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Review Article

Italian Wineries' Strategies and Behaviors to Accomplish a Competitive Position on the International Markets

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Abstract

Understanding success in a highly diversified context is very difficult. While wine and wineries could be different relatively to a high number of factors, synthesis is a good exercise to depict main determinants of market success. Our analysis, based on an original database, highlights the importance management and organization first of all, wines appellations and certifications (organic, product traceability, ISO 9000, etc.), the choice of the appropriate path to approach international markets (foreign importers rather than national exporters), and the importance of the investments in communication and winery reputation in determining the competitive position of the wineries.

Introduction

European wine industry has a global dimension. The European Union (EU), in fact, is a world market leader in terms of:

Production: Accounting for approximately 45% of the world's wine growing areas and on average almost 60% of world wine production;

Consumption: Accounting for about 60% of world wine consumption;

Trade: Export and import of wine [1].

Within Europe, the Italian is the biggest market for wine, and it is the one expected to grow most for the next years [2]. The trends of EU wine production and consumption are an increase in quality wine and a decrease in table wine volumes [3]. The challenges are the loss of internal and external market share and the decreasing trend in consumption, which is caused by: historical high level of consumption in the major producing countries; changes in way of life (urbanization, time for cooking and types of meals, etc.); quality preference versus quantity; competition with other drinks; public health policy.

The consequences for wine market are that in Europe, especially in Italy, production is bigger than consumption plus export [1]. The consequence is a reduction of wine price, thus, producers' income. The European Commission forecasts an additional decrease in consumption and a slight decrease in production, and also a slight increase in exports. Meanwhile, the broad-spectrum forecast is an increase in production surplus, which has to be reduced by diminishing the quantity produced and by increasing the exports. The reduction should occur, possibly, trying not to affect (or possibly increasing) producers' income. Hence, there is the need to orient wineries towards high quality production.

The present work aims to describe and explain the factors influencing the competitive position of several Italian wineries into such a difficult scenario. The data used for the present analysis belong to a census of the Apulian wineries reported in the most important Italian oeno-gastronomic guides, which are quality wines producers. Apulia, in fact, is the largest wine producer among the Italian regions, which produces about one sixth of the national volume and its production is comparable to the one of the entire Australia or Germany. [4] Particular interest should be given to this case because it looks to a region where table wines regard the 88% of the total volume and only the remaining part regard quality wines.

The present study gives fundamental guidelines to managers and policy makers in order to let them focus on the leverages and strategies that need to be used to recover Italian wineries from low income, stocks problems, and low prices for grape producers.

Literature Review

The lack of data at winery level makes the analysis of wineries' competitiveness a really difficult achievement. In fact, only few studies in literature attempted to understand the key factors of success and competitiveness of wineries.

Mora [5], using a series of case studies belonging to the Bordeaux region, showed that only by consolidating the production, increasing the sales forces efforts, reducing the number of intermediaries between production and consumption, maintaining a niche position on the global market it is possible to improve French wineries' competitiveness. Pike and Melewar [6], comparing small independent producers selling the product on the local and the global market, showed that French wineries have to strengthen their brand image, and ensure a superior level of quality in order to gain in consumer confidence in order to regain competitiveness on the global market.

Public relations play an important role in the selling/marketing activity of the winery. Many decisions, in fact, are based on incomplete and costly information; as a consequence, the possibility to have mechanisms through this information is produced and made available is very important. Most prominent, among such mechanisms, is the role of relationship manager and intermediaries, who foster the convergence of supply and demand and facilitate the firm towards better market performances [7].

Certifications, appellations and price may be considered as signals for wine quality and proxies for wineries' reputation [8]. When there is asymmetric information the true quality of a product is not known

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before the purchase, and consumers may rely on a firm's reputation to form expectations on the product quality. [9,10].

Social conventions, territorially rooted, are the main factor affecting the decision making related to success and innovation for small family firms as described by [11] Gilinsky et al. in a study about the Tuscan and Californian family wineries which analyses incentives and barriers to innovate under the influence of location and the managers' perception of the context.

The success and innovation seeking behaviour depends upon co-location linkages inside a wine cluster between customers, suppliers, grapes growers, industry associations, centres for research and all other actors involved in wine industry. Policies should stimulate the process for innovation by shaping the parameters, within which opportunities are opened or constrained, but in some cases, as shown by Mytelka [12] for the wine cluster of Niagara Peninsula in Canada, policies promoted by growers boards and government distribution boards did not always have a positive impact on the innovation process. Weaknesses of the organisational structure are also investigated by Aylward [13], who considered the case of Australia. His study shows that, although strong efforts in developing R&D have contributed to boost export and to consolidate the international image, there are small firms unable to gain the access to innovation as larger operators have had the opportunity to do because closer to the so-called industry's R&D 'epicentre'. The presence of large firms within a cluster characterized by collaboration among actors, influences positively the success, as demonstrated by Taplin and Breckenridge [14] considering wineries in North Carolina.

Some authors focused on the beneficial effects of university-firms linkages at the level of specific regional cluster, as in the case cases proposed by Tiffin and Kunc [15], who have studied the wine industry of Ontario, by Giuliani and Arza [16], who have considered two wine-producing areas, in Chile and Italy, and by Giuliani et al. [17] who, in a study on three particular wine producing contexts, Piedmont (Italy), Chile and South Africa, have provided evidence that in both old and new producing countries, links between researchers and industry are the key to competitiveness in the wine industry.

Inputs from consumers, distribution firms, retailers, restaurants, caught through the firm area managers or the sales department [18] and focusing on the improvements of products and processes [19,20,14]. In the wine industry, observing the market and understanding the emerging trends, often drive innovation towards the way of communicating the product, by means of the packaging or the label [21], or towards the Meaning-Drive Innovations which comply with understated and unspoken needs of the market, by creating new social meaning and contexts of consumption of the product [22].

The present work, therefore, is an important contribution to the agri-business literature because it represents the first attempt to quantify the determinants of competitiveness of wineries that produce high quality wines. In addition, the timing of this research results perfect considering the present and maybe future positive trend of Italian high quality wines on the international markets.

Political and economic scenario

At European level, the common organization of the wine market (CMO) is one of the largest and most complex common market organizations within the CAP (Common Agricultural Policy). Measures taken by market organization can be grouped in three major categories:

Measures concerning the limitation of the grape-growing potential;

"Classic" intervention measures such as disposal and storage, and measures concerning trade;

Regulatory measures

The limitation of grape growing potential is achieved using prohibition on new plantations, a program of restructuring and conversion of vineyards, and a premium for the abandonment of production activity. Measures concerning trades are strictly connected with international trade and border protections. Since the entry into force of the Uruguay Round agreement, the reference price has been abolished as a means of border protection and customs duties have been reduced by 20% over five years. This means that Community wine market cannot longer be considered as isolated from the rest of the world. In fact it has become highly permeable to imports from non-EU countries. In such circumstances, additional quantities are attracted form outside the Union, and prices cannot increase markedly above the price of the imported products. Trade control measures use distillation, which is an important issue for the next CMO.

Regulatory measures concern all the oenological processes, provisions for the names of geographical and quality indications, and the rules about labeling. Basically, community legislation distinguishes between two main categories of wine: quality wines produced in specific regions and table wines. It must be recalled that like the other manufacturing sectors, the wine industry benefits from agro-environmental measures and other structural measures provided by rural development policies, including the preservation of the countryside.

At national level, since 1963, the Italian legislation adopted the EU wine legislation designed around the French concept of terroir. Recognizing the essential role of soil and climate in wine production, the European regulation intended to support the National government intervention on quality based classification of wine. With the adoption of Controlled Denomination of Origin (DOC or in English CDO) the Italian government pursued two main goals: to protect the identity of quality wines of particular regions from possible frauds and, to facilitate commercialization through wine classification and brand recognition.

Nowadays Italian wines are classified within three main categories: table wine, wine of quality produced in identifiable regions (VQPRD) (Quality Wines Produced in Determined Regions (QWPDR) and special wine. The first category usually refers to a standardized and not much differentiated product; the second category is based on geographic criteria; the third is based on wine type, such as spumanti (sparkling wines), liqueur wine, and aromatized wine. Within the category of VQPRD we find the COD, CGOD (Controlled and guaranteed origin denomination), then we have GI (Geographic indication) and table wines. The first two appellations are earned respecting codified winemaking criteria. The attribution

of these appellations depends on strict regulations that establish the production area, the grape varieties for the blend, the grape's yield, the wine/grape's yield, the alcoholic content, and label specifications (CGOD, in addition to COD regulations consider bottling rules). Wines that do not meet these strict criteria are simply named as table wines. The third appellation – GI – is a compromise between COD and table wine and it has been introduced lately to include several high-quality wines that could not be named as COD.

Finally, it is possible to conclude that EU, together with Italian government, are encouraging producers towards higher quality productions and limiting the quantities; they are orienting the wineries towards products differentiation, identity preservation rather than popular wines production and towards environment and countryside preservation.

Apulian wine sector represent one sixth of the national production, with about 7 million of liters on the national production that is about 47 millions, and it counts a number of important high quality wines. [23] Apulia, in fact, is the biggest Italian wine producer. Nonetheless, comparing it with the other Italian regions, one important aspect to be considered is the lower incidence of DOC, DOCG and IGT wine on the total. Apulia, in fact is at the 7th place for DOC/DOCG wine production, corresponding to the 5.8% of the national production, and at the 3rd place for IGT wine production, corresponding to the 9% of the national production. Therefore, Apulia is at the 1st place for table wine production. Although the low production of wines showing an appellation, it is important to highlight that during the last five years has been recorded a constant growth for the production of these wines, therefore, this progress is slowly leading to reduce this deficiency [24].

The commercial balance is definitively positive. Exportations are oriented mainly towards European market: first of all, Germany, where in the last two years exportation increased by 30% either in quantity and in value. The second is UK that sells about the 88% of Apulian wine via super-markets. Swiss market is interesting because shows a high demand of traditional products. Danish and Scandinavian market registered excellent performances for Apulian wine sells. Finally, North-American market shows positive potentialities [25]. Considering the market forecasts, there are considerable opportunities also for Apulian wineries to expand their sales during the next five-year period.

Theoretical framework

The present analysis refers to the concept of competitive strategy, which intends how a company competes in a business. More particularly, competitive strategy is concerned with how a company can gain a competitive advantage through a distinctive way of competing. [26] The approach used in this work is the value chain elaborated by Porter. In the chosen theoretical framework the firm is defined in the following way: "Every firm is a collection of activities that are performed to design, produce, market, deliver and support its product" [26].

Depicting all the activities that a firm engages in while doing business, the value chain model can be used as a framework to identify the positive and negative impact of those activities on the wineries' market performance.

The categories could easily interpreted as a set of activities that additively form the value and, thus, determine the market performance of a winery. The model, therefore, can be written in the following mathematical form:

$$Y = f\left(\sum_j x^p{}_j + \sum_z x^s{}_z\right) \qquad (1)$$

where Y represents the value of a firm, in this case it refers to the market performances on the foreign market; x^p and x^s represent the primary activities and support activities; j is the number of primary activities and z is the number of support activities. The theoretical framework considered, in addition, sets the direction of causality that might be ambiguous in other theoretical frameworks. In this context the primary and support activities generate value in terms of market performance on the foreign markets.

Description of the Sample

During 2010, the Department of "Agricultural Economics, Policy, Evaluation and Rural Planning" of the University of Bari conducted a census of the Apulian wineries cited in the most important Italian oeno-gastronomic guides, which is the universe of Apulian wineries producing high quality wines. The population analyzed counts 114 wineries. The total production of the interviewed wineries is about 2.8 million of hectoliters, and it corresponds to one third of the production of the Region.

The survey has been conducted via questionnaire. Wineries' entrepreneurs and management were asked to answer about organization, strategies and structure of their firm referring to the year 2010. More specifically, the questionnaire is divided in 8 sections: general structure of the enterprise (localization, legal form, human resources, sales, etc.), grape supplying, product portfolio, selling modalities, markets of destination (if grocery stores, direct sell, specialty stores, internet, etc.), prices, communication, and promotion activities.

Analyzing with more details the characteristics of the sample, the 34% of the wineries are limited liability societies, the 28% are cooperatives, the 28% are sole proprietorship, and the remaining 10% represent other forms of societies. The enterprises analyzed have a medium-small size considering that the 47% of them recorded less than 1 million Euros of sales, the 43% from 1 million to 5 million Euros, and the ones with higher sales are just the 10% (where only 1% shows sales for more than 15 million of Euros). Concerning the size of these wineries, about two thirds of them has at most 6 people employed, and the biggest has only 35.

Concerning the supplying side, two thirds of the sample processes grapes produced by the winery itself, only the 16% of them buys grapes from the same province of the winery, and the remaining 17% refers to producers outside the region. Looking at the quality of the grapes supplied, the 4% is produced with integrated pest control and the 2% with biological methods (organic agriculture). About one half of the grapes are produced with intensive growing structures, the 28% uses double curtain, and only the 23% uses single curtain. About the 80% of the enterprises has machines for harvesting or/and pruning and use those at least on 1% of the vines' area. In the average 6% of the grapes are harvested and/or pruned mechanically.

Table 1: List of activities, their relative variables and proxies.

Activities		Variables	Proxies
Primary Activities	Inbound logistics	Storage of incoming material; Grapes production or purchasing; Selection of incoming material or direct processing.	Prompt processing of grapes or not;
	Operation	The way musts are extracted; The way the maceration is carried out and controlled; The way the fermentations are carried out and controlled; The way the aging process is carried out; The way the wine is bottled or packed.	Kind of machine for the extraction; Carbonic maceration; Cold maceration; Warm maceration; Monitoring of the wine color; Use of selected or natural yeasts; Malolactic fermentation or not; Control of temperature and sugars; Use of barrels; Length of the aging period; Use of nitrogen; Kind of packaging; Bottling period;
	Outbound logistics	The way the wine is stored; Organization for the distribution of the product; The way the delivery is carried out and its management; In firm bottling or not.	Use of aluminum containers or barrels or bottles; Distribution society or internal organization;
	Marketing & Sales	Investment in communication; Promotion activities; Advertising paths (internet, fairs, magazines, oeno-gastronomic guides etc.); Labeling strategies; Actions for brand image and reputation development; Distribution paths (internet, fairs, in firm shop, etc.).	Appellation of wines; Certifications of the product and/or the process; Amount of information in the label; Presence of the wines on the oeno-gastronomic guides; Website with online shopping option; Frequency of presence to fairs and/or oeno-gastronomic events; In firm public relations.
	Service	Respect of the environment; Preservation of the traditions; Production of a healthy product; Information in the label; Indication in the label about the best way to appreciate the product.	Organic certification; Use recycled materials; Production of a typical wine; Low sulfites level Vintage; Area of production; Variety of the grapes;
Support Activities	Firm infrastructure	Legal form (sole proprietorship or society); Liquidity of the firm; Debts management; Investments management; Presence of structures that enable technologies;	Liquidity ratios; Debt ratios; ROI;
	Human Resources	Presence of oenologists; Presence of expert employees; Presence of marketing managers; Presence of selling agents.	Local exporters; Foreign importers; Distribution agency
	Technology development	Development of specific technologies for extraction of musts; For maceration; For fermentation; For the aging process.	
	Procurement	Choice of input price based or quality based; Use of organic grapes; Choice of non chemical manipulation of the musts/wines; Pricing to farmers.	

The wineries included in the sample produce mainly IGT wines (about half of the entire production), the 35% produces table wine and only the 17% of them produces DOC/DOCG wines. Moreover, two thirds of the wines are bottled. The qualitative level of the wine produced, obviously, is reflected in the price. The average of the cheapest bottle produced is about 3.6 Euros per liter, and the average of the most expensive bottle is about 12.2 Euros per liter. Looking at this information it is possible to state that those wineries, in the average, produce wines that belong to the medium-low price segment.

Concerning about commercialization, there is scarce propensity to export because about the 80% of the wine produced by the wineries analyzed is sold on the national market. The majority of the firms refer to selling agents that link the winery with Ho.Re.Ca (about the 85%) and specialty shops (75%). A high percentage of the wineries (67%) have contacts with intermediary buyers, and only the 38% of them has contacts with the great distribution. Sometimