to discriminate between groups, we used the tests for equality of groups means (Wilks' Lambda and F).

Wilk's Lambda and F values show that there are significant differences between the means of the groups in all of the factors, except in F_5 . Thus we can confirm that the function has discriminating capacity.

The results were very good, with the composition of the groups coinciding 100% with the proposed grouping of the discriminating analysis.

CHARACTERISTICS OF THE IDENTIFIED STRATEGIC GROUPS (STEPS 8 AND 9A IN THE MODEL)

Before introducing the characteristics of the strategic groups, a table is shown of the different types of behaviours seen in the firms under analysis, represented according to their respective relations (+ or -) with one or more factors (Table 4).

It is important to note that there were variables that we studied that, because they were nominal (such as destination of exports, means of exportation, type of agreement used for export, level of vertical integration, adaptation of oil for type of customer and modifications that they realize), could not be included in the identification of the strategic groups, but they will be included in the description of each group, since they also are defining elements in the strategy adopted by the firms.

G1: BRAND STRATEGY, DIVERSIFICATION AND INTEGRATION, WITH POLICY OF HIGH PRICES AND INTERNATIONALISATION

This group has its most positive mean values in F_6 and F_5 (although the latter with a very high dispersion), and the most negative in F_4 , fol-

TABLE 4. Relation of Clusters with Factors

| CLUSTER | No. OF FIRMS CONTAINED | FACTORS |
|---------|------------------------|---------------|
| 1 | 3 | +F6, -F4 |
| 2 | 3 | " none " |
| 3 | 2 | +F4, -F5 |
| 4 | 1 | +F1 |
| 5 | 1 | +F3, -F4, -F6 |
| 6 | 1 | +F2 |
| 7 | 1 | +F6, -F3 |
| 8 | 1 | -F3 |
| 9 | 1 | +F4, +F5 |

lowing a very homogeneous strategy, which is reflected in the variation coefficient calculated for these two factors.

Together with G_2 , G_1 is the most numerous group, comprising three firms with 100% national capital.

In view of these results, this group follows a clear strategy of growth, based on:

- Differentiation, via a policy of high prices and supported by a strategy of quality basically via backwards vertical integration, since this will allow the firms of the group greater control over the whole cycle of production; 100% of the groups manufacture the packaging, produce and refine the oils, although none carries out distribution.
- Diversification of their products in the different types of oils, vinegars and sauces.
- Geographical expansion to markets outside of Spain, which means internationalisation, although fundamentally in bulk.

As regards the strategy of internationalisation, we can state, after analysing the nominal variables, that all of the firms that make up the group have stores or subsidiaries in the countries to which they export, although they also come to cooperation agreements, such as consortia and joint-ventures, for this activity. All of these firms mainly export within Europe.

With respect to the oils that they export, 100% of the firms adapt the oil according to the clients: the characteristics of taste and smell, as well as the packaging and the brand.

G2: STUCK IN THE MIDDLE

Around this group there are a number of firms with very low and negative mean values for each factor: only in F_6 do we see a higher value, although still negative. On the other hand there is a large dispersion (0.691), so we cannot consider this a factor that can describe a homogeneous behaviour within the group.

Therefore, we can say that the firms in this group do not follow a clear strategy, or do not have a dominant strategic behaviour. They instead follow a hybrid strategy between leadership on cost and differentiation, leading to what Porter calls positioning in the middle, a situation which may not imply the total failure of the strategy but does lead to inferior results (Vargas, 1999a; p. 27). These firms do not have their own stores, and they use agents or brokers to market their low level of exports.

Finally, like for G_1 , the level of integration for this group is very high.

G3: DISTRIBUTOR BRANDS

This group contains two firms, with most positive mean values in F_3 and F_4 , and the most negative in F_5 .

These are firms that are not trying to differentiate themselves using their brand. Thus all of their sales are distributor brand sales, and so logically they follow a policy of low prices.

They are not diversified, and they focus on only two markets, that of olive oil and that of sunflower oil, with a very low level of integration. They concentrate only on distribution, in the case of one firm, and refining, for the other.

G4: ECONOMIES OF SCALE (SIZE AND CONCENTRATION)

This group contains only one firm, which has its most positive value in F_1 .

This is the leading firm in the oils market, and is characterized by its large size, and for being the firm with the largest market share with large economies of scale. It is very far ahead of the second firm in the list.

