"CO-OPS PROCESSING CHAMPAGNE: TYPOLOGY AND DETERMINANTS OF PERFORMANCE"

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EXTENDED ABSTRACT
A typology of co-operatives processing Champagne strategies is established according to their market orientation: they either mainly sell bottles to modern retailers or provide services to their members. Since it takes about 3 years to turn grapes into Champagne, supply adjusts to demand with time lag leading to risks of financing heavy stocks and risks of decrease in bottle price during period of economic crisis.

Based on a sample of 13 co-operatives processing Champagne, economic and financial performance indicators are analyzed. Key performance indicators are related to strategic decisions. With low debt level, co-ops seem ready to face the current economic crisis.

KEY WORDS: Champagne, wine, co-operatives, distribution channel, strategy, performance

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Robicheaux and Coleman (1994) adapted the structure-conduct-performance model and focused on a behavioural approach to investigate buyer-supplier relationships.

More focused on agri-food chain management, Trienekens and Zuurberg (1996) and Omma, Trienekens and Beers (1998) and the Dutch school observe increasing co-ordination – particularly about information exchange and logistics - in chains and networks. So, supply chains firms can work more efficiently to serve consumers.

Champagne is produced in a restricted designated area of origin to the east of Paris, France, but it is consumed around the world. About 60% of all Champagne bottled is drunk in France, the other 40% being consumed in other countries, mainly the UK, the USA, Germany, and Italy (CIVC 2008). As in every industry, the business carried out by Champagne makers is constrained by consumer demand. But it also has to respect legal restrictions on production both in terms of quantity (grapes must come from a limited designated area of origin, and there is a maximum authorized yield) and quality (specified varieties of vines must be used, manual harvest only, etc). However, there is still an uncertainty factor because of weather fluctuations from year to year, which cause fluctuation in grape production levels. On the demand side, shipments of bottles from processors to retailers vary from year to year because of swings in economic growth in the developed countries (CIVC, 2008).

Gaucher, Hoveleaque and Soler (2000) have formulated the optimal procurement and inventory policies and calculated chain profits according to various levels of coordination between two producing firms. Gaucher, Soler and Tangney (2002) studied quality incentives and supply contracts in the wine chains. Giraud-Héraud, Mathurin and Soler (2003) examined the legitimacy of supply regulation mechanisms for products originating from an area of origin. They argue that such mechanisms reduce uncertainty, thus encouraging investment in quality improvement.

Declerck (2005) reports colweb phenomena in the Champagne industry as illustrated at figure 2. Since it takes 3 years to turn grapes into Champagne, the adjustments of supply to demand lead to jumps in retail prices in economic booms and drops in retail prices in periods of stagnation/recession. This phenomenon disconcerts consumers and seriously affects wine growers and wine makers. Declerck (2005) reports that wine makers and wine growers have learned from experience and are able to negotiate terms with retailers to limit price swings. A producer – retailer cycle has exhibited with 3 loops over the period 1978-2002. It was modelled by Declerck and Cloutier (2005).

2. CHAMPAGNE INDUSTRY CONTEXT

The first co-operatives processing Champagne grapes started in the 1920’s 1) to collect grapes to avoid strong price pressure from houses and 2) to press grapes, make bottles for wine growers may sell bottles. Furthermore, wine growers thought they could be freer if they sold bottles. Since 1960s, co-ops have developed the processing of bottles.

The Champagne PDO rule was established in 1927. It requires that Champagne bottles must be processed in the appellation area, with grapes coming from the area now covering 35,355 ha, including some roads and homes. Champagne bottles are made by three types of actors:

- 297 houses of Champagne (that are not co-ops) sell 66% of bottles, but only own 10% of Champagne vineyard while 16,000 vine growers own 90% of vines.
- 65 co-ops with 13,000 vine growers
- 4,729 vine growers sell bottles

On the Champagne grape market, houses which only produce 10% of grapes while selling 66% of bottles manage their grape procurement in negotiating four-year contracts with vine growers and co-ops sell grapes to houses

Two PDO legal factors limit grape supply:

- maximum authorized yield: 13,000 to 15,500 kg/ha
- production area of 32,900 ha which is reaching the size limit as shown on figure 3. Furthermore, an extension by about 6,000 ha is in progress and could be set by the year 2018. Such time is due to a long administrative process.

