



# The competitive advantage in business, capabilities and strategy. What general performance factors are found in the Spanish wine industry?

Juan Ramón Ferrer Lorenzo\*, María Teresa Maza Rubio, Silvia Abella Garcés

*Universidad de Zaragoza, Spain*

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## Abstract

The wine sector in Europe has undergone a major change of trend in recent years, especially in Spain. On the one hand, the surface area has been reduced, but the production has been maintained by restructurings and improvements made in exploitation techniques. On the other hand, consumption has diminished causing a significant increase in competition. The Spanish wine sector is formed mainly by small and medium-sized firm, which is representative of the size of existing companies in Europe. This article aims to analyze the relationships between the competitive strategy, resources and capabilities of the firms, analyzing their technological and managerial capabilities, with business performance. 339 companies of the wine sector in Spain have been studied, differentiating between individual firms, cooperatives and mercantile companies. The results reveal that resources and capabilities along with strategies define competitive advantage, but their relationship and importance is different for each type of company.

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*Keywords:* Competitive advantage; Resource based view; Strategy; Wine industry

## 1. Introduction

In recent years, the wine sector has had an evolution marked by an increase in market competition. While wine production in the world was 267 million hectoliters (mhl) in 2016, consumption remained at 241 mhl that year (OIV, 2017). A more detailed analysis shows that the difference between production and consumption is especially in countries that traditionally produce. For example, Italy, France and Spain, which together account for 50.0% of the world's wine production, have had a noticeable decline in consumption (OIV, 2017). Production in 2016 in these countries was 50.9, 43.5, and 39.3 mhl, respectively, while their consumption, was 22.5, 27.0 and 9.9 mhl (OIV, 2017). This important difference between production and domestic consumption has changed

the market for these countries, which have started to export in order to sell their products in international markets. As a consequence, sales in the international wine market have grown from 60 mhl in 2000 to 104 mhl in 2016 (3.6% in volume per year) and from 12 to 29 billion (bn) euros (5.9% in value per year) (OIV, 2017). Spain, due to its greater differential between production and domestic consumption, has become the country with the largest volume of wine exports (22.9 mhl), although in value it ranks third, with 2.6 bn euros, behind France and Italy, with 8.2 and 5.6 bn euros, respectively (OIV, 2017).

In this paper, the focus of analysis is centered on the factors that determine the firm's performance, using a sample of Spanish wineries.

Wineries in Spain have undergone an important process of updating and renewal in recent years. It is estimated that since the year 2000, more than 130,000 ha have been reconverted and restructured, with investments of more than 800 million euros (OEMV, 2016a, 2016b). There are 4052 wineries in

\*Corresponding author.

E-mail addresses: [jchofer@unizar.es](mailto:jchofer@unizar.es) (J.R.F. Lorenzo), [mazama@unizar.es](mailto:mazama@unizar.es) (M.T.M. Rubio), [sabella@unizar.es](mailto:sabella@unizar.es) (S.A. Garcés).

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**Table 1**

Number of companies according to employee stratum and total percentage of firms, in Spain and the EU27, 2015.

Source: INE (2015), DIRCE 2014 and European Commission (2015).

|                         | Micro (1-9) <sup>a</sup> | Small (10-49) <sup>a</sup> | Medium (50-249) <sup>a</sup> | SME (0-249) <sup>a</sup> | Large (≥ 250) <sup>a</sup> | Total     |
|-------------------------|--------------------------|----------------------------|------------------------------|--------------------------|----------------------------|-----------|
| Spain (Number of firms) | 2,984,727                | 107,784                    | 18,011                       | 3,110,522                | 3839                       | 3,114,361 |
| Spain (% of firms)      | 95.8                     | 3.5                        | 0.6                          | 99.9                     | 0.1                        | 100       |
| UE-27 (% of firms)      | 92.4                     | 6.4                        | 1.0                          | 99.8                     | 0.2                        | 100       |

<sup>a</sup>Number of employees.

Spain, which are mainly small in size and are family owned businesses. Nevertheless, there are a significant number of agricultural cooperatives, which coexist alongside the large firms with production centers in different areas in order to diversify their supply (OEMV, 2016a, 2016b). All of them face the challenge of competitiveness. In this study, authors consider a cooperative an autonomous association of persons united to meet common economic, social, and cultural goals (EC, 2017). In Spain (Ley 13/2013) cooperatives are considered the following firms: cooperative societies, second-tier cooperatives, cooperative groups and agrarian transformation societies.

The analysis of the circumstances that allow for a superior performance, and the scope of a dominant position in the competitive environment, has been studied from the point of view of two different approaches. The first one is centered in the characteristics of the sector (Porter, 1980), while the second one takes into account the resources of the firm (resource based view, Barney, 1991). Several studies show that these two approaches are complementary and compatible (Chuang and Lin, 2017; Rosenberg Hansen and Ferlie, 2016; Takata, 2016; Rapp et al., 2010; Rivard et al., 2006; Spanos and Lioukas, 2001).

The review of the literature has allowed to find out that the majority of studies undertaken for the wine sector are focused on large companies, due to the fact that it is easier to access information for these firms than for smaller ones, both in terms of objectives and results. The study of competitive advantages becomes difficult when the focus is placed on small and medium-sized enterprises, although they amount for about 99.8% of the companies in the EU-27 and 99.9% in Spain, as shown in Table 1. In this study, size is determined by the number of employees<sup>1</sup>.

The main objective of this article is to empirically test how resources, capabilities and strategies modulate the results of companies. For doing so, this study analyzes the technological and managerial capabilities of the firm, its strategic positioning and the business result in the market, as well as the financial result. The main contribution of this article is to analyze the distinct importance of resources and capabilities and strategy

in the wine sector and how these vary according to the type of company. This study considers three types of companies depending on ownership: 1) Individual companies, formed by a single person firm; 2) cooperatives, formed by cooperative societies, second-tier cooperatives, cooperative groups and agrarian transformation societies; and 3) mercantile societies, which contemplate limited companies and corporations. The results show that resources capabilities and strategy do not have the same importance in all firms. In individual companies strategy prevails over resources and capabilities. In cooperatives it is primarily technological capabilities that dominate performance. However, the wineries constituted as mercantile companies explain their performance by a combination of strategies, resources and capabilities.

The paper is organized as follows: after this introduction, Section 2 presents the theoretical framework. Section 3 offers the theoretical foundation for the proposed hypotheses. In the following section, the methodology used is presented: sample, variables, and the model to test the hypotheses. Section 5 reports the results of the analysis and the theoretical and practical implication. Section 6 shows the conclusions drawn from the results. And finally, Section 7 presents the limitations and applicability of the study.

## 2. Theoretical framework

One of the objectives of this study is to demonstrate that the competitive advantage of the company is explained through two synergistic and compatible issues: the situation in the environment of the company and its internal characteristics (Spanos and Lioukas, 2001).

Authors have found literature where the wine sector has been studied from the point of view of two different approaches: strategy and resources and capabilities. But they have been studied separately in the wine sector. So the main contribution of this paper is to study the effect on performance of the two approaches but applied together. In terms of strategy, research has been found about the marketing strategy and performance in the French wine sector (Hammervoll et al., 2014); in the USA wine industry, the studies are centered on the relation between differentiation strategies and performance (Newton et al., 2015). And in Spain, on the strategies, environmental variables, and economic performance (Simon-Elorz. et al., 2015) and the explanatory factors of performance (Castillo Valero and Cortijo, 2013) in the wineries from Castilla-La Mancha. With respect to the RBV and its link

<sup>1</sup>According to the UE (2003), large enterprises are those which employ 250 or more employees, medium-sized enterprises (SMEs) are those which employ fewer than 250 employees. Within the SME category, a small enterprise is defined as an enterprise which employs fewer than 50 employees, and a microenterprise is defined as an enterprise which employs fewer than 10 employees.

with better business performance, in the wine sector, authors have found works focused on the internationalization capacity in the Italian wine sector (Galati et al., 2014 and Santini and Rabino, 2012); on the link between intangible efforts and performance in the French wine industry (Amadiou et al., 2013 and Amadiou and Viviani, 2010); in the Brazilian wine industry (Fensterseifer and Rastoin, 2013) research is focused on cluster resources and performance; and in the USA wine sector (Williamson et al., 2012) on business performance and knowledge.