It follows a strategy of internal and external growth. It has achieved its external growth by buying firms from the sector, thereby increasing its participation in the market without creating a potential over-capacity. It has achieved its internal growth by diversifying its products (all types of oils, margarines, vinegars, sauces, vegetables . . .), as well as differentiation by a brand strategy.

The level of vertical integration is not significant compared to the rest of the groups.

In the international segment, the firm focuses more on branded exports, adapting the oil to the type of customer it sells to, with regards to the characteristics of taste and smell, as well as the brand and packaging. Its principal export markets are: Europe, South America and Asia.

It exports using its own stores. Thus, it possesses subsidiaries in the Netherlands, United Kingdom, Brazil, United States and Portugal.

G5: QUALITY, INTEGRATION AND FOCUS ON OLIVE OIL AND ON HYPERMARKETS AS CLIENTS

This group contains one firm that has its most positive value in F_3 , and its most negative in F_4 and F_6 .

Thus the following strategies are evident:

- Quality and brand image. It has a brand which is second in the national market, and growing in the export market.
- Strategy of internationalisation, being very committed to this, via its distributor brands, which it markets in 40 countries, especially Mexico (where it created a subsidiary in 1995 with headquarters in the capital), and in Scandinavia. It also exports to the following South American countries: Peru, Brazil, Argentina, Uruguay, Cuba, Chile, Panama, Venezuela, Paraguay, Honduras, Santo Domingo and Puerto Rico. In exports, the firm adapts the product to the tastes and requirements of its customers, altering the characteristics of taste and smell, the brand and the packaging.
- Speed and flexibility of service, adapting itself to customer needs.

G6: SPECIALIZATION WITH FOCUS ON VIRGIN OLIVE OIL AND INTERNATIONAL MARKETS

This group has one firm with 100% national capital, which has its most positive value in F_2 .

Therefore, we can say that the group's strategy is fundamentally based on the following:

- It focuses basically on the market in Andalusia (southern Spain), and specializes on the market niche of higher quality oil, that is virgin olive oil. It has the largest market share at the national level

(according to statistics from ANIERAC, approximately 15% in 1999.)

- The national level distribution is located in Andalusia, mainly in discount stores, and also in restaurants, although the firm also sells at some points on the Cantabrian coast (northern Spain). It sells in PET as well as in glass bottles. Recently it has extended this by launching an oil which can be sprayed.
- Internationalisation, attempting mainly to market oils in bottles, principally to other countries in the European Union, such as France, in which the firm has a commercial subsidiary.

And finally, with regards vertical integration, by virtue of its segregation from the parent company which it was part of, it is dedicated to packaging and marketing the olive and sunflower oil that the parent company produces, as well as also buying oil from other presses or olive co-ops.

G7: GROWTH AND FOCUS ON VIRGIN OLIVE OIL AND ON HOTELS AND RESTAURANTS AS CLIENTS

This group contains one firm whose most positive value is in F_6 , and most negative in F_3 .

The strategies of the group are based on:

- Strategy of focus or specialization on the segment of hotels and restaurants, and on virgin olive oil, which comprise two-thirds of its sales, with a policy of high prices.
- Internationalisation, but in bulk.
- It does not have any level of integration.

G8: FOCUS ON VIRGIN OLIVE OIL AND ON OTHER CLIENTS (CO-OPS, LOCAL STORES)

This group contains one firm and has negative values in all the factors, with F_3 being the most negative.

With regards to the strategies of the group, we can note the following:

- More than 70% of its sales are focussed on the segment of virgin olive oil and in the Andalusian market, with specialization in local stores as client and with distributor-brand packaging for supermarkets. It has a policy of low prices.
- Its exports are still in their infancy; all of it in bulk.

***G9: NON-DIFFERENTIATION AND NON-INTEGRATION
WITH POLICY OF LOW PRICES AND DIVERSIFICATION,
WITH FOCUS ON SUPERMARKETS AS CLIENTS***

This group contains one firm which is a food wholesaler (cash), it is vertically integrated backwards, and it packages virgin or already refined oils, as well as vegetables, olives, etc. It markets them in its own store.

It has its maximum values in F_4 and F_5 , and its strategy is characterized as follows:

- Competes on the basis of low prices.
- It is very diversified.
- It focuses on supermarkets as clients and the national market.

***POSITIONING STRATEGIC GROUPS
(STEP 9B IN THE MODEL)***

We now present some graphs of the existing strategic groups, with the aim of making more visible the different strategic options within the population under study.

On the axes are the factors, and the size of the bubble indicates the market share of the olive oil market for the cases G_1, G_2, G_3, G_4, G_5 and G_9 , while for G_6, G_7 and G_8 it indicates the market share for virgin olive oil, since in these cases it is more important to know the participation in the market niche in which these firms specialize (see Models 1-4).

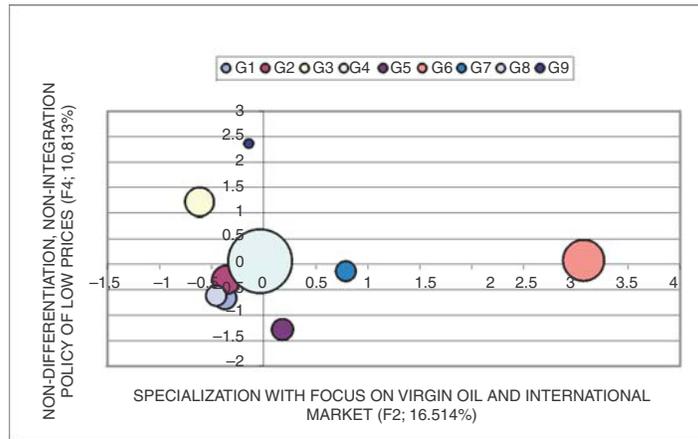
Only some combinations of factors have been displayed: those that allow us to see market niches that are not covered, or where the competition is not very high.

In this case, we can see that there is a product-market positioning that is not excessively exploited by the sector: the virgin olive oil segment and the international market.

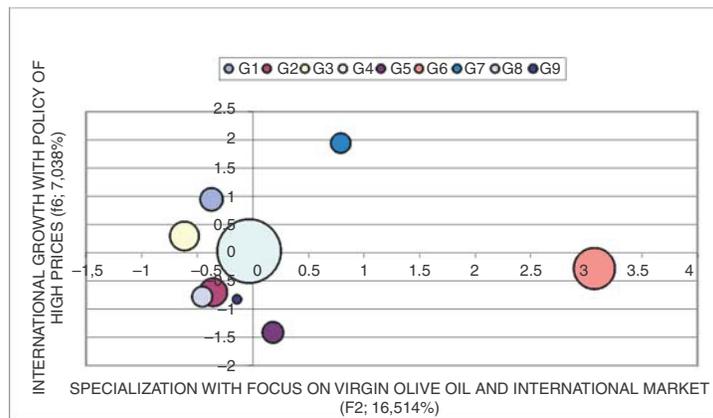
***DIFFERENCES IN RESULTS BETWEEN GROUPS
(STEP 10 IN THE MODEL)***

As we said earlier, the groups identified use different strategies with which to compete.

Model 1



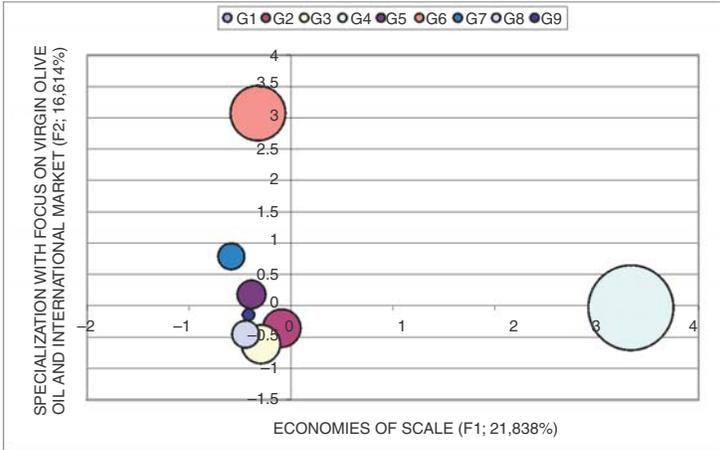
Model 2



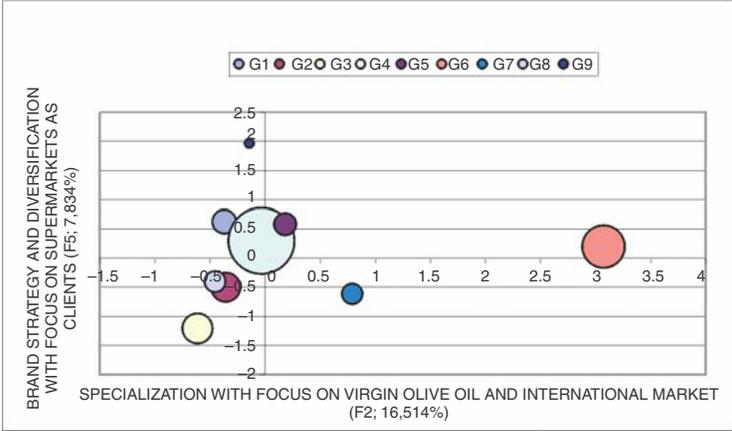
What we shall try to demonstrate now is if they have predictive capacity, that is, if there are statistically significant differences between the results of the different groups. In the case in which they do exist, it would mean that those variations could be due to the group strategy.

Therefore, the first thing we should ask is what performance indicators there are which would allow us to test the hypothesis that the results differ between the strategic groups.

Model 3



Model 4



In our case, we have used the economic result in different dimensions, such as:

- Return on Sales (ROS), measured by the ratio operating income/ sales.

- Return on Investment (ROI), measured by the ratio profits before interests and taxes/total assets.
- Return on Equity (ROE), measured by the ratio profits after taxes/equity.

The hypotheses we wish to test are the following:

H_0 : *There is no difference in results among the strategic groups.*

H_1 : *There are differences in results among the strategic groups.*

First these hypotheses are compared with relation to the different dimensions of economic performance proposed earlier, for which the one-way ANOVA is applied considering the performance measures individually, and subsequently a multivariate analysis of variance (MANOVA) is carried out, in order to test if the mean levels of the performance measures differ between the strategic groups. In order to do this the appropriate tests were carried out to find out if the required hypotheses are complied with in order to be able to apply the variance analysis techniques.

Normality of the Dependent Variables

The Kolmogorov-Smirnov test is applied to the performance variables, in order to find out if they are normally distributed or not.

The hypotheses that we wish to test are the following:

- H_0 : $F = Normal$
- H_1 : $F \neq Normal$

The p-value associated with the contrast statistic which is obtained is greater than 0.05, so that at a significance level of 0.05 the null hypothesis cannot be rejected.

Homogeneity of Variance

Now we test whether the variances of the populations are different or not for each one of the variables, since if they were different it would not be possible to apply the methods of variance analysis.

To do this we calculate the Levene statistic, and we observe that its p-value is greater than 0.05, which allows us to accept the null hypothesis of homogeneity of variances, and therefore, this requirement is complied with. Hence, we can go on to apply the one-way ANOVA and the multivariate analysis of variance (MANOVA).

ANOVA (Step 10 in the Model)

Upon applying the one-way ANOVA, we observe that the only significant differences that there are relate to the return on investment (ROI), with a significance level of 0.032.

Thus we can confirm, using the ANOVA results, that the alternative hypothesis can only be partially supported in terms of the measure of the return on investment (ROI), but not for either the return on sales (ROS) or the return on equity (ROE).

MANOVA (Step 10 in the Model)

As we have mentioned earlier, the MANOVA is used to test if the mean levels of the performance measures differ between strategic groups. As a result neither can we affirm, based on the results that this technique provides, that there is a clear relation between the results of a firm and which strategic group it belongs to. That indicates that we should focus rather on the differences in results within groups as a consequence of the different resources and capabilities of the firms, which mean that the same or similar strategies are not equally efficient in different firms.

Finally, with the aim of deducing if some groups are superior or inferior to the others in function of their results, we calculated the mean value of each performance measure in each group. Table 5 reflects these results, obtained from the year 1999.

TABLE 5. Results of the Groups

| GROUP | ROS | ROI | ROE |
|----------------|-------|-------|--------|
| G ¹ | 1.16 | 3.15 | 10.30 |
| G ² | -4.5 | -6.58 | -16.13 |
| G ³ | -1.38 | -2.74 | -5.71 |
| G ⁴ | 1.23 | 0.96 | 8.22 |
| G ⁵ | 1.72 | 5.55 | 15.38 |
| G ⁶ | * | * | * |
| G ⁷ | 1.27 | 6.84 | 7.60 |
| G ⁸ | 1.18 | 5.61 | 8.78 |
| G ⁹ | 2.72 | 9.40 | 17.48 |

*The firm which constitutes this strategic group, in January 2001, did not have the annual accounts published in the corresponding commercial register, meaning that we could not calculate its results.

As can be seen, the non-profitability of the strategic group G_2 is confirmed in that we could not determine clearly its strategy, and which we called “stuck in the middle”.

CONCLUSIONS AND MANAGERIAL IMPLICATIONS

Applying the strategic group analysis we have obtained the following results:

1. The heterogeneity which existed in our target population has been simplified. In this way it was easier to identify the strategies developed within the sector.

The main characteristics of the strategic groups which we found are as follows:

1. Brand strategy, diversification and integration, with policy of high prices and internationalisation.
2. Stuck in the middle.
3. Strategy of distributor brands.
4. Economies of scale (size and concentration).
5. Quality, integration and focus on the niche of olive oil and on hypermarkets as clients.
6. Specialization with focus on virgin olive oil and international markets.
7. Growth and focus on virgin olive oil and on hotels and restaurants as clients.
8. Focus on virgin olive oil and on other clients (local stores, cooperative societies).
9. Non-differentiation and non-integration with policy of low prices and diversification, with focus on supermarkets.

Through these conglomerates we have been able to identify the strategic diversity that exists in our target population.

2. Understanding of the competitive rivalry has been advanced, since in the first three groups are contained a set of competitors

characterized by offering the same products, to the same clients, and at times in the same market segments, although each group follows a different strategy.

3. In spite of obtaining a high number of strategic groups and their similar size, rivalry diminishes because most of them are targeting different market segments. Nonetheless, it is necessary to raise the existence of competitive groups in the sector (these groups constitute a psychological reality for executives, since they really exist in their minds), as when the grouping of companies is approached, the attention does not focus on their homogeneity, but in the rivalry established by some companies with respect to others (Bigné, Küster and Vila, 2000, p. 76).
4. We have been able to confirm that there is no clear relation between the performance of firms and which strategic groups they belong to, which questions the paradigm structure-behaviour-performance of Industrial Organization, which formulated the concept of the strategic group in order to explain and evaluate performance in industry. That would therefore lead us to the new conceptual framework of the Resource Based View, which attempts to shift attention from outside the firm to within it.

Bearing in mind, therefore, that in this sector the adoption of different strategies does not lead to levels of significantly different results, and knowing that the mobility barriers should be the structural factors that explain the differences of existing results among groups inside a sector (the higher the barriers are, the more accentuated the differences of results among groups should be), we can appeal to the weakness of these barriers inside the olive oil bottling sector. As a consequence, it would be necessary to raise if the mechanisms of isolation (Rumelt, 1982)—they are the barriers that justify the differences of results among companies of the same group, which suppose investments in resources and capabilities—, are the factors that are going to make a company different with regard to those of its group.

Thomas and Venkatraman (1988), and Cool and Schendel (1988), affirm that the rejection of the differences among groups implies that the attention should focus towards the differences inside the group, both in the performances and in the different sets of resources and capabilities of the members, as it has already been said.

Also, McGee and Thomas (1986) suggest that certain characteristics personal of every organization (such as its capabilities) make it different to others, and can constitute mechanisms of isolation that impede one company from imitating another.

Therefore, having rejected the hypothesis on the existence of differences in the results obtained by the groups, we would have to centre on the differences of results inside each group, which, if they exist, might be a consequence of the resources, capabilities or managerial level characteristics. The result expected is that equal or similar strategies among the members of the same group are not equally efficient, as we commented above.

5. Finally we have confirmed the non-profitability of those firms which lack a clear strategic behaviour, which Porter calls “stuck in the middle”.

To conclude, we dare to affirm that in a nearby future the presence of cooperativism in this sector will be quite important, especially due to the European Union policy, in which the protectionism is being progressively eliminated. This fact will force cooperative societies, if they want to survive and to obtain higher levels of competitiveness, to play a more active role in the consumer markets.

In this paper, we offer co-ops the alternative to better position themselves in this sector, by defining a new strategic group without raising an offensive strategy against the big bottling industries and without reproducing the strategies followed by the already well established companies. It would be the following:

- From the point of view of the product, operate in the segment of the virgin olive oil, which is a niche not dominated by the big groups, taking advantage of the denominations of origin (with no presence in the bottling sector) to support the quality and the identification on the part of the consumers.

Another complementary alternative is the elaboration of ecological olive oil, a non-existent segment in the rest of the bottling industries and with a potential of high growth.

- From the market point of view, we recommend multiplying the efforts in the foreign trade, since it is an emergent market in which potential growth and quality as a weapon of penetration are very important.

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