

## Competitive advantage differences between firms belonging to a business group and independent companies in the Spanish wine industry

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**ABSTRACT:** A high percentage of companies that compete in the market belong to a business group. This paper analyses the competitive advantages between independent firms and firms belonging to a business group, focusing on the Spanish wine industry. The authors studied 339 wineries, compared their resources and capabilities, the strategies used and their business performance. The results suggest that while resources and capabilities are key for independent firms it is the business strategy that is most important for firms belonging to a business group. The study sheds more light on the application of specific elements to explain a firm's business performance.

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**KEYWORDS:** Business group, performance, resource based view, strategy, wine industry.

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### La diferencia de la ventaja competitiva entre empresas pertenecientes a grupos empresariales y compañías independientes en el sector del vino en España

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**RESUMEN:** Los grupos empresariales significan un importante porcentaje de empresas que operan en los mercados. Este artículo analiza la diferencia de la ventaja competitiva entre empresas independientes y las que pertenecen a grupos empresariales, en la industria del vino en España. Se han estudiado 339 bodegas, recursos y capacidades, estrategias y rendimiento. Los resultados sugieren que mientras en las empresas independientes los recursos y capacidades son clave, en las empresas que pertenecen a grupos empresariales lo son las estrategias. El estudio arroja más luz sobre los elementos que explican el rendimiento empresarial y la forma en que las empresas los utilizan.

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**PALABRAS CLAVE:** Estrategia, grupos empresariales, resultado, sector del vino, visión basada en recursos.

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## 1. Introduction

The country of Spain has the largest surface area of vineyards in the world, with close to one million hectares, this makes it the third largest producer of wine after France and Italy. The wine sector as a whole, since the beginning of the 21st century, has undergone an important restructuring which has resulted in a general decrease of surface area and a slight increase in production. In 2011, wine production in Spain stood at 33.4 million hectoliters, while in 2016 it reached 37.8 million hectoliters (OIV, 2016). Therefore, the 1 % reduction in the cultivated surface area during the period of 2011 to 2015 (OIV, 2016), was made up for by the restructuring and reorganization of the vineyards and implementing improvements in production and varietal systems, causing an increase in production. The regulation of the European Commission 1308/2013 allows for the increase in the area of cultivation until the year 2020. This could lead Spain in productions that easily exceed 40 million hectoliters per year. If consumption is maintained in Spain, it will lead Spanish wineries to clearly become exporters, around 75 % of the production would have to be sold abroad. This will force Spanish wineries to increase their competitiveness, and to better understand how to operate in the business environment.

One way to deal with competitiveness is to belong to a business group, where companies can feel more protected and with better access to competitive resources. The dilemma of whether to face challenges independently or as part of a group has influenced human behavior since the beginning of time. “It is the business of the very few to be independent; it is a privilege of the strong” (Nietzsche, 2003, p. 99). In the business world, those who do not approach the challenges of the market alone do so instead by creating or joining entities we call the business group (BG). BGs constitute a high percentage of the companies participating in the market. In a study of European companies, Belenzon and Berkovitz (2008) indicate that 52 % are linked to BGs.

In Spain, according to data from the Ministry of Agriculture and Fisheries, Food and Environment (2016), there are 4,052 wine companies. At least 10.5 % of them belong to business groups and nine of the top ten companies in turnover belong to business groups (SABI, June 2016).

Regardless of the economic reasons for their presence, there is no clear winner in the debate over whether membership in a BG results in a better business performance or not. Nonetheless the majority of studies concur that companies belonging to BGs have preferential access to most of the key resources related to organizational performance, including technology, innovation, finance, and distribution (Cai *et al.*, 2016; Choi *et al.*, 2014; Fisman and Khanna 2004; Guillen, 2000). When companies develop their organizational capabilities, they can manage their resources in a way that creates competitive advantage (Kazadi *et al.*, 2016). Thus, BGs with these organizational capabilities could have competitive advantage over independent firms owing to their greater range of resources.

The Resource Based View (RBV) (Barney, 1991) links better business performance and greater firm competitiveness with preferential access to a set of resources and the development of associated capabilities. This study analyzes resources and

capabilities, business performance (in two different ways: financial and market dimensions), and strategic positioning.

Several studies have analyzed the competitiveness of wine companies from the perspective of resources and capabilities (RBV), or the strategy, both globally (Newton *et al.*, 2015; Galati *et al.*, 2014; Hammervoll *et al.*, 2014; Evaldo Fensterseifer and Rastoin, 2013; Duquesnois *et al.*, 2010), and in Spain (Simon-Elorz *et al.*, 2015; Sellers-Rubio, 2010).

These studies have carried out such analyses through the study of companies in the wine sector regardless of whether or not they are members of a business group. In the present paper, however, authors have analyzed the difference in behavior between groups and companies within the Spanish wine sector, which implies a new approach in the study of competitiveness of this sector, given that no work of this type has been found in the review of the literature.

Another innovative aspect of this paper is that it focuses jointly on resources and capabilities, and strategy, and its effects on business performance, in the Spanish wine sector.

Therefore the main contributions of this study are: first, to present the factors explaining business performance for both independent firms and those belonging to a BG comparatively; second, to make connections between the RBV and strategy as factors explaining competitive advantage, confirming that they are complementary and necessary approaches in taking a global view of a company's performance; and third, to point out that independent companies and companies belonging to BGs have different organizational objectives and therefore perform differently -despite both using capabilities and strategy to strengthen their market position, they do not manage them in the same way.

To study the relationship between resources and capabilities, strategy, and business performance, the authors use the hierarchical regression method (Li and Liu, 2014; Ortega, 2010).