In this section, the theoretical framework for the study is presented. Firstly, Porter's frame and secondly, the resource and capabilities theory, are revised as a proposal for the study of the strategy.

### 2.1. Strategic advantage

According to Porter, (1980), the competitive position of an industry or sector, depends on five forces and it is their joint action which determines an industry's potential benefit. These forces are: barriers to entry, supplier power, buyer power, the threat of substitutes, and the intensity of internal rivalry. The objective of a company's strategic plan is to find a position that allows it to better defend itself against these forces or be able to influence them in its favor. After analyzing the forces and how they emerge, the company's strengths and weaknesses can be identified. Next, the company should be positioned to achieve the competitive advantage by building defenses against the competitive forces or looking for positions within the industry where these forces are weaker. The firm can influence the balance of forces through strategic moves. Two generic strategies allow for the pursuit of a competitive advantage position: cost leadership or differentiation. But there is another variable that defines the strategic positioning, and it is the competitive area. The company must decide whether it serves the entire market or focuses on a specific segment. Depending on the decision taken, a third strategic option arises, which consists on using one of the two generic strategies (costs or differentiation) but in a given segment. Intermediate positions should not be adopted, as they lead to a loss of competitiveness (Porter, 1980 and Porter and Strategy, 1985). Although Porter's approach has received some criticism (Banker et al., 2014; Mintzberg et al., 2009; Campbell-Hunt, 2000), it remains a reference in scientific papers and empirical studies (Newton et al., 2015; Brenes et al., 2014; Lechner and Gudmundsson, 2014). Critical comments focus on the overly static nature of Porter's approach, and on the fact that a company's real strategies have evolving components not addressed by the theory (Mintzberg et al., 2009). Others suggest that cost positioning and differentiation are not equally beneficial for the company, considering that differentiation is better than cost strategy (Banker et al., 2014).

### 2.2. Resources and capabilities

Distinctive competencies (Andrews, 1971; Ansoff, 1965; Selznick, 1957), were the conceptual precursor concept to

resources and capabilities, which is to say, the elements that belong to or are developed by the company and allow it to generate greater incomes. This approach defines the company as a set of productive resources that can be physical, intangible or organizational (Penrose, 1959).

The theory of Resources and Capabilities (Barney, 1991), known as RBV (Resource Based View), focuses on the resources and capabilities controlled by the firm as the elements that confer competitive advantage (Barney, 1991).

Resources are the stock of available factors that the company controls. These become final products or services, using a wide range of other assets and mechanisms such as technology, information systems, management systems, incentive systems and mutual trust between managers and employees. The term capabilities refers to the possibility of using resources in combination, implementing organizational processes to create the desired effect of having information, tangible or intangible elements, and specific business processes that have been developed over time, as well as complex interactions among available resources (Amit and Schoemaker, 1993).

Resources and capabilities are not strategic and fundamental unless they engender superior performance. Grant (2010) refers to three conditions that can be considered strategic: (1) establishing a competitive advantage, (2) sustaining the competitive advantage, and (3) appropriating the returns of the competitive advantage. The advantages achieved by the resources and capabilities, depend not only on a company's ability to establish a competitive advantage, but also on how long the company can sustain that advantage. Durability is conditioned upon the possibility of imitability. Resources and capabilities are imitable if they are both transferable and replicable.

Although the RBV has received criticism for insufficiently explaining business performance (Kraaijenbrink et al., 2010; Newbert, 2007), it is indeed a driver of performance as it enables the development of capabilities (Kazadi et al. 2016; Lioukas et al., 2016; Menguc et al., 2014; D'Aveni et al., 2010; Sirmon et al., 2010).

## 3. Hypotheses

### 3.1. Technological capabilities

It is impossible to deny the importance of technology as an element that improves a company's productivity. In highly competitive environments managers are required to use the optimal technology for their company (Julien, 1995). In order to determine which optimal technology is best, the company must study its production processes. Therefore, introducing the most appropriate technology, it should be able to reduce costs and increase quality (Garsombke and Garsombke, 1989). Through technology, the company creates value (Gambardella and Giarratana, 2013), as well as the capacity for development, specialization, and competitive advantage (Neill et al., 2014).

Therefore, technology is a key resource in maintaining the competitive level of a company. Moreover, in the case of small businesses and those linked to the land, as it is in the case of wineries, they do not have the option of changing location easily, as other kinds of firms do, in order to lower unit costs. Therefore, wineries must maintain efficiency by investing in technology and improving operations (Ariss et al., 2000).

The importance of technological resources has been linked to business performance and studied by several authors, finding a positive relationship between these variables (Camisón and Villar-López, 2014; Welter et al., 2013; Ortega, 2010; Rubio Bañón and Aragón, 2002, 2009; Ambastha and Momaya, 2004; Spanos and Lioukas, 2001).

According to these arguments the authors propose the following hypothesis:

**H1.** In the wine sector, the technological capabilities owned by the firm are positively related to the firm's performance.

### 3.2. Managerial capabilities

The importance of managerial capabilities is based on the manager's vision and leadership. The success of the firm will depend on its effectiveness, along with the skills and knowledge of people working in the organization (Pickett, 1998), who establish priorities and belief systems, and guide managers and employees towards the shaping of business resources and competencies (Kor and Mesko, 2013).

As part of the management competencies, the definition of organizational structure and corporate strategy are included, both in terms of design and implementation. Management skills allow for the identification of the basic competences, communication to the employees and the employees accepting these basic competences. Managers must provide a high degree of commitment, clear definition of objectives and adequate financial resources (Pickett, 1998).

The relationship between management capabilities and competitive advantage is based on the successful guidance of managers implementing cost reduction, product differentiation or a combination of both (Schuler and Jackson, 1987). Other key factors include the strategic vision of the business and the internal communication: strategic management of human resources, which includes recruitment, job analysis, development, training, performance and compensation, and finally in the acquisition, development and use of organizational resources, the conversion of these resources into valuable products and services, and the delivery of value to partners and owners of the company. This set of managerial capabilities can become a generator of appropriable incomes and a source of maintenance of competitive advantage (Lado and Wilson, 1994). It also helps explain the relationship between strategic decisions and business performance (Helfat and Martin, 2015).

The study of managerial capabilities and their relation with the firm's performance has been analyzed in many studies, finding a positively correlated link (Welter et al., 2013; Ortega,

2010, and Spanos and Lioukas, 2001). So that according to this, the authors propose the following hypothesis:

**H2.** In the wine sector, the management capabilities owned by the firm are positively related to the firm's performance.

### 3.3. Competitive strategies and business performance

Porter, 1980 and Porter and Strategy (1985) argues that the strategic choice of the firm is the one that will determine its performance, avoiding intermediate positions, a feeling of "stuck in the middle", that would lead to a loss of competitive advantage. Cost leadership focuses mainly on the production of low-cost products to satisfy price-sensitive customers (Soltanizadeh et al., 2016), specialization in certain products and services, investment in reducing costs with technology and equipment and use of distribution channels to reduce their costs (Brenes et al., 2014). Differentiation focuses more on offering different and unique products and services in the industry but to a wide range of relatively price-insensitive customers (Soltanizadeh et al., 2016), having quality products, broad product lines, consumer service and an efficient distribution system (Brenes et al., 2014).