The Champagne industry has specific technological and storage constraints. The time necessary to produce Champagne is a crucial constraint: the process takes about 3 years, from the grape harvest to the sale of the bottle. Consequently, large stocks of bottles aging in cellars must be financed.

Most of the designated area of origin is already planted with vines, and only a few hundred additional hectares are potentially available. If totally covered by vines, the vineyards of Champagne, which can currently produce about 330 million bottles, could reach production of 350 million bottles. But no further expansion would be possible.

From 1978, vine growers and wine makers were able to expand and double sales from about 150 million to 339 million bottles in 2007 and 323 million bottles in 2008. So, supply may be constrained in the near future.

3. METHODOLOGY, DATA AND MAJOR DIFFICULTIES

The strategy of co-ops processing Champagne is identified in using Porter’s diamond model (1985) and SWOT analysis. This typology is set according to co-ops’ marketing strategy:

- selling bottles as much as possible to modern retailers (supermarkets)
- versus providing wine-making services to their members

Methodology

Porter’s model (1985) is used for strategic purposes, leading to definition of a typology of co-operatives of Champagne wine growers according to their strategy:

- to provide services to process grapes
- to sell bottles under their own brand or private labels to modern retailers.

The financial performance of co-ops making Champagne is analyzed with reference to three complementary aspects:

1/ commercial features:
- equity capital to total assets,
- equity capital to long-term capital.

2/ measures of financial structure:
- equity capital to total assets,
- equity capital to long-term capital,
- financial leverage, measured as the financial debt to equity.

3/ economic and operating performance indicators:
- sales,
- earnings before interest, taxation, depreciation & amortization (EBITDA),
- operating margin, also called earnings before interest and taxation (EBIT).

Mean and median values are provided.
Besides, financial measures of performance such as profit margin and return on equity (ROE) are not relevant for co-operatives. The objective of a co-op is not to maximize members' equity capital, but to maximize the price of grapes paid to members. Vine growers provide both equity capital and grapes.

Data
Secondary data used to measure the economic and financial criteria come from financial data banks and over a ten-year period (1998–2007). They are used to compute financial ratios in order to grasp the financial situation of corporations. Data for the year 2007 were not available for all co-ops. So, in order to compare the co-ops in the sample on the same basis, 2006 is therefore the last year analyzed.

Data come from the Champagne wine interprofession committee - Comité Interprofessionnel du Vin de Champagne (CIVC), the websites of the co-ops and the annual reports released by some of them.

The financial data come from the Orbis data bank from Bureau van Dijk Electronic Publishing. A sample of 13 co-ops processing Champagne over the period 1997-2006 has been extracted from the Orbis data bank. The key figures of these co-ops are presented on table 1. Unfortunately due to small sample size, no comparative statics can be computed.

In the sample, the co-ops which mainly sell bottles to modern retailers are: CVC Nicolas Feuillatte, Union Aubeoise, COVAMA, COGEVI, and Union Champagne.

In the sample, the co-ops which mainly provide services to their members are: Blin & Cie, Beaumont des Crayères, CRVC, Manchy-Esterille, Mailly Grand Cru, Ambonnay, Cîteaux d’Oger and Passy-Grigny.

Major difficulties
The major difficulties for this financial analysis lay in the following:
- the presentation of accounting documents: the wording used in the accounts may be too vague to grasp the precise meaning, for instance in one case where "other assets" amounted to 30% of total assets;
- accounting years of different length;
- non-availability of data for some years;
- exceptional events like divestitures, mergers or acquisitions that may affect the interpretation of figures.

In order to avoid misinterpretation in analysis, some checking of sources of this documents was required.

4. RESULTS
Competitive environment of Champagne makers by type of distribution channel
On the supply side, the specificity of the business for Champagne makers is already mentioned above.

On the sales side, legal constraints differ from one country to another. Many countries have Figure 3 shows the competitive forces that determine the Champagne co-ops’ performance. In general, Champagne wine makers are under pressure from both:
- their suppliers, i.e. vine growers hold grapes which are the scarce resource. Co-operatives of vine growers have a direct access to grapes while Champagne wine makers need to negotiate contracts with wine growers. So co-ops are in better position.

- their major clients: on the French market, which accounts for 2/3 of sales, 6 purchasing centres (belonging to supermarket and hypermarket operators) buy and distribute about 50 million bottles of the total 150 million bottles sold in France.

The bargaining power depends on the type of distribution channel:
- There are specific barriers to entry to reach French modern retailers, in the form of the high volumes demanded by the six major hyper and supermarket operator and the strict requirement for grapes of particular vintages to be blended in order to guarantee constant quality over large volumes. So, only a few co-op which produce high volumes, may sell to modern retailers.
- Barriers to entry may be similar for distribution through international chains of hotels and restaurants. But most on-trade cafes, hotels, restaurants, liquor services and nightclubs are independent and have low bargaining power. Champagne makers may therefore attain a stronger position in selling through the on-trade channel of distribution, which is not highly concentrated. However, reaching such individual clients in niche markets requires an extensive network of commercial agents and a low-cost logistical network. Up to now, no co-op holds such a network.

Furthermore, table 2 expresses the specificity of Champagne co-ops in terms of strengths, weaknesses, opportunities and threats. The major result is that governance may be strength or a weakness, depending on the degree of co-ops’ involvement to strengthen their co-op or not.

Performance
Commercial features of co-ops in the sample are shown on table 3. The co-ops mainly selling bottles to modern retailers are roughly ten times larger than the co-ops mainly providing services to their members both in terms of sales, number of vine growers and size of vineyard belonging to their members.

The co-ops which mainly provide services to their members, also sell bottles to retailers in the EU. But higher selling prices are obtained by co-ops which are predominantly oriented to the sales of bottles.

Both types of co-ops face low debt levels: equity capital worth more than 75% of long term capital amounting to more than and the debt-to-equity ratio is lower than 42%.

Co-ops selling mainly bottles to modern retailers are less leveraged that co-ops providing mainly services to their members. May be co-ops selling mainly bottles have lower financial risks and are more cautious because:
1/ they already bear more operational risks in investing in the sales of bottles and the management of brands,
2/ they remember the strong difficulties of some houses of Champagne which were heavily leveraged such as Marte & Champagne in 2005. Its financial debt amounted to more the double of its equity capital. And the house was not able to pay vine growers in June 2005.

Co-ops hold more equity capital than financial debt, which is good in a business whose sales are sensitive to fluctuations of economic cycles. Further co-ops only sell a few prestigious bottles whose sales dropped by 30% in late 2008 and 2009 while the Champagne market faces a 10% shrink (CIVC 2009). So, co-ops seem in good financial situation to resist crisis.

From 2006 to 2007, sales increased by about 10% for the two types of co-ops.

EBITDA is a measure of wealth created by the operational activity of the company, independently of the company’s financing, depreciation, amortization and tax policy. The economic performance, measured by EBITDA to invested capital, is about 12.5 to 13.7% for both types of co-ops. This seems
a good level to face interest expenses and new investments. On another side, the average and median values for EBITDA to sales are respectively 11.8% and 11.9% for co-ops providing services to members. This is better than the 8.1 average value and 10.5% mean value for co-ops which mainly sell bottles.

The financial performance measured by the net profit to sales ratio – the profit margin to sales – is quite the same for the two types of co-ops. The average and median values for co-ops providing services to members are 7.8% and 7.5%, while they are 8.3% and 6.0% for co-ops selling bottles.

5. CONCLUSION

The co-ops mainly selling bottles to modern retailers are roughly ten times larger than the co-ops mainly providing services to their members both in terms of sales, number of vine growers and size of vineyard belonging to their members.

With low debt level, both types of co-ops seem ready to face the current economic crisis. However, co-ops selling mainly bottles to modern retailers are less leveraged that co-ops providing mainly services to their members. May be co-ops selling mainly bottles want to take lower financial risks because they bear higher business risk than co-ops which only provide services to vine growers.

In terms of economic performance, EBITDA to sales and EBIT to sales are good and a bit higher for co-ops which mainly provide services to their members. But, the EBITDA to invested capital ratio and the profit margin to sales are similar to both types of co-ops.

With data from the year 2009, it would be great to show how co-ops can resist the current crisis.

6. REFERENCES


Comité interprofessionnel du vin de Champagne (CIVC), economic data from 1978 to 2009.


Figure 3 - Competitive forces that determine the Champagne co-ops' performance

<table>
<thead>
<tr>
<th>Threat of potential entrants</th>
<th>Legal protections and constraints</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Potential Entrants: ALMOST NO</strong></td>
<td><strong>Legislation provides HIGH BARRIER TO ENTRY</strong></td>
</tr>
<tr>
<td>High barrier to entry due to high volumes demanded by hyper and supermarkets</td>
<td>Legislation on designated areas of origin (AOO) to protect the &quot;Champagne&quot; name, limiting surfaces and yields</td>
</tr>
<tr>
<td>High barrier to entry due to the supply of grapes of particular crus to be blended in order to guarantee quality for large volumes</td>
<td>Laws on the use of the &quot;Champagne&quot; name, restricting the opening up of supermarkets and hypermarkets larger than 300 m²</td>
</tr>
</tbody>
</table>

**Bargaining power of suppliers**
- Strong bargaining power since suppliers may choose to make wine with a House and subdivide to "Champagne"/PDO grapes
- Limited area of "Champagne" vineyard

**Bargaining power of final buyers**
- No long-term contracts and low bargaining power due to high competition from substitute products

<table>
<thead>
<tr>
<th>Threat of Substitute Products or Services</th>
<th>Strategic forces</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Substitutes: A LOT</strong></td>
<td><strong>Bargaining power of final buyers; STRONG in EU, WEAK outside EU</strong></td>
</tr>
<tr>
<td>Other sparkling wines</td>
<td>Buyer power</td>
</tr>
<tr>
<td>Other wines</td>
<td>Supermarket operators and hotel/restaurant chains</td>
</tr>
<tr>
<td>Spirits: whisky, rum, Cognac, vodka, gin...</td>
<td>- have strong bargaining power in France and Western Europe where they are highly concentrated</td>
</tr>
</tbody>
</table>

**Champagne makers**
- Strong competition among merchants and cooperatives
- Attraction of operators among merchants and cooperatives making wine
- Lack of brand homogeneity among countries

**Factors of performance**
- Brand loyalty
- Volumes of wine from the same blend of vintages in order to get constant taste

**Industry competitors**
- Champagne makers

EuAWE
http://www.vdqs.net/2009Namur
### Table 2: SWOT analysis of Champagne co-operatives

<table>
<thead>
<tr>
<th>STRENGTHS</th>
<th>WEAKNESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>GOVERNANCE: The ability to involve members (vine growers) in the management: agricultural practices -&gt; desired quality</td>
<td>GOVERNANCE lack of reactivity when there is no consensus</td>
</tr>
<tr>
<td>The POWER OF HAVING COMMODITY, i.e. CONVENIENCE YIELD</td>
<td>NO INTERNAL COST OF GRAPES</td>
</tr>
<tr>
<td>Grapes -90% when houses of Champagne sell 66% of bottles</td>
<td>Co-ops always buy grapes at market price and cannot cut costs that represent more than 60% of bottle price</td>
</tr>
<tr>
<td>Easy TRACEABILITY with the co-op members</td>
<td></td>
</tr>
<tr>
<td>LEGALLY ROOTED IN LOCAL REGION, by status: Easy partnership with regional government</td>
<td></td>
</tr>
</tbody>
</table>

### Table 3: Commercial characteristics of Champagne co-ops selling mainly bottles to modern retailers and co-ops providing mainly services to their members

<table>
<thead>
<tr>
<th></th>
<th>Average values</th>
<th>Median values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Champagne Cooperatives selling</td>
<td>bottles to modern retailers</td>
<td>wine-making services to members</td>
</tr>
<tr>
<td>Number of vinegrower members</td>
<td>1,600</td>
<td>2,170</td>
</tr>
<tr>
<td>Number of employees</td>
<td>80</td>
<td>20</td>
</tr>
<tr>
<td>Vineyard (in hectares)</td>
<td>1,213</td>
<td>260</td>
</tr>
<tr>
<td>Million bottles produced</td>
<td>12</td>
<td>8,0</td>
</tr>
<tr>
<td>Million bottles sold</td>
<td>5.6</td>
<td>0.5</td>
</tr>
<tr>
<td>Million bottles sold under own brands</td>
<td>3,7</td>
<td>3,1</td>
</tr>
<tr>
<td>% exports</td>
<td>54%</td>
<td>42%</td>
</tr>
<tr>
<td>Consumer Price of a Brut Champagne bottle VAT included (in €)</td>
<td>19,43</td>
<td>17,68</td>
</tr>
<tr>
<td>Price of a Brut Champagne bottle without VAT (in €)</td>
<td>14,20</td>
<td>14,71</td>
</tr>
</tbody>
</table>

### Table 4: Economic and financial performance of Champagne co-ops selling mainly bottles to modern retailers and co-ops providing mainly services to their members

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Champagne Cooperatives selling</td>
<td>bottles to modern retailers</td>
<td>wine-making services to members</td>
</tr>
<tr>
<td>Key Figures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Sales (in k€)</td>
<td>92,49</td>
<td>14,84</td>
</tr>
<tr>
<td>EBITDA (in k€)</td>
<td>8,10</td>
<td>2,11</td>
</tr>
<tr>
<td>EBIT = operating income (in k€)</td>
<td>6,02</td>
<td>1,42</td>
</tr>
<tr>
<td>Net Income (in k€)</td>
<td>5,58</td>
<td>1,63</td>
</tr>
<tr>
<td>Financial Structure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equity Capital / Long Term Capital</td>
<td>81,2%</td>
<td>75,0%</td>
</tr>
<tr>
<td>Financial Debt / Equity Shareholder’s Funds</td>
<td>18,8%</td>
<td>25,0%</td>
</tr>
<tr>
<td>Financial Costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial Expenses to Value Added</td>
<td>3,9%</td>
<td>4,2%</td>
</tr>
<tr>
<td>Financial Expenses to Sales</td>
<td>0,5%</td>
<td>0,6%</td>
</tr>
<tr>
<td>Economic Performance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales Growth w.r.t. previous year</td>
<td>10,3%</td>
<td>6,2%</td>
</tr>
<tr>
<td>EBITDA to Invested Capital</td>
<td>13,8%</td>
<td>13,7%</td>
</tr>
<tr>
<td>EBITDA to Sales</td>
<td>10,5%</td>
<td>11,5%</td>
</tr>
<tr>
<td>Operating margin (= EBIT) to Sales</td>
<td>7,9%</td>
<td>8,6%</td>
</tr>
<tr>
<td>Financial Performance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Profit margin on Sales</td>
<td>8,3%</td>
<td>7,8%</td>
</tr>
</tbody>
</table>