The paper is organized as follows: proceeding from this introduction, Section 2 presents the literature review. Section 3 offers a theoretical foundation for six hypotheses, and is followed by a Section 4, sample, variables and model to test the hypotheses. Section 5 reports the results of the analysis and the theoretical and practical implications thereof; Section 6 presents the conclusions drawn from the results. Finally, Section 7 presents the limits and applicability.

## **2. Literature Review**

### **2.1. Groups**

The literature has traditionally focused on the reasons that explain the existence of BGs and has done this from two perspectives (Cuervo-Cazurra, 2006; Khanna and Palepu, 2000): Economic, based on their role in reducing transaction costs due to market failures (Leff, 1978), and sociological, based on norms of solidarity and

codes (Granovetter, 1995). The first case (Leff, 1978) foregrounds the emergence, development and expansion of BGs relative to the market failures that can occur in developing economies. These failures occur in the capital market, the product market, the labor market or the technology market, and can also be forced by certain governmental economic policies (Khanna and Palepu, 2000). The difficulty in accessing resources that are essential to their primary economic activity leads firms to expand that activity in order to meet their needs. Examples include Japanese *Keiretsu*, Korean *Chaebols* or Latin American *Grupos*. According to the second approach, which takes a sociological perspective, group affiliation encourages the development of joint activities around a central axis, which is, in many cases, the entrepreneur or family (Cuervo-Cazurra, 2006; Iacobucci and Rosa, 2005; 2010).

But the latest studies on BGs focus more on the reasons for their differentiated performance than on the reasons for their existence. They note that capitalization is an important advantage for their affiliates –fundamentally in times of crisis where BGs replace financial institutions (Belenzon and Berkovitz, 2008)– and that their performance improves when they participate in the capital market (Chittoor *et al.*, 2015). The links between the affiliated company and the parent company are correlated with a better performance: greater linkage facilitates better access to resources, minimizes agency costs and generates higher levels of performance (Mahmood *et al.*, 2017). The advantages resulting from proximity to the company’s decision makers and reductions in management costs increase when the property of the group is more concentrated (Singh and Gaur, 2009). The studies also indicate the path that BGs take, affirming that while groups cannot guarantee better performance, they grow by diversifying, exporting, and operating in different industries (Zhang *et al.*, 2016).

## 2.2. Competitiveness of a Firm

There are essentially two schools of thought on competitive advantage. The first focuses on the characteristics of the sector in which the company is situated (Porter, 1980) and the second on the individual analysis of each entity with an emphasis on the resources and capabilities available to it (Barney, 1991).

Industry-specific predetermined analysis bases competitive strategy on the determination of a company’s positioning within its industry as the source of competitive advantage and corporate profitability (Porter, 1980; 1985).

There are five elements that influence the competitive situation of a given sector (Porter, 1980): These so-called five forces are barriers to entry, suppliers’ negotiating power, buyers’ negotiating power, substitute products, and the intensity of the rivalry between businesses that compete within a sector. A company will gain a competitive advantage if, by developing a strategy, it is able to find a position from which it can defend itself against the threat these five forces pose, or can influence them in the company’s favour. Through strategic planning, the firm can secure its position relative to competitors by building defenses against the five competitive forces, or by seeking positions where the influence of these sources is weaker. There are only two generic strategies to achieve competitive advantage: differentiation and cost.

Focusing these two strategies on a specific market segment creates a third strategic possibility that opens up a range of four options: differentiation in the whole market or in a segment thereof and low cost in the whole market or in a segment.

In the Resource and Capability Theory (Barney, 1991), the assets available to the company explain its competitive advantage and performance; both can be maintained over time provided that the company can use these assets, preferably without being imitated by its competitors.

Resources are defined as all stocks of available elements controlled by the company (Amit and Schoemaker, 1993). Resources become final products or services through the use of a wide range of other assets and mechanisms available to the company, including technology, information and management systems. Capabilities emerge as the elements that make it achieve the desired effect. Capabilities are information based on tangible or intangible factors or on the company's specific processes and are developed over time based on complex interactions among resources available to the company (Amit and Schoemaker, 1993).

Studies of a company's competitiveness that combine the RBV approach and Porter's (1980) positional strategy have frequently been used to analyze business performance since Spanos and Lioukas (2001) (Chuang and Lin, 2017; Takata, 2016; Rapp *et al.*, 2010; Rivard *et al.*, 2006).

### 3. Hypotheses

#### 3.1. Technological Capabilities

The role that technology has played in economic growth cannot be denied (Fagerberg, 1987). Technology refers to a company's ability to perform technical functions, including their ability to develop new products, services and processes that provide competitive advantages (Tece *et al.*, 1997).

The acquisition and use of appropriate technology is essential in a strongly competitive environment (Julien, 1995), creating value in the market for the firm (Gambardella and Giarratana, 2013), and a capacity for development, specialization and competitive advantage (Neill *et al.*, 2014).

However, the wine industry presents a characteristic shared by other agribusiness industries linked to the land - the impossibility of relocating without losing the rights to commercialize their production. Therefore, because they cannot take advantage by themselves of this option to lower their unit costs, they have to maintain efficiency by investing in technology and operational improvements (Ariss *et al.*, 2000).

In the wine sector, technology and its adaptation to changes has proven to be a driver of competitive advantage, so the new producing countries (Australia, Argentina, New Zealand and Chile) have caught up with the traditional producing countries of Europe, through the adoption of new technologies and their application to the sector (Morrison and Rabellotti, 2017).

Several authors have related technological capabilities with superior performance of the company. For example Welter *et al.* (2013), focusing on R&D, found a positive relationship between long-term benefits and technological capability in biotechnology companies. In the industrial sector, Camisón and Villar-López (2014) found a positive relationship between technological innovation capability and the firm's financial and market performance. Also in the industrial sector, Rubio Bañón and Aragón (2009; 2002) found positive relationship between the technological position and financial and market performance; and Spanos and Lioukas (2001) found this positive relationship but focused on the existence of an efficient and effective manufacturing department. Finally, in the technological sector, a positive relationship has also been found between high technological capabilities and productivity, market and financial performance, through criteria such as net sales, market capitalization, economic value added, economies of scale and technical experience (Ortega, 2010; Ambastha and Momaya, 2004).

In the case of BGs, they allow access to assets that are otherwise very difficult for individual firms to obtain, such as greater investments in technology, a high level of innovation, and the use of economies of scale and scope (Chittoor *et al.*, 2015), allowing companies belonging to these groups to obtain a superior performance.

This point leads us to formulate our initial hypotheses within the framework of the Spanish wine sector:

Hypothesis 1.1: Technological capabilities are positively related to performance for wineries belonging to BGs.

Hypothesis 1.2: Technological capabilities are positively related to performance for independent wineries.

### **3.2. Information and Performance**

Information is a fundamental capability given its connection to knowledge and learning (Stiglitz, 1975; 2014). Information is disseminated and implemented within the organization; it is the basis of collective learning and enriches employees' skills and efficiency. It is also a strong predictor of product innovation and performance as well as a precursor of competitive advantage (Gupta *et al.*, 2009; Owens *et al.*, 1997).

The ability to manage information and information technologies has become a critical resource that provides the basis for gaining competitive advantage and improving market performance (Jensen, 2007; Tippins and Sohi, 2003). Companies that establish better, more agile and more efficient information systems and that can simultaneously internalize information and align it with their own objectives are better positioned to reach higher levels of performance (Mithas *et al.*, 2011).

For the wine sector it is essential to enter new markets and explore new alternatives in already known markets. Therefore, establishing training systems and improving information in the organization, as a means of improving the quality of the services provided, are fundamental practices for the development and maintenance of a sustainable competitive advantage (Gil *et al.*, 2015).

A number of empirical studies have been conducted confirming that companies that consider the resource of information more broadly, and manage it better by incorporating information technologies, achieve greater performance and competitive advantage over their rivals. For example, in the agri-food industry a positive relationship has been found related to the link between different types of information, such as, a focus on information about consumers, information on strategic planning and making decisions, and information about suppliers and distribution. All these have a positive effect on market and financial performance, giving added value and a return on investments and exports (Carrerese *et al.*, 2011; Mamaqui *et al.*, 2009; Jiménez and Sanz, 2006).

BGs generally have a greater endowment of resources and information capabilities as a result of their development and growth processes, which in many cases stems from their size and the existence of economies of scale (Fisman and Khanna, 2004; Leff, 1978). Consequently, we formulate the following hypotheses:

Hypothesis 2.1: Information and knowledge capabilities are positively related to performance for wineries belonging to BGs.

Hypothesis 2.2: Information and knowledge capabilities are positively related to performance for independent wineries

### **3.3. Competitive Strategies and Business Performance**

The company, in an effort to survive and succeed, projects itself externally by defining its strategy, its decisions on which products to offer and in which markets to participate (Rumelt, 1987; Ansoff, 1965). Its values, vision and business mission shape its market position and strategy (Brenes, 2014).

When one speaks of strategy with regard to business, Porter (1980; 1985) and the Positioning School clearly maintain supremacy in papers and textbooks (Campbell-Hunt, 2000). This approach is still used in empirical studies of business strategy and performance (Brenes, 2014; Ortega, 2010; Camisón, 2004; Spanos and Lioukas, 2001; Campbell-Hunt, 2000).

In the case of wine companies, we will evaluate the different kind of strategies: cost, differentiation, and focus on a given segment.

With regard to Porter's strategies in the wine sector, Newton *et al.* (2015) argue that SMEs tend to be more proactive and have a greater facility to develop new products and markets, focusing on differentiation, where they achieve better financial results than companies that are geared towards costs.

Taking into account the elements that allow for the creation and evolution of BGs, we point out that wineries belonging to them achieve economies of scale and scope, are large, and have a better relationship to market distribution than independent wineries (Vázquez, 2011; Fisman and Khanna 2004; Guillen, 2000; Leff, 1978).

As a result, we propose the following hypotheses:

Hypothesis 3.1: Independent wineries develop a strategy of differentiation in order to improve their performance.

Hypothesis 3.2: Wineries belonging to BGs develop a cost strategy, taking advantage of the group's economies of scale and better relationships with commercial distributors.

## 4. Methodology

### 4.1. Sample

To carry out the study, a sample of companies has been made from the SABI (System of Analysis of Iberian Balances) database –those under the NACE section 11.02– and the registration of the Denominations of Origin (2015).

From this selection a composite sample was obtained of 3,286 companies, nonetheless and following previous studies of Spanos and Lioukas (2001), the companies with lost data were eliminated. These were companies for which it was not possible to obtain the electronic mail addresses or telephone numbers, as well as those belonging to the same entity, but having different brands and no formal business structure. After this process, the final population size was 2,413 companies. The survey consisted of 12 questions about company situation, 16 questions about resources and capabilities, business environment, strategy and results, and 18 questions about ownership type, business model, billing and financing.

The questionnaire was sent by email, with a telephone reminder a month later to those companies that had not replied. The process lasted four months, from February to May 2016. Finally, 339 valid responses were obtained, representing 14 % of the population, a valid percentage for industrial sectors according to Baruch and Holtom (2008). The sample error was determined from the standard error of the mean, calculated for the case of finite populations; the error committed for a confidence level of 95.5 % and  $p = q = 0.5$  was 5.0 %.

Tables 1, 2 and 3 show the data of the companies that have answered and its relation to the whole of the database used.

TABLE 1

### Wineries in Spain, According to the Number of Employees (Dec. 2015) and their Percentages, Compared to the Wineries in the Sample

Source and type of company	Micro < 10	Small 10-49	Medium 50-249	SMEs 0-250	Larger than 250	Total	
SABI data	Number of wineries	2,019	351	55	2,425	4	2,429
	% of total	83.20	14.50	2.30	99.80	0.20	100
Survey data, % of total	79.20	18	2.70	100	0	100	

Source: Own elaboration.

In Table 2, the number of wineries that have participated is referenced, according to their membership in the business group. The final result collected in the survey of 7.4 % is in the line of 10 % of the population reviewed in SABI, and therefore is considered representative of it.

Table 3 presents the volume of wine produced by the wineries that have answered the survey and is referenced to the national total and its differentiation between group and independent winery. In the same Table it can be seen that the wineries that have participated in the study contribute to 17 % of the total bottled wine in Spain.

**TABLE 2**  
**Answers Received According to the Type of Winery, Belonging to a Business Group or Independent Winery**

Type of winery	Responses	% of total
Group	25	7.4
Independent winery	314	92.6

Source: Own elaboration.

**TABLE 3**  
**Volume of Wine Produced in Spain, and Volume Produced by the Type of Winery According to the Study and its Membership in a Business Group**

Type of Winery and Volume	Responses	No Response Given	Volume in Thousands of Liters	Percentage (%)
Winery belonging to a group	23	2	338,735	51.40
Independent winery	282	32	319,871	48.60
Total responses	305	34	658,606	100.00
Volume produced in Spain in 2015 (OEMV, 2016)			3,770,000	
Percentage of total volume of wine produced by wineries what participated in the study				17.47

Source: Own data and OEMV (2016).

#### **4.2. Variables**

We limit our study to the differentiating factors of competitiveness between independent companies and companies belonging to BGs in the Spanish wine sector. After an extensive literature review, we have designed a survey with subjective data for business performance as well as resources and capabilities, according to Li and Liu (2014), Ortega (2010), Song *et al.* (2007), and Spanos and Lioukas (2001).

The authors have used scales used and validated by previous studies that focused on resources and capabilities, competitive environment, business strategy and performance. In order to verify its applicability to the Spanish wine sector, a subsequent validation of the survey was carried out among entities, experts and managers connected to the industry.

The scale of technological capabilities consists of four indicators assessed with a five-point Likert scale: 1) Efficient and effective production department, 2) technological current equipment and facilities, 3) economies of scale, and 4) advantages in experience. The questions were adapted from Ortega (2010) and Spanos and Lioukas (2001).

The scale of information capabilities consists of ten indicators assessed with a five-point Likert scale: 1) Market information, 2) customer information, 3) information on suppliers, 4) use of information to plan strategy, 5) making contracts and alliances with traditional distributors, 6) creating agreements and alliances with suppliers, 7) information about direct competitors, 8) consumer information, 9) ICT (an information and communications technology), and 10) implementation of agreements and alliances with large distributors. The questions were adapted from Carresi *et al.* (2011), Mamaqi *et al.* (2009) and Jiménez and Sanz (2006). In both, the companies evaluate their position with respect to their competitors and the values of the scale are rated from 1 “much weaker than the competitor” to 5 “much stronger than the competitor”.

The scale of business strategy consists of 22 indicators (Robinson and Pearce, 1988) assessed with a five-point Likert scale. Companies evaluate themselves with respect to different business development efforts from 1 “not considered” to 5 “major, constant emphasis”. This model was utilized in empirical studies applying the principal component analysis (Ortega, 2010; Camisón *et al.*, 2007; Spanos and Lioukas, 2001; among others), as in our case. There are 22 topics that Robinson and Pearce (1988) enumerate, adapted to the reality of the wine sector after conferring with experts.

The performance scale consists of seven indicators assessed with a five-point Likert scale: 1) Sales volume in €, 2) growth in sales volume in €, 3) market share (%), 4) growth in market share, 5) net profits, 6) profit margin, and 7) return on own capital. The questions were adapted from Spanos and Lioukas (2001) and Ortega (2010), where companies evaluate their position with respect to their competitors in terms of market position and profitability in the last three years, and where the values of the scale are from 1 “far below the competitor” to 5 “far above the competitor”.

### 4.3. Model

The model that is going to be developed tries to test the six hypotheses. In other words, whether or not technological and information capabilities explain the business performance, both for the wineries belonging to the business groups and for the independent ones. And whether or not strategic orientation can explain why the business performance is different for groups, as can be seen in cost orientation, than it is for independents, as can be seen with differentiation.

In order to determine the relationships between resources and capabilities, the strategy used by the company, and business performance, we will use the hierarchical regression method (Li and Liu, 2014; Ortega, 2010; Rubio Bañón and Aragón, 2009). In the first stage, the analysis is determined for the wineries belonging to BGs, and then, for the independent wineries.

#### 4.3.1. Dependent Variable

The dependent variable is business performance. The objective of this paper is to test if business performance is determined by technological capabilities, information capabilities and strategic positioning, and at the same time, the variation in performance when the company does or does not belong to a BG.

As in the previous literature evaluating the global importance of each dimension, a factor analysis has been carried out, extracting a component that determines how each company conceives of its performance. The extracted factor explains 66.78 % of the variance, with a KMO = 0.84, and Cronbach's alpha = 0.917, as Table 4 illustrates.

TABLE 4  
**Factor Analysis: Business Performance**

Variables	Alpha without item	Component	Communality
Profitability. Net profits	0.902	0.836	0.698
Market position. Sales volume €	0.903	0.828	0.686
Market position. Market share %	0.904	0.820	0.672
Market position. Growth in market share	0.903	0.820	0.672
Market position. Growth in sales volume €	0.905	0.813	0.661
Profitability. Profit margin	0.906	0.807	0.652
Profitability. Return on own capital	0.908	0.796	0.634
Cronbach alpha of the whole scale	0.917		
% Total explained variance	66.783		
K.M.O.	0.840		
	$\chi^2$	2020.509	
Barlett Test:	gl	21	
	sig	0.000	

Source: Own elaboration.

#### 4.3.2. Independent Variables

Technological capabilities, information capabilities and competitive strategies have been set as independent variables.

- **Technological Capabilities**

The four indicators have been reduced using the factor analysis methodology. In this case, we ended up with one factor that accounts for 57.9 % of the variance, KMO of 0.71, and Cronbach's alpha = 0.751, as Table 5 illustrates.

TABLE 5  
**Factor Analysis: Technological Capabilities**

Variables	Alpha without item	Component	Communality
Efficient and effective production department	0.613	0.864	0.746
Current technological equipment and facilities	0.709	0.741	0.549
Economies of scale	0.715	0.725	0.525
Advantages in experience	0.728	0.704	0.496
Cronbach alpha of the whole scale	0.751		
% Total explained variance	57.914		
K.M.O.	0.713		
	$\chi^2$	339.887	
Barlett Test:	gl	6	
	sig	.000	

Source: Own elaboration.

- **Information Capabilities**

As in the previous case, the ten indicators used to measure this variable have been reduced using factor analysis methodology, obtaining a single factor that explains 59.3 % of the variance, with a KMO of 0.91, and Cronbach's alpha = 0.921, as Table 6 illustrates.

TABLE 6  
Factor Analysis: Information Capabilities

Variables	Alpha without item	Component	Communality
Market information	0.908	0.835	0.698
Customer information	0.909	0.830	0.689
Information on suppliers	0.910	0.816	0.665
Use of information to plan strategy	0.911	0.795	0.633
Making contracts and alliances with traditional distributors	0.911	0.773	0.598
Creating agreements and alliances with suppliers	0.912	0.766	0.586
Information about direct competitors	0.914	0.755	0.570
Consumer information	0.914	0.750	0.563
ICT (an information and communications technology)	0.917	0.697	0.486
Implementation of agreements and alliances with large distributors	0.919	0.671	0.451
Cronbach alpha of the whole scale	0.921		0.921
% Total explained variance	59.372		59.372
K.M.O.	0.915		0.915
	$\chi^2$	1989.251	
Barlett Test:	gl	45	
	sig	0.000	

Source: Own elaboration.

- **Competitive Strategies**

One of the models most commonly used to try to capture the typology of business strategy is the scale proposed by Robinson and Pearce (1988), and used by Ortega (2010), Camisón *et al.* (2007), Simon and Marqués (2005) and Spanos and Lioukas (2001), among others. The scale, developed in 1988, aims to expand the generic strategies of Porter and Strategy (1980) by facilitating their characterization in the empirical terms of business studies. Five components have been extracted: efficiency, marketing, innovation and development of new products, costs, and segmentation. As a whole, these explain 60.66 % of the variance. The results of the different reliability statistics show values within the limits of acceptability, Cronbach's alpha = 0.875 and KMO = 0.862, as Table 7 illustrates.

TABLE 7  
**Factor Analysis: Strategy of the Firm**

Variables	Alpha without item	Comp. 1	Comp. 2	Comp. 3	Comp. 4	Comp. 5	Communality
Extremely strict product quality control procedures	0.870	0.704	0.059	0.100	-0.243	0.136	0.587
Specific efforts to insure a pool of highly trained experienced personnel	0.866	0.665	0.278	0.207	-0.023	-0.005	0.562
Continuing, overriding concern for lowest cost per unit	0.871	0.649	0.062	0.132	0.323	-0.048	0.549
Major effort to insure availability of raw materials	0.870	0.643	0.254	-0.071	0.113	0.025	0.496
Extensive customer service capabilities	0.871	0.565	0.015	0.368	-0.149	-0.043	0.479
Maintaining high inventory levels (disregard the derivative of the aging of the product)	0.870	0.535	0.189	0.007	0.250	0.260	0.452
Concerted effort to build reputation within industry	0.865	0.518	0.240	0.384	-0.269	0.293	0.632
Building brand identification	0.867	0.489	0.400	0.236	-0.233	0.106	0.521
Developing and refining existing products	0.867	0.474	0.207	0.322	-0.210	0.306	0.510
Promotion advertising expenditures above the industry average	0.869	-0.012	0.826	0.148	0.158	0.043	0.732
Major expenditure on production process oriented R&D	0.865	0.281	0.766	0.063	0.092	0.130	0.695
Innovation in marketing techniques and methods.	0.866	0.204	0.742	0.226	-0.058	0.015	0.647
Strong influence over distribution channels	0.865	0.299	0.659	0.223	0.129	0.057	0.593
Innovation in manufacturing process	0.864	0.385	0.443	0.341	0.005	0.253	0.525
New product development	0.868	0.164	0.241	0.790	0.127	-0.093	0.733
Broad product range	0.870	0.207	0.240	0.727	0.262	-0.273	0.772
Emphasis on the manufacturing of speciality products	0.869	0.139	0.200	0.680	-0.209	0.247	0.627
Products in higher priced market segments	0.872	0.143	0.196	0.471	-0.438	0.404	0.635
Pricing below competitors	0.882	-0.075	0.105	0.060	0.796	0.129	0.670

TABLE 7 (cont.)  
**Factor Analysis: Strategy of the Firm**

Variables	Alpha without item	Comp. 1	Comp. 2	Comp. 3	Comp. 4	Comp. 5	Communality
Products in lower priced market segments	0.879	0.072	0.125	-0.023	0.786	0.086	0.647
Narrow, limited range of products	0.879	0.203	0.027	-0.249	0.056	0.773	0.705
Only serve specific geographic markets	0.876	-0.009	0.106	.158	.177	.715	0.579
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:		0.875					
% Total explained variance		60.663					
K.M.O.		0.862					
Bartlett Test							
$\chi^2$		2557.814					
gl		231					
significance		0.000					

Source: Own elaboration.

- **Efficiency Strategy**

Nine indicators of the twenty-two defined by Robinson and Pearce (1988) are part of this first extracted component and explain 30.76 % of the variance. This component encompasses the factors that lead the company to take extreme care with the products offered to the customer and ensure implementation of efficient processes.
- **Marketing Strategy**

In this second component, we cite five test indicators that explain 10.34 % of the variance. In these areas, business executives demonstrate their concern for and inclination toward the control of different marketing techniques as a strategy to achieve their business goals.
- **Development of New Products Strategy**

This extracted component explains 8.10 % of the variance and consists of four test indicators: development of new products, a wide range of products, emphasis on special products and high price segment products.
- **Orientation at Low Price Strategy**

This factor can be extracted via two indicators with a total explained variance of 6.45 %. This indicates a clear orientation toward offering products of lesser perceived benefit, lower price relative to competitors.
- **Differentiation through Market and Product Specificity Strategy**

This component refers to those companies that choose to compete through a strategy of targeting very few products to a very specific market segment more oriented toward high prices. The total variance explained in this case is 5.01 %.

#### *4.3.3. Control Variables*

Numerous studies refer to the influence that elements such as the size of the company and degree of rivalry can have on performance. For this reason, the majority of the studies incorporate control variables that help to understand business performance (Ortega, 2010; Rubio Bañón and Aragón, 2002). In this study, we measured company size in terms of assets with seven categories with values ranging from less than 400 thousand euros to more than 20 million euros. Rivalry level measures were taken according to the scale used by Spanos and Lioukas (2001) and Ortega (2010). On this issue, the manager of the company evaluates competition levels using a five-point Likert scale addressing product features, promotional strategies, access to distribution channels and customer service strategy. The variable was extracted through factorial analysis, a factor that explains 69.2 % of the variance with a KMO of 0.80 and Cronbach's alpha of 0.85, as Table 8 illustrates.

TABLE 8  
Factor Analysis: Internal Rivalry

Variables	Alpha without item	Component	Communality
Promotional strategies among rivals	0.785	0.874	0.768
Service strategies to customers	0.808	0.843	0.711
Access to distribution channels	0.812	0.839	0.709
Product characteristics	0.846	0.769	0.599
Cronbach alpha of the whole scale	0.850		
% Total explained variance	69.266		
K.M.O.	0.805		
	$\chi^2$	574.787	
Barlett Test:	gl	6	
	sig	.000	

Source: Own elaboration.

#### 4.3.4. Proposed Model

In order to test for the suggested hypothesis, this paper proposes the following model:

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

where  $Y_j$  is the performance value for firm “j”;  $\beta_0$  the constant of the function or its cut-off with the origin of coordinates.  $\beta_1$  and  $\beta_2$  are the coefficients of the control variables: internal rivalry ( $Cr$ ) and assets ( $Ca$ ).  $\beta_3, \beta_4, \beta_5, \beta_6, \beta_7$  are the coefficients of the competitive variables of the companies: efficiency ( $Ee$ ), marketing ( $Em$ ), new products ( $Ep$ ), low price ( $Eb$ ) and segment specificity ( $Es$ ).  $\beta_8$  and  $\beta_9$  are the coefficients of the company’s resources and capabilities, both technological ( $Rt$ ) and information-based ( $Rm$ ). Finally,  $e_i$  is the error or residue of the proposed model.

A hierarchical regression methodology has been used in order to test for the hypothesis (Hair *et al.*, 2009, p. 172) using the statistics package SSPS v20.

The variables chosen to construct the multivariable linear correlation appear in Table 9, with mean values, standard deviation and correlation matrix. The study evaluates the possible multicollinearity between the variables through FIV and condition index; in both cases, the values are lower than ten as recommended by the literature (Hair *et al.*, 2009, p. 209).

TABLE 9  
Correlation Matrix, Mean and Standard Deviation

	Mean	SD	Cr	Ca	Ee	Em	Ep	Eb	Es	Rt	Rm	Y
(1) Internal Rivalry (Cr)	0.00	1.00	1									
(2) Assets (Ca)	2.38	1.30	0.100	1								
(3) Efficiency Strategy (Ee)	0.00	1.00	0.190**	0.133*	1							
(4) Marketing Strategy (Em)	0.00	1.00	0.072	0.300**	0.000	1						
(5) Innovation and development of new products Strategy (Ep)	0.00	1.00	0.143*	0.133*	0.000	0.000	1					
(6) Low Price Orientation Strategy (Eb)	0.00	1.00	-0.087	0.187**	0.000	0.000	0.000	1				
(7) Differentiation market and product specificity Strategy (Es)	0.00	1.00	0.017	-0.026	0.000	0.000	0.000	0.000	1			
(8) Technological Capability (Rt)	0.00	1.00	0.120*	0.434**	0.306**	0.448**	0.074	-0.014	0.036	1		
(9) Information Capability (Rm)	0.00	1.00	0.125*	0.440**	0.276**	0.568**	0.171**	0.105	0.049	0.574**	1	
(10) Performance (Y)	0.00	1.00	0.037	0.360**	0.251**	0.449**	0.226**	0.048	0.025	0.550**	0.562**	1

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

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

Source: Own elaboration.

## 5. Results

This paper analyzed wineries that belong to a group, introducing control variables, then strategy variables, and finally, technological and information capabilities. The process was repeated for independent wineries. Tables 10 to 12 show the results of the tested model.

The values of adjusted  $R^2$  and regression coefficients, are in line with similar studies (Ortega, 2010; Rubio Bañón and Aragón, 2009) and indicate that the built model has enough elements to suggest a series of compelling conclusions.

### 5.1. Model with Wineries Belonging to BGs

As Table 10 illustrates, the full model reaches an adjusted  $R^2$  of 0.539, and in it, the Technological Capability ( $\beta = 0.725$ ;  $p < 0,05$ ) is the most important component. In strategic variables Marketing Strategy ( $\beta = 0.491$ ;  $p < 0.2$ ) and Efficiency Strategy ( $\beta = 0.468$ ;  $p < 0.2$ ) maintain the greatest weight. The results partially corroborate the hypotheses. Hypothesis 1.1 and 3.2 are confirmed, but we have to reject hypothesis 2.1 and therefore state that information capabilities do not have a positive effect on higher performance.

TABLE 10  
Regression Analysis for Wineries Belonging to Groups

Variables	MODEL FOR WINERIES BELONGING TO A GROUP					
	Control Variable Model		Control Variable Model + Strategy		Full Model	
	$\beta$	Student's T-test	$\beta$	Student's T-test	$\beta$	Student's T-test
(1) Internal Rivalry	0.566	3.097***	0.335	1.332	0.372	1.670 <sup>^</sup>
(2) Assets	0.302	1.652 <sup>^</sup>	0.344	1.728 <sup>^</sup>	0.010	0.041
(3) Efficiency Strategy			0.578	1.782 <sup>^</sup>	0.468	1.554 <sup>^</sup>
(4) Marketing Strategy			0.400	1.226	0.491	1.405 <sup>^</sup>
(5) Innovation and Development of New Products Strategy			0.134	0.554	0.177	0.730
(6) Low Price Orientation Strategy			0.051	0.180	0.239	0.904
(7) Differentiation Market and Product Specificity Strategy			0.164	0.721	0.299	1.396
(8) Technological Capability					0.725	2.347**
(9) Information Capability					-0.268	-0.955
$R^2$		0.434		0.624		0.758
Adjusted $R^2$		0.367		0.405		0.539
Change in $R^2$		0.367		0.038		0.134

\*\*\*\* $p < 0.001$ ; \*\*\* $p < 0.01$ ; \*\* $p < 0.05$ ; \* $p < 0.1$ ; <sup>^</sup> $p < 0.2$ .

Source: Own elaboration.

### 5.2. Model with Independent Wineries

As Table 11 illustrates, the full model reaches an adjusted  $R^2$  of 0.447, and in it, a change occurs in favor of the resources Technological Capability ( $\beta = 0.348$ ;  $p < 0.001$ ) and Information Capability ( $\beta = 0.243$ ;  $p < 0.01$ ) that present higher beta values. In strategy both are practically equal with Innovation Strategy ( $\beta = 0.163$ ;  $p < 0.05$ ) and Marketing Strategy ( $\beta = 0.181$ ;  $p < 0.05$ ).

The results corroborate the initial hypothesis for independent wineries, as both hypothesis 1.2 and 2.2 are accepted: information and technological capabilities explain business performance. Hypothesis 3.1 is also accepted, meaning that an orientation toward Differentiation Strategy and New Products Strategy is an explanatory element of business performance.

TABLE 11  
Regression Analysis for Independent Wineries

Variables	MODEL FOR INDEPENDENT WINERIES					
	Control Variable Model		Control Variable Model + Strategy		Full Model	
	$\beta$	Student's T-test	$\beta$	Student's T-test	$\beta$	Student's T-test
(1) Internal Rivalry	-0.039	-0.659	-0.091	-1.579 <sup>^</sup>	-0.129	-2.463 <sup>^</sup>
(2) Assets	0.336	5.669 <sup>****</sup>	0.156	2.591 <sup>^</sup>	0.000	-0.003
(3) Efficiency Strategy			0.217	3.782 <sup>****</sup>	0.060	1.103
(4) Marketing Strategy			0.420	7.160 <sup>****</sup>	0.181	2.831 <sup>**</sup>
(5) Innovation and Development of New Products Strategy			0.192	3.388 <sup>***</sup>	0.163	3.142 <sup>**</sup>
(6) Low Price Orientation Strategy			0.031	0.540	0.035	0.658
(7) Differentiation Market and Product Specificity Strategy			0.041	0.738	0.026	0.516
(8) Technological Capability					0.348	5.230 <sup>****</sup>
(9) Information Capability					0.243	3.329 <sup>***</sup>
$R^2$		0.112		0.324		0.471
Adjusted $R^2$		0.105		0.302		0.447
Change in $R^2$		0.105		0.197		0.145

\*\*\*\* $p < 0.001$ ; \*\*\* $p < 0.01$ ; \*\* $p < 0.05$ ; \* $p < 0.1$ ; <sup>^</sup> $p < 0.2$ .

Source: Own elaboration.