This analysis leads authors to propose the following hypotheses:

**H3.1.** In the wine sector, the companies that use a differentiation strategy will achieve a superior performance.

**H3.2.** In the wine sector, the companies with a cost-leadership strategy will achieve a superior performance.

## 4. Methodology

### 4.1. Sample

The definition of the sample universe is done through the combination of the following databases: Spain's existing public records in different protected designations of origin (DOP) and the information available in the database Iberian Balance Sheet Analysis System (SABI), registered in year 2015 with CNAE (National Classification of Economic Activities) code 11.02 "Winery Companies".

The number of independent entities resulting from these databases was 3286. Following Spanos and Lioukas (2001), the authors dropped from the sampling frame firms with missing data, and the datum that resulted from a duplicate company with different location or brands without a formal structure. The total sample was then reduced to 2413 independent entities.

The questionnaire was conducted after an extensive review of the literature, and scales validated in previous studies were used. It focuses on the resources and capabilities that have been collected by theoretical studies and on the analysis of the competitive environment, business strategy and business performance. The questionnaire was also tested by previously



sending it to various entities linked to the wine sector in Spain, associations, experts, as well as managers of wineries. The pretest was carried out in two phases. First a pre-validation was made with four winery managers and four sector experts, and then, a second validation phase took place with nine managers and three sector experts. As a result, some issues were modified in the questionnaire and the explanation of the different sections was expanded. The objective was to ensure that the questionnaire was understandable and that it reflected the peculiarities of the industry.

The process for collecting the data started in December 2015 and finished in May 2016. After sending the questionnaire via email to the manager of the different firms (Ortega, 2010; Spanos and Lioukas, 2001), the authors allowed for one month to receive an answer and if during that period it was not provided, a phone reminder was made. The final sample was made up of 339 valid responses, which meant a 14.0% response rate, similar to the amount reported by Baruch and Holtom (2008), for the industrial sector, so that we considered it appropriate for our study.

The sample characteristics are given in Tables 2 and 3. Table 2 reports the distribution of the response percentages among the firm's type of ownership. With regard to the number of employees, its distribution percentages and the comparison with the mean of the sector is shown in Table 3. Therefore, non-response bias does not seem to be a major concern because of the data similarity between responses and sector.

The sampling error has been determined from the standard error of the mean, calculating the error committed for the case of finite populations resulting in a confidence level of 95% and  $p = q = 0.5$  is 4.9%. So this error is acceptable, considering the results from other studies, such as Camisón and Villar-Lopez (2014) who obtain an error of 7.6%; or Ortega (2010), with an error of 5.7%.

**Table 2**

Response percentages in reference to the type of ownership of the winery. Source: Our elaboration.

| Type of ownership | Individual companies | Cooperatives | Mercantile societies |
|-------------------|----------------------|--------------|----------------------|
| Percentage        | 14.7%                | 17.2%        | 68.1%                |

**Table 3**

Response percentages in reference to the number of employees of the winery and comparison with the mean of the Spanish wine sector.

Source: Our elaboration based on the data from SABI (December 2015).

|           | Micro (1-9 employees) | Small (10-49 employees) | Medium-sized (50-249 employees) | Large ( 250 and more employees) |
|-----------|-----------------------|-------------------------|---------------------------------|---------------------------------|
| Responses | 79.3%                 | 18.0%                   | 2.7%                            | 0%                              |
| Sector    | 83.1%                 | 14.4%                   | 2.3%                            | 0.2%                            |

## 4.2. Variables

Variables have been grouped into the following categories, 1) independent: technology, management capabilities, business strategy, and control variables, 2) dependent: performance.

In the realm of resources and capabilities, both technological and managerial capabilities have been analyzed and realized following the criterion that focuses on both the importance of competitive advantage and its sustainability (Li and Liu, 2014; Teece, 2014).

In the research process, multi-item five-point Likert scales have been used for resources and capabilities, strategy and performance (Prajogo, 2016; Ambulkar et al., 2015; Camisón and Villar-López, 2014; Ortega, 2010; Brush et al., 2002; Spanos and Lioukas, 2001).

To measure resources and capabilities, the scale used is adapted from Ortega (2010) and Spanos and Lioukas (2001). Technological capabilities are evaluated with four items. Managerial capabilities are analysed using seven indicators. Both variables are measured with a 5-point Likert scale, where companies evaluate their position with respect to their competitors and where the values of the scale are classified from 1 "much weaker than the competitor" to 5 "much stronger than the competitor". Authors adopted indicators used in other similar studies, not specific to the wine industry, in order to facilitate the comparison between sectors, they were previously validated by wine industry experts.

In strategy, one of the models that has been used to try to capture the typology of the competitive strategy, is the model developed by Robinson and Pearce (1988), and it has been used in different studies (Ortega 2010; Camisón et al. 2007; Simón and Marqués, 2005; Ibrahim et al., 2001; Spanos and Lioukas 2001). This model was developed based on previous studies by Dess and Davis (1984), and aims to expand the generic strategies of Porter, 1980 facilitating their characterization in empirical business studies.

This business strategy model consists of 22 indicators assessed with a 5-point Likert scale, where companies evaluate themselves with respect to different business development efforts, from 1 "is not utilized" to 5 "is primary, constantly utilized".

Following Ortega (2010) and Spanos and Lioukas (2001), the authors have evaluated business performance with seven indicators grouped into two dimensions: market position and profitability, in the last three years. The first dimension shows the external performance of the company, evaluated by its behavior in the market through four items. The second dimension reflects the internal performance of the company, the income generated in its economic activity (Spanos and Lioukas, 2001), through three items. All the items use a 5-point Likert scale, where companies evaluate their position with respect to their competitors, and where the values of the scale are rated from 1 "is much weaker than the competitor" to 5 "is much stronger than the competitor".

Subjective scales are used instead of objective scales, due to two reasons. First, the literature has demonstrated the validity of subjective scales to determine business performance and

their convergent validity with objective scales (Santos and Brito, 2012; Richard et al., 2009; Wall et al., 2004, Homburg et al., 1999; Dess and Robinson, 1984.). Second, accounting data could be subject to annual variability and may include extraordinary results and movements outside the main activity of the company (Richard et al., 2009). Thus, several studies have used subjective instead of objective scales to analyze business performance (Ferrer-Lorenzo et al., 2018; Prajogo, 2016, Camisón and Villar-López, 2014; Ortega, 2010; Spanos and Lioukas, 2001; Calantone et al., 2002).

4.3. Model

In order to determine the relationships between the firm's resources and capabilities, the strategy used, and its performance, this study uses the hierarchical regression method (Lioukas et al., 2016; Prajogo, 2016; Li and Liu, 2014; Ortega, 2010; Rubio Bañón and Aragón, 2009).

In order to adapt the study to the different types of entrepreneurial property that exist in the wine industry in Spain (OEMV, 2016a, 2016b; Langreo et al., 2014), this study makes three different analyses for the three types of ownership considered: individual companies, cooperatives and mercantile societies. Table 4 reports the distribution of the sample according to the classification made and the wine produced by the companies that answer this question in the questionnaire.

4.3.1. Dependent variable

In this paper model the dependent variable is the business performance. This study works under the hypothesis that performance is determined by technological and managerial capabilities, and strategic positioning. The authors have studied the business performance from two approaches, market and finance. Tables 5 and 6 show the answers to the different questions and their frequency.

In order to get a nicely compact representation of the dataset, instead of the original with many variables, this study develops a principal component analysis (PCA), and then the

**Table 4**  
Distribution of the different types of ownership studied and the total amount of wine produced by them.  
Source: Our elaboration.

| Type of winery   | Question: Wine production of the company in hectoliters |                   |
|--|---|-------------------|
|  | Responses   | Total hectoliters |
| Individual Companies   | 44  | 44,365            |
| Cooperatives   | 52  | 4,629,623         |
| Mercantile Societies   | 205   | 1,882,687         |
| Total  | 301   | 6,556,675         |
| Spanish wine production in 2015 (OIV, 2016)  | 37,300,000  |                   |
| Percentage of wine produced by the companies included in the survey over total Spanish wine production | 17.6%   |                   |

**Table 5**  
Firm's performance relative to competitor in the last 3 years. Market.  
Source: our elaboration

| Market                               |   | Much Below | Below | Average | Above | Far above | Total |
|--------------------------------------|---|------------|-------|---------|-------|-----------|-------|
| Sales volume €.                      | n | 40         | 83    | 129     | 71    | 10        | 333   |
|                                      | % | 12.0       | 24.9  | 38.7    | 21.3  | 3.0       | 100.0 |
| Growth in sales volume €.            | n | 26         | 58    | 131     | 103   | 15        | 333   |
|                                      | % | 7.8        | 17.4  | 39.3    | 30.9  | 4.5       | 100.0 |
| Market share over sales €.           | n | 41         | 75    | 142     | 67    | 8         | 333   |
|                                      | % | 12.3       | 22.5  | 42.6    | 20.1  | 2.4       | 100.0 |
| Growth in market share over sales €. | n | 24         | 59    | 152     | 83    | 13        | 331   |
|                                      | % | 7.3        | 17.8  | 45.9    | 25.1  | 3.9       | 100.0 |

**Table 6**  
Firm's performance relative to competitor in the last 3 years. Financial.  
Source: Our elaboration

| Financial              |   | Much Below | Below | Average | Above | Far above | Total |
|------------------------|---|------------|-------|---------|-------|-----------|-------|
| Profit margin.         | n | 18         | 90    | 147     | 68    | 11        | 334   |
|                        | % | 5.4        | 26.9  | 44.0    | 20.4  | 3.3       | 100.0 |
| Return on own capital. | n | 28         | 85    | 147     | 62    | 10        | 332   |
|                        | % | 8.4        | 25.6  | 44.3    | 18.7  | 3.0       | 100.0 |
| Net profits.           | n | 23         | 103   | 130     | 67    | 10        | 333   |
|                        | % | 6.9        | 30.9  | 39.0    | 20.1  | 3.0       | 100.0 |

**Table 7**  
Principal component analysis: business performance.  
Source: Our elaboration

| Variables                                 | Alpha without item | Component | Communality |
|---|--------------------|-----------|-------------|
| Profitability. Net profits                | .902               | .836      | .698        |
| Market position. Sales volume €           | .903               | .828      | .686        |
| Market position. Market share %           | .904               | .820      | .672        |
| Market position. Growth in market share   | .903               | .820      | .672        |
| Market position. Growth in sales volume € | .905               | .813      | .661        |
| Profitability. Profit margin              | .906               | .807      | .652        |
| Profitability. Return on own capital      | .908               | .796      | .634        |
| Cronbach alpha of the whole scale         | .917               |           |             |
| % Total explained variance                | 66.783             |           |             |
| K.M.O.                                    | .840               |           |             |
| Barlett Test:                             | $\chi^2$           | 2020.509  |             |
|   | gl                 | 21        |             |
|   | sig                | 0.000     |             |

**Table 8**

Responses and frequency: technological capabilities.

Source: Our elaboration

|   |   | Much weaker | Weaker | Equal | Stronger | Much stronger | Total |
|---|---|-------------|--------|-------|----------|---------------|-------|
| Technological capabilities and equipment      | n | 44          | 75     | 128   | 73       | 17            | 337   |
|   | % | 13.1        | 22.3   | 38.0  | 21.7     | 5.0           | 100.0 |
| Efficient and effective production department | n | 18          | 72     | 139   | 91       | 16            | 336   |
|   | % | 5.4         | 21.4   | 41.4  | 27.1     | 4.8           | 100.0 |
| Economies of scale                            | n | 59          | 105    | 100   | 59       | 12            | 335   |
|   | % | 17.6        | 31.3   | 29.9  | 17.6     | 3.6           | 100.0 |
| Technical experience                          | n | 12          | 43     | 127   | 122      | 32            | 336   |
|   | % | 3.6         | 12.8   | 37.8  | 36.3     | 9.5           | 100.0 |

study uses the new component to develop a hierarchical regression (Bro and Smilde, 2014).

The principal component analysis is made with the selection of one component, that determines the concept of performance in the firm. The extracted factor explains 66.78% variance, with a KMO = 0.84, Cronbach's alpha = 0.917 (Table 7).

#### 4.3.2. Independent variables

Technological capabilities, management capabilities, and competitive strategies are set as independent variables.

**4.3.2.1. Technological capabilities.** The four indicators used for technological capabilities, their distribution and values are shown in Table 8.

In order to introduce the variable in the linear regression model and to avoid multicollinearity, this paper performed the technique of principal component analysis. One extracted factor explains 57.9% of variance, KMO = 0.71, and

**Table 9**

Principal component analysis: technological capabilities.

Source: Our elaboration

| Variables                                      | Alpha without item | Component | Communality |
|--|--------------------|-----------|-------------|
| Efficient and effective production department. | .613               | .864      | .746        |
| Technological capabilities and equipment.      | .709               | .741      | .549        |
| Economies of scales.                           | .715               | .725      | .525        |
| Technical experience.                          | .728               | .704      | .496        |
| Cronbach alpha of the whole scale              | .751               |           |             |
| % Total explained variance                     | 57.914             |           |             |
| K.M.O.   | .713               |           |             |
| Barlett Test:                                  | $\chi^2$           | 339.887   |             |
|  | gl                 | 6         |             |
|  | sig                | .000      |             |

**Table 10**

Responses and frequency: managerial capabilities.

Source: Our elaboration

|                                     |   | Much weaker | Weaker | Equal | Stronger | Much stronger | Total |
|-------------------------------------|---|-------------|--------|-------|----------|---------------|-------|
| Managerial competencies.            | n | 11          | 48     | 188   | 73       | 16            | 336   |
|                                     | % | 3.3         | 14.3   | 56.0  | 21.7     | 4.8           | 100.0 |
| Knowledge and skills of employees.  | n | 6           | 23     | 172   | 108      | 24            | 333   |
|                                     | % | 1.8         | 6.9    | 51.7  | 32.4     | 7.2           | 100.0 |
| Work climate.                       | n | 6           | 9      | 133   | 142      | 41            | 331   |
|                                     | % | 1.8         | 2.7    | 40.2  | 42.9     | 12.4          | 100.0 |
| Efficient organizational structure. | n | 9           | 30     | 177   | 95       | 21            | 332   |
|                                     | % | 2.7         | 9.0    | 53.3  | 28.6     | 6.3           | 100.0 |
| Coordination.                       | n | 9           | 31     | 167   | 106      | 19            | 332   |
|                                     | % | 2.7         | 9.3    | 50.3  | 31.9     | 5.8           | 100.0 |

Cronbach's alpha = 0.751 (Table 9). The component has been called "technological capability".

**4.3.2.2. Managerial capabilities.** The seven indicators used for managerial capabilities, their distribution and values are shown in Table 10.

The seven indicators have been reduced following the principal component analysis. Then the new component has been used to develop a hierarchical regression. Resulting one factor that explains 61.6% of the variance with KMO = 0.87, and Cronbach's alpha = 0.895 (Table 11). The component is called "managerial capability".

**Table 11**

Principal component analysis: managerial capabilities.

Source: Our elaboration

| Variables                              | Alpha without item | Component | Communality |
|--|--------------------|-----------|-------------|
| Strategic planning                     | .873               | .832      | .692        |
| Efficient organizational structure.    | .875               | .824      | .678        |
| Coordination.                          | .876               | .818      | .669        |
| Ability to attract creative employees. | .883               | .773      | .597        |
| Work climate.                          | .883               | .766      | .586        |
| Knowledge and skills of employees.     | .882               | .765      | .585        |
| Managerial competencies.               | .889               | .717      | .514        |
| Cronbach alpha of the whole scale      | .895               |           |             |
| % Total explained variance             | 61.650             |           |             |
| K.M.O.                                 | .870               |           |             |
| Barlett Test:                          | $\chi^2$           | 1243.602  |             |
|  | gl                 | 21        |             |
|  | sig                | .000      |             |

**Table 12**

Principal component analysis: strategy of the firm.

Source: Our elaboration

| Variables   | Alpha without item | Comp. 1  | Comp. 2 | Comp. 3 | Comp. 4 | Comp. 5 | Communality |
|---|--------------------|----------|---------|---------|---------|---------|-------------|
| Extremely strict product quality control procedures.                                      | .870               | .704     | .059    | .100    | -.243   | .136    | .587        |
| Specific efforts to insure a pool of highly trained, experienced personnel.               | .866               | .665     | .278    | .207    | -.023   | -.005   | .562        |
| Continuing, overriding concern for lowest cost per unit.                                  | .871               | .649     | .062    | .132    | .323    | -.048   | .549        |
| Major effort to ensure availability of raw materials.                                     | .870               | .643     | .254    | -.071   | .113    | .025    | .496        |
| Extensive customer service capabilities.  | .871               | .565     | .015    | .368    | -.149   | -.043   | .479        |
| Maintaining high inventory levels (disregard the derivative of the aging of the product). | .870               | .535     | .189    | .007    | .250    | .260    | .452        |
| Concerted effort to build reputation within industry.                                     | .865               | .518     | .240    | .384    | -.269   | .293    | .632        |
| Building brand identification.  | .867               | .489     | .400    | .236    | -.233   | .106    | .521        |
| Developing and refining existing products.  | .867               | .474     | .207    | .322    | -.210   | .306    | .510        |
| Promotion/advertising expenditures above the industry average.                            | .869               | -.012    | .826    | .148    | .158    | .043    | .732        |
| Major expenditure on production process oriented R&D.                                     | .865               | .281     | .766    | .063    | .092    | .130    | .695        |
| Innovation in marketing techniques and methods.   | .866               | .204     | .742    | .226    | -.058   | .015    | .647        |
| Strong influence over distribution channels.  | .865               | .299     | .659    | .223    | .129    | .057    | .593        |
| Innovation in manufacturing process.  | .864               | .385     | .443    | .341    | .005    | .253    | .525        |
| New product development.  | .868               | .164     | .241    | .790    | .127    | -.093   | .733        |
| Broad product range.  | .870               | .207     | .240    | .727    | .262    | -.273   | .772        |
| Emphasis on the manufacturing of speciality products.                                     | .869               | .139     | .200    | .680    | -.209   | .247    | .627        |
| Products in higher priced market segments.  | .872               | .143     | .196    | .471    | -.438   | .404    | .635        |
| Pricing below competitors.  | .882               | -.075    | .105    | .060    | .796    | .129    | .670        |
| Products in lower priced market segments.   | .879               | .072     | .125    | -.023   | .786    | .086    | .647        |
| Small limited range of products.  | .879               | .203     | .027    | -.249   | .056    | .773    | .705        |
| Only serve specific geographic markets.   | .876               | -.009    | .106    | .158    | .177    | .715    | .579        |
| Eigen value   |                    | 6.767    | 2.275   | 1.783   | 1.419   | 1.103   |             |
| % Explained variance  |                    | 30.758   | 10.339  | 8.107   | 6.448   | 5.013   |             |
| Cronbach's alpha of whole scale:  |                    | .875     |         |         |         |         |             |
| % Total explained variance  |                    | 60.663   |         |         |         |         |             |
| Average K.M.O.  |                    | .862     |         |         |         |         |             |
| Bartlett Test   |                    |          |         |         |         |         |             |
| $\chi^2$  |                    | 2557.814 |         |         |         |         |             |
| gl  |                    | 231      |         |         |         |         |             |
| Significance  |                    | 0.000    |         |         |         |         |             |

4.3.2.3. *Business strategy.* In order to manage the main indicators of the firm's strategy, principal component analysis has been used (Ortega 2010; Ibrahim et al., 2001; Dess and Davis 1984). In Table 12 the components obtained from the analysis can be seen.

In this case, five components have been extracted, 1) Efficiency, 2) Marketing, 3) Innovation, 4) Low Price, and 5) Small Market and Product. The set explains 60.66% of the variance. The results of the different statistical reliability have values within the limits of acceptability, Cronbach's alpha = 0.875 and KMO = 0.862.

*Efficiency strategy:* Nine issues out of the twenty defined by Robinson and Pearce (1988), are part of this first extracted component, accounting for 30.8% of the variance. Efficiency Strategy contains concepts that lead the company to the extreme care of the products offered to the customer and ensure the realization of an efficient process including: strict quality control, trained and experienced staff, encourage available raw materials, improve cost per unit, high level of inventory, customer service, promote reputation in the industry, brand identification and development of existing products. It is important to state that in this sector, the high level of

inventory is relevant, as the development of aged products through aging and reserves generate higher added value.

*Marketing strategy:* In this second component five questions explain 10.3% of the variance. They are: advertising spending above sector average, investment in R&D oriented to efficiency process, innovations in marketing, strong influence over distribution and innovation in productive process. In this area business managers are concerned about trends and about controlling their various marketing techniques as a strategy to achieving their success.

*Innovation strategy:* The variance explained by the extracted component is 8.1% and its four questions are: development of new products, wide range of products, emphasis on special products and high-price segment. In innovation strategy what prevails is the obtaining of new items and the ability to offer the market a new and special range of products with a certain orientation towards a greater perceived benefit by customers.

*Low price strategy:* Two variables characterize this factor and explain 6.4% of the variance they point in a clear direction for offering products with less perceived benefit, a price below competitors and focusing on the low price products segment.



**Table 13**

Relation between extracted strategies and Porter's strategies.  
Source: Our elaboration

| Strategies extracted              | Porter's generic strategies                               |
|-----------------------------------|---|
| Efficiency Strategy               | Cost Strategy   |
| Low Price Strategy                |   |
| Innovation Strategy               | Differentiation Strategy                                  |
| Small Market and Product Strategy | Focus Strategy  |
| Marketing Strategy                | No assignation, the study maintains as Marketing Strategy |

*Small market and product strategy:* This component refers to those companies that choose to compete through a strategy of limited or specialized products, more oriented to high rather than low prices and to a very specific segment. The total variance explained in this case is 5.0%.

*Cost strategy and differentiation strategy. Porter's generic strategies:* In the design of the hypothesis for the theoretical analysis of the strategic options, authors have adopted Porter's model (1980 and 1985), and its two generic strategies: cost or differentiation. However, our factor analysis reveals five different strategies: efficiency, marketing, innovation, low prices, small market and product strategy. The efficiency strategy refers to the maximum control of resources and is part of Porter's overall strategy of costs (Brenes et al., 2014; Suárez, 1994). The innovation strategy contemplates offering better products with greater added value to the customers and is part of the differentiation strategy (Brenes, et al., 2014; Suárez, 1994). The marketing strategy is a strategy that is used by both generic strategies and contemplates the sensitivity to the market and its adaptation to changes, brand image and control of distribution (Brenes et al., 2014; Suárez, 1994). The low-price strategy has been assigned to a cost strategy and a small market and product strategy, which refer to Porter's third focus strategy. Table 13 shows the relation between the extracted strategies and Porter's generic strategies.

#### 4.3.3. Control variables

The purpose of the study is to determine the relationship between business performance and the set of independent variables that have been defined. However, numerous studies refer to the influence on performance of elements such as company size and the degree of rivalry. In the Italian wine industry Sellers and Alampi-Sottini (2016) have found a positive correlation with the influence of size in a winery's performance by studying the size of the company, with the number of employees, total turnover and volume of assets. Therefore, most of the studies include control variables that help to better understand the business result (Ortega, 2010; Rubio Bañón and Aragón, 2002; among others). In this study authors will take the size of the company and level of rivalry within the sector as control variables. The size of the company will be measured in terms of its assets, divided into seven categories, ranging from less than 400 thousand euros to more than 20 million euros. Other studies take the number of employees or its logarithm (Ortega, 2010;

**Table 14**

Distribution of the different types of ownership studied and volume of assets.  
Source: Our elaboration

| Type of winery studied and volume of assets in millions of euros. | Individual companies |        | Cooperatives |        | Mercantile companies |        | Total |        |
|---|----------------------|--------|--------------|--------|----------------------|--------|-------|--------|
|   | n                    | %      | n            | %      | n                    | %      | n     | %      |
| < 0.4 million   | 30                   | 63.8%  | 6            | 11.5%  | 62                   | 29.8%  | 98    | 31.9%  |
| 0.4 - 1 million   | 6                    | 12.8%  | 12           | 23.1%  | 51                   | 24.5%  | 69    | 22.5%  |
| 1-5 million   | 11                   | 23.4%  | 21           | 40.4%  | 65                   | 31.3%  | 97    | 31.6%  |
| 5-10 million  | 0                    | 0.0%   | 10           | 19.2%  | 15                   | 7.2%   | 25    | 8.1%   |
| 10-20 million   | 0                    | 0.0%   | 0            | 0.0%   | 8                    | 3.8%   | 8     | 2.6%   |
| 20-40 million   | 0                    | 0.0%   | 2            | 3.8%   | 4                    | 1.9%   | 6     | 2.0%   |
| > 40 million  | 0                    | 0.0%   | 1            | 1.9%   | 3                    | 1.4%   | 4     | 1.3%   |
| Total   | 47                   | 100.0% | 52           | 100.0% | 208                  | 100.0% | 307   | 100.0% |
| No responses  |                      |        |              |        |                      |        | 32    |        |

Rubio Bañón and Aragón, 2009). In this case, authors have opted for assets due to the extremely seasonal nature of wine production and the resulting distortion figures produced (correlation of 0.54 between the ranges of active and total employees). Table 14 reports the distribution of the assets in the sample.

The degree of intensity of rivalry has been measured with the scale used by Ortega (2010) and Spanos and Lioukas (2001). The manager of the firm evaluates the level of competition with a 5-point Likert scale which evaluates the characteristics of the product, promotion strategies, access to distribution channels and customer service strategy. The extracted factor explains 69.2% of variance, KMO=0.80, and Cronbach's alpha=0.85 (Table 15). The component has been called "internal rivalry".

#### 4.3.4. Proposed model

The proposed model of analysis is as follows:

$$Y_j = \beta_0 + \beta_1 Cr_j + \beta_2 Ca_j + \beta_3 Ee_j + \beta_4 Em_j + \beta_5 Ep_j + \beta_6 Eb_j + \beta_7 Es_j + \beta_8 Rt_j + \beta_9 Rm_j + e_i$$

Where,  $Y_j$  is the performance value for the company "j";  $\beta_0$  is the constant;  $\beta_1$ , and  $\beta_2$ , the coefficients of the control variables: internal rivalry and assets;  $\beta_3$ ,  $\beta_4$ ,  $\beta_5$ ,  $\beta_6$ ,  $\beta_7$ , the coefficients of the variables efficiency, marketing, innovation, low price and small market and product.  $\beta_8$  and  $\beta_9$ , are the coefficients for the resources and capabilities of the firm: technology and managerial capabilities. And  $e_j$  is the error or the residual of the proposed model.

The variables chosen to build the multivariable linear correlation, the mean values, standard deviation, Cronbach's alpha without item and correlation matrix, are shown in Table 16. The Cronbach alpha of the whole scale is 0.635. The study evaluates the possible multicollinearity between the variables through FIV and conditioning index, in both cases the values are lower than ten, as recommended by the literature (Hair et al., 2009, pp. 172).

The model has been run with SPSS v20 program with the introduction hierarchical method.

**Table 15**

Principal component analysis: internal rivalry.  
Source: our elaboration

| Variables                            | Alpha with out item | Component | Communality |
|--------------------------------------|---------------------|-----------|-------------|
| Promotional strategies among rivals. | .785                | .874      | .768        |
| Service strategies to customers.     | .808                | .843      | .711        |
| Access to distribution channels.     | .812                | .839      | .709        |
| Product characteristics.             | .846                | .769      | .599        |
| Cronbach alpha of the whole scale    | .850                |           |             |
| % Total explained variance           | 69.266              |           |             |
| K.M.O.                               | .805                |           |             |
| Barlett Test:                        | Chi-squared         | 574.787   |             |
|                                      | gl                  | 6         |             |
|                                      | sig                 | .000      |             |

**5. Results**

The R<sup>2</sup> values, or the adjusted coefficient of regression, are different for each of the three studies and they vary from 0.260 for cooperatives (n = 42), the lowest value, to 0.435 for individual wineries (n = 37), and 0.462 for mercantile wineries (n=159). These values were also found in other comparable studies, for example, 0.390 (Ortega, 2010); 0.279 (Rubio Bañón and Aragón, 2009), and suggest that the model provides sufficient information to draw conclusions.

*5.1. Results for individual companies*

The results of the regression for individual companies are shown in Table 17, in order to establish conclusions the significance level is set at 0.05. The adjusted R<sup>2</sup> has a value of 0.435 in the full model and shows the overall significance. Thus, the study infers that the winery's strategies have greater impact on performance than its resources and capabilities. The marketing strategy appears as the first fundamental strategy

**Table 16**

Correlation matrix.  
Source: Our elaboration

|                                       | Mean | SD   | Cronbach's Alpha Without Item | 1      | 2      | 3      | 4      | 5      | 6      | 7    | 8      | 9      | 10 |
|---------------------------------------|------|------|-------------------------------|--------|--------|--------|--------|--------|--------|------|--------|--------|----|
| (1) Internal Rivalry                  | 0    | 1.00 | .637                          | 1      |        |        |        |        |        |      |        |        |    |
| (2) Assets                            | 2.38 | 1.30 | .582                          | .100   | 1      |        |        |        |        |      |        |        |    |
| (3) Efficiency Strategy               | 0    | 1.00 | .620                          | .190** | .133*  | 1      |        |        |        |      |        |        |    |
| (4) Marketing Strategy                | 0    | 1.00 | .601                          | .072   | .300** | .000   | 1      |        |        |      |        |        |    |
| (5) Innovation Strategy               | 0    | 1.00 | .640                          | .143*  | .133*  | .000   | .000   | 1      |        |      |        |        |    |
| (6) Low Price Strategy                | 0    | 1.00 | .655                          | -.087  | .187** | .000   | .000   | .000   | 1      |      |        |        |    |
| (7) Small Market and Product Strategy | 0    | 1.00 | .671                          | .017   | -.026  | .000   | .000   | .000   | .000   | 1    |        |        |    |
| (8) Technological Capability          | 0    | 1.00 | .541                          | .120*  | .434** | .306** | .448** | .074   | -.014  | .036 | 1      |        |    |
| (9) Managerial Capability             | 0    | 1.00 | .572                          | .164** | .204** | .308** | .347** | .185** | -.148* | .103 | .482** | 1      |    |
| (10) Performance                      | 0    | 1.00 | .549                          | .037   | .360** | .251** | .449** | .226** | .048   | .025 | .550** | .412** | 1  |

\*\*The correlation is significant at the 0.01 level (bilateral).

\*The correlation is significant at the 0.05 level (bilateral).

**Table 17**

Regression analysis for individual companies.  
Source: Own elaboration

| Variables                             | Base model |        |       |       | Base model + strategy |       |      |      | Full model |        |      |      |
|---------------------------------------|------------|--------|-------|-------|-----------------------|-------|------|------|------------|--------|------|------|
|                                       | β          | t      | sig   | sd    | β                     | t     | sig  | sd   | β          | t      | sig  | sd   |
| (1) Internal Rivalry                  | 0.005      | 0.032  | 0.975 | 0.135 | -.107                 | -.697 | .491 | .132 | -.184      | -1.191 | .244 | .137 |
| (2) Assets                            | 0.200      | 1.272  | 0.211 | 0.173 | .111                  | .861  | .396 | .149 | -.005      | -.033  | .974 | .160 |
| (3) Efficiency Strategy               |            |        |       |       | .440                  | 2.895 | .007 | .133 | .336       | 2.112  | .044 | .138 |
| (4) Marketing Strategy                |            |        |       |       | .551                  | 4.166 | .000 | .125 | .435       | 2.936  | .007 | .142 |
| (5) Innovation Strategy               |            |        |       |       | .211                  | 1.613 | .117 | .111 | .196       | 1.542  | .134 | .110 |
| (6) Low Price Strategy                |            |        |       |       | -.041                 | -.307 | .761 | .124 | .029       | .208   | .837 | .131 |
| (7) Small Market and Product Strategy |            |        |       |       | .061                  | .448  | .657 | .146 | .040       | .302   | .765 | .144 |
| (8) Technological Capability          |            |        |       |       |                       |       |      |      | .153       | .729   | .472 | .182 |
| (9) Managerial Capability             |            |        |       |       |                       |       |      |      | .241       | 1.239  | .226 | .148 |
| R <sup>2</sup>                        |            | 0.040  |       |       |                       | 0.511 |      |      |            | 0.572  |      |      |
| Adjusted R <sup>2</sup>               |            | -0.009 |       |       |                       | 0.401 |      |      |            | 0.435  |      |      |
| Change in R <sup>2</sup>              |            |        |       |       |                       | 0.410 |      |      |            | 0.034  |      |      |

**Table 18**

Regression analysis for cooperative wineries.

Source: Our elaboration

| Variables                             | Base model |       |      |      | Base model + strategy |       |      |      | Full model |        |      |      |
|---------------------------------------|------------|-------|------|------|-----------------------|-------|------|------|------------|--------|------|------|
|                                       | $\beta$    | t     | sig  | sd   | $\beta$               | t     | sig  | sd   | $\beta$    | t      | sig  | sd   |
| (1) Internal Rivalry                  | .173       | 1.200 | .237 | .109 | .345                  | 1.732 | .092 | .152 | .502       | 2.662  | .012 | .143 |
| (2) Assets                            | .284       | 1.967 | .056 | .092 | .207                  | 1.252 | .219 | .104 | .171       | 1.084  | .286 | .115 |
| (3) Efficiency Strategy               |            |       |      |      | .099                  | .589  | .559 | .108 | -.176      | -1.007 | .321 | .112 |
| (4) Marketing Strategy                |            |       |      |      | .053                  | .298  | .768 | .153 | .047       | .318   | .753 | .150 |
| (5) Innovation Strategy               |            |       |      |      | -.121                 | -.663 | .512 | .148 | -.400      | -2.051 | .049 | .159 |
| (6) Low Price Strategy                |            |       |      |      | .104                  | .624  | .537 | .158 | -.005      | -.030  | .977 | .146 |
| (7) Small Market and Product Strategy |            |       |      |      | .233                  | 1.455 | .155 | .148 | .228       | 1.497  | .144 | .141 |
| (8) Technological Capability          |            |       |      |      |                       |       |      |      | .414       | 2.402  | .022 | .169 |
| (9) Managerial Capability             |            |       |      |      |                       |       |      |      | .200       | 1.231  | .227 | .148 |
| R <sup>2</sup>                        |            | 0.126 |      |      |                       | 0.238 |      |      |            | 0.423  |      |      |
| Adjusted R <sup>2</sup>               |            | 0.086 |      |      |                       | 0.086 |      |      |            | 0.260  |      |      |
| Change in R <sup>2</sup>              |            |       |      |      |                       | 0     |      |      |            | 0.174  |      |      |

**Table 19**

Regression analysis for mercantile companies.

Source: Own elaboration

| Variables                             | Base Model |       |      |      | Base Model + Strategy |        |      |      | Full Model |        |      |      |
|---------------------------------------|------------|-------|------|------|-----------------------|--------|------|------|------------|--------|------|------|
|                                       | $\beta$    | t     | sig  | sd   | $\beta$               | t      | sig  | sd   | $\beta$    | t      | sig  | sd   |
| (1) Internal Rivalry                  | -.034      | -.498 | .619 | .075 | -.074                 | -1.141 | .256 | .073 | -.094      | -1.596 | .113 | .066 |
| (2) Assets                            | .386       | 5.649 | .000 | .054 | .157                  | 2.201  | .029 | .057 | .023       | .336   | .737 | .054 |
| (3) Efficiency Strategy               |            |       |      |      | .173                  | 2.651  | .009 | .081 | .077       | 1.238  | .217 | .077 |
| (4) Marketing Strategy                |            |       |      |      | .455                  | 6.544  | .000 | .077 | .273       | 3.717  | .000 | .082 |
| (5) Innovation Strategy               |            |       |      |      | .236                  | 3.576  | .000 | .074 | .229       | 3.741  | .000 | .069 |
| (6) Low Price Strategy                |            |       |      |      | -.012                 | -.182  | .856 | .078 | .030       | .489   | .626 | .074 |
| (7) Small Market and Product Strategy |            |       |      |      | .013                  | .199   | .842 | .066 | .002       | .033   | .973 | .060 |
| (8) Technological Capability          |            |       |      |      |                       |        |      |      | .460       | 5.804  | .000 | .083 |
| (9) Managerial Capability             |            |       |      |      |                       |        |      |      | -.003      | -.040  | .968 | .091 |
| R <sup>2</sup>                        |            | .148  |      |      |                       | .363   |      |      |            | .493   |      |      |
| Adjusted R <sup>2</sup>               |            | .139  |      |      |                       | .334   |      |      |            | .462   |      |      |
| Change in R <sup>2</sup>              |            |       |      |      |                       | .195   |      |      |            | .128   |      |      |

with a beta value of 0.435, followed by the efficiency strategy with a beta value of 0.336. Authors find that neither resources and capabilities nor the control variables explain performance. With regard to hypotheses 1 and 2, they both have to be rejected for individual companies. Both strategies, marketing and efficiency, allow individual companies to perform well. Marketing is neutral relative to cost positioning or differentiation, while efficiency is a cost strategy. The other strategies have no statistical significance. These results lead us to reject hypothesis 3.1 and confirm 3.2 for individual companies.

## 5.2. Results for cooperatives

In Table 18 the study reports the regression values for cooperatives. To establish conclusions the significance level is set at 0.05. The adjusted R<sup>2</sup> has a value of 0.260 in the full model and shows the overall significance. The results show that the control variable "internal rivalry" has the highest beta value (0.502) and a high significance level (0.012). With

regard to strategies, there are none that explain performance, however the authors find a negative value for the innovation strategy, with a significance level of 0.049. In terms of resources and capabilities in relation to performance, technological capabilities has a beta value of 0.414 and a statistical significance of 0.022, the managerial capabilities variable is not statistically significant. Thus, for cooperatives, the study confirms hypothesis 1 but rejects hypothesis 2, 3.1 and 3.2.

## 5.3. Results for mercantile companies

The results for mercantile companies are reported in Table 19, in order to establish conclusions the significance level is set at 0.05. The adjusted R<sup>2</sup> has a value of 0.462. The most important element to explain performance in this type of winery, is technological capabilities, with the highest beta value of the study (0.460), followed by the strategy with a beta value of 0.273 for marketing strategy, and 0.229 for innovation strategy. The other strategies and resources have a low beta

value and have no statistical significance. With regard to our hypotheses, it is possible to confirm H1 and reject H2. As authors have explained, marketing strategy is useful and it does not depend on how the firm behaves in terms of cost or differentiation. On the other hand, the innovation strategy is linked with the differentiation strategy. Thus, it is possible to confirm H3.1 and reject H3.2. Assets as a control variable has statistical significance in the two first models (Base Model and Base Model + Strategy).

#### 5.4. Global results

The results of the model, try to explain business performance for the three types of companies studied for the Spanish wine sector, present differentiated elements. The relationship between resources and capabilities is evident, along with the strategy with the business result, but this varies depending on the type of company.

Regarding the influence of resources and capabilities (technological and managerial capabilities), only the technological one shows its importance in the explanation of the company's performance, but only for cooperatives and mercantile companies. Several authors have highlighted the importance of resources or technology to explain the best organizational performance capabilities (Camisón and Villar-López, 2014; Ortega, 2010; Rubio Bañón and Aragón, 2009; Chang and Singh, 2000; Erquiaga and Fernández, 1996). However, our results show that technological capabilities have no influence on the performance of individual companies, nor are management capabilities relevant in any of the types of the companies analyzed. It is important to highlight that the fact that a resource does not give an explanation of the business result, does not mean that it is not important in the industry, it only means that it is not an explanatory variable of the competitive advantage, the resources must be scarce, relevant, durable, non-transferable and non-replicable (Grant, 2010).

In relation to strategy, the results show that it explains the business result for the individual companies and for the mercantile companies, not being related to the performance as in the case of cooperatives. Of the five types of strategies analyzed and extracted by the technique of principal components, from the scale of Robinson and Pearce (1988), only three are significant with business performance: in the case of the individual companies marketing strategy and efficiency strategy; and for the mercantile companies marketing strategy and innovation strategy, are the drivers of the performance.

With regard to the joint effect of resources and capabilities, and the strategy, and its synergistic effect to explain business performance (Spanos and Lioukas, 2001), the results show that only in mercantile companies has this effect appeared, being the combination of technological capabilities, and marketing and innovation strategies, the elements that correlate with the best business results. This synergic factor does not appear in individual companies, where it is only the strategy that is seen as the driver of the performance and neither is it seen in cooperatives where the technological capabilities are the

explanation of their better performance.

The relationship between resources and capabilities, and strategy, can be observed in the values of the correlation matrix, without distinguishing according to the type of company. Thus, among the strategies related to the best performance (efficiency, marketing and innovation), and the resources and capabilities studied, it presents the following values. The efficiency strategy has a correlation of 0.306 with technological capabilities and 0.308 with management capabilities. Marketing strategy 0.448 with technological capabilities and 0.347 with management. And the innovation strategy does not have a significant correlation with technological capabilities and 0.185 with management capabilities.

## 6. Conclusions

The purpose of this document is to assess the factors on which business success is based within the wine industry in Spain. For this analysis, the authors combined the theories of resources and capabilities (Barney, 1991) and strategic positioning (Porter, 1980 and 1985), following previous studies (Chuang and Lin, 2017; Rosenberg Hansen and Ferlie, 2016; Takata, 2016; Rapp et al., 2010; Rivard et al., 2006; Spanos and Lioukas, 2001). The basic hypothesis is that both theories are not contradictory, but coexist within the business reality, and that both can at least partially explain the defining factors of business success. Analysis has focused the study on the Spanish wine sector, a sector characterized by the presence of a large number of small and medium-sized companies, which faithfully reflects the reality of businesses in Spain, Europe and the global world. To adapt the study to the Spanish wine industry, the authors have differentiated between three types of wineries: individual, cooperative and mercantile, and the authors evaluate the importance of resources, capabilities and strategy.

In this document, the authors analyze technological capabilities and managerial capabilities as two of the resources and capabilities that business literature identifies as key resources. This study has evaluated the strategic positioning with the scale developed by Robinson and Pearce (1988).

The first conclusion that can be drawn from the results obtained shows that the existence of the synergic effect of resources and capabilities with strategies, has only been corroborated in mercantile companies. This effect has not been found in individual companies (where strategies explain their business performance), nor in cooperatives (where the resources explain their business performance). On the other hand, the general values of significant correlation found between the explanatory strategies of performance (efficiency, marketing and innovation) with the resources and capabilities studied (technology and management), prove that resources and capabilities affect the strategies (Barney et al., 2011; Rumelt, 1984), or that strategies are chosen depending on the resources the company controls (Barney et al., 2011). These results are in line with the concept of strategy formation defined by Barney et al. (2011), considering that the ability to



implement the strategy is in itself a resource capable of providing a sustainable strategic advantage.

The second conclusion in the field of resources and capabilities is that technological capabilities are much more important than management capabilities, although this element has not been proven for individual companies, where resources and capabilities do not explain their business performance.

With respect to strategic positioning, the results present a more complex configuration. For individual companies, strategy is the key element in the explanation of business success, first marketing strategy and then efficiency strategy. From the analysis of Porter's generic strategies (1985), Table 13, individual companies achieve better business performance with generic cost strategy. However, in mercantile companies, they are the marketing and innovation strategies that explain their performance, and from the perspective of Porter's (1985) analysis, mercantile companies achieve better business performance in a generic differentiation strategy, Table 13.

In the case of the cooperatives, no strategic positioning directly related to performance has been detected, however, a control variable has appeared, the internal competence of the sector, as an explanatory element for a better performance. This analysis is in line with Porter's theories (1985) on competitive advantage, where he defends that a high level of competition in a sector is a driver of a better behavior on the part of the companies.

## 7. Limitations of the study and its applicability

The objective of this article was to determine empirically the factors influencing a company's competitiveness, within the Spanish wine sector. Two approaches, RBV and strategic positioning, have been introduced and evaluated in previous studies that support their mutual compatibility (Spanos and Lioukas, 2001, among others). The results demonstrate this fact: resources and capabilities and strategy explain a company's performance, confirming previous studies (Ortega, 2010, among others). In the present study, resources and capabilities have emerged as being equally relevant relative to strategy. It remains to be studied whether in other sectors it is the same, or if changes in the environment can change this prevalence. It is important to state that the general and financial crisis that has shaken Western Europe has particularly placed serious constraints on the ability to finance companies, stressing the importance of business performance to resources and capabilities. One limitation of the study is the size of the sample, although it reflects the reality of the sector, a larger sample would perhaps have allowed for better statistical parameters, especially in relation to individual companies and cooperatives. As to the applicability of the study, authors suggest that technology is essential, as well as market orientation, innovation and efficiency, in terms of key drivers of business performance. Another limitation could be the type of survey, 1) the authors adopted scales used in similar studies to evaluate resources and capabilities and strategies, this facilitates the comparison between sectors although it may lose inter-sectorial specificity; 2) in terms of performance, the manager

of the company was asked to subjectively report the relative strength of his or her winery compared to their competitors, this may seem less solid than the accounting data. However, it is necessary to point out that subjective scales are a common method in studies like this and furthermore, subjective scales have been demonstrated to converge with objective scales in business evaluation (Sirmon et al., 2010; Wall et al., 2004) being used in numerous empirical studies (Prajogo, 2016; Camisón and Villar-López, 2014; Ortega, 2010; Spanos and Lioukas, 2001).

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