The differential analysis between wineries belonging to groups and independent wineries presents interesting conclusions, as indicated in Table 12. Among the control variables, Internal Rivalry is positively correlated to performance for groups and negatively for independent wineries. With respect to strategic elements, Marketing Strategy is the element that is present in explaining the results for both groups and independent wineries. Next, the Efficiency Strategy prevails among the groups, and the New Products strategy for independent wineries. In terms of resources and capabilities, in independent wineries there is a positive relationship between both and performance, with technological capabilities being the most relevant. The technological capabilities are more important for groups than for independent wineries. However the information capability is scarcely relevant for groups and very relevant for independent wineries.

TABLE 12

**β and Student's T-test Data between Wineries Belonging to a Group and Independent Wineries**

Variables	Wineries Belonging to a Group		Independent Wineries	
	β	Student's T-test	β	Student's T-test
(1) Internal Rivalry	0.372	1.670 <sup>^</sup>	-0.129	-2.463 <sup>^</sup>
(2) Assets	0.010	0.041	0.000	-0.003
(3) Efficiency Strategy	0.468	1.554 <sup>^</sup>	0.060	1.103
(4) Marketing Strategy	0.491	1.405 <sup>^</sup>	0.181	2.831 <sup>**</sup>
(5) Innovation and Development of New Products Strategy	0.177	0.730	0.163	3.142 <sup>**</sup>
(6) Low Price Orientation Strategy	0.239	0.904	0.035	0.658
(7) Differentiation Market and Product Specificity Strategy	0.299	1.396	0.026	0.516
(8) Technological Capability	0.725	2.347 <sup>**</sup>	0.348	5.230 <sup>****</sup>
(9) Information Capability	-0.268	-0.955	0.243	3.329 <sup>**</sup>

\*\*\*\*p < 0.001; \*\*\*p < 0.01; \*\*p < 0.05; \*p < 0.1; <sup>^</sup>p < 0.2.

Source: Own elaboration.

## 6. Conclusions

The results of the study show that resources, capabilities and strategy are compatible (Spanos and Lioukas, 2001) and explain business performance while simultaneously revealing that resources and capabilities influence strategies (Barney, 2011; Rumelt, 1987), or that strategies are chosen based on the resources the company controls (Barney *et al.*, 2011). This idea is evidenced through the positive correlation between Information Capability and Marketing Strategy, or between Efficiency and Marketing Strategies and Technology Capabilities. This correlation offers

evidence that businesses orient their strategy in one direction or another depending on the resources they control, and that they in turn develop their resources and capabilities based on these strategies (Barney *et al.*, 2011). These results would be in line with the concept of strategy formation defined by Barney *et al.* (2011) when considering the same ability to implement the strategy as a resource capable of providing a sustainable strategy advantage.

Regarding the difference between groups and independent wineries, the conclusions of the study seem to indicate that groups compete mainly in Marketing and Efficiency and strategies are more important than resources and capabilities. Overall, the strategic factors that explain business performance present a complex picture because all forms of competition seem to lead to a positive result, though to varying degrees. However, the efficiency factor is important for groups, but not for independent wineries, suggesting that groups focus mainly on controlling factors of production, which are highly correlated with a cost orientation based on Porter's model (Suarez, 1994). Competing in marketing is the predominant strategy for both types of wineries. Conversely, the results of independent wineries are better explained by resources and capabilities than by strategic positioning. The endowment of resources is a fundamental element when it comes to competing, supporting the general idea that independent wineries have less availability of resources. This compels independent wineries to situate themselves in market segments with higher added value where they can mask lower efficiency, making the New Products Strategy more important than the Efficiency Strategy.

Among BGs, Technological Capability explains the performance but information capability does not have any importance in explaining the result. Resources must be scarce, relevant, durable, non-transferable and non-replicable in order to obtain a competitive advantage (Grant, 2010), and in this case it does not seem that these conditions are met in Information Capability. On the other hand, independent wineries, being smaller and free from the urgent need to maintain large structures and therefore sell large quantities, can reject sales in large-scale distribution, directing their marketing strategies toward new products and greater differentiation. In this case, resources are important because they are not available to all companies (Cai *et al.*, 2016), which hinders the existence of state-of-the-art technology and blocks the efficiency with which the company can compete in independent wineries. Due to their smaller structure, the information flow is slower, turning information capabilities into a key resource that facilitates better performance and compensates for its greater difficulty in accessing the market (Guillen, 2000).

## **7. Limitations of the study and applicability**

This paper analyzes how resources and capabilities interact with business strategies and how both explain business performance. The analysis has focused on the wine sector and has examined whether the situation, performance and importance differ according to whether the winery belongs to a BG or functions independently. The results show that RBV and strategic positioning do explain business results,

confirming previous studies (Ortega, 2010; Spanos and Lioukas, 2001). Whether resources and capabilities or strategy are more important depends on whether the winery is independent or belongs to a BG. The relation between group and size still remains to be studied in future works. Although in our study we have taken the volume of assets as a control variable that was not explanatory, some authors (Bamiatzi *et al.*, 2014; Iacobucci and Rosa, 2005) consider group size and growth to reflect a single reality that results from a business development process. It is impossible to not mention the crisis conditions that have shaken Western Europe since 2008, which have especially limited financing opportunities. A lack of financing limits the resources available to the company -technology, information systems, and others- placing greater stress on resources and capabilities to explain business performance. It is necessary to point out that members of BGs have greater facility in financing given the possibility of appealing to the group. When financing is not a limiting resource, business strategy has greater importance in achieving business objectives. Another limitation is the sample size: in spite of representing the reality of the sector, in terms of percentages of companies belonging to groups and independent wineries, a more extensive survey would have permitted better statistical parameters.

Examining the factors of competitiveness, this study does not determine which of the two - strategic position - provides a better explanation of business performance, and research remains open on this issue.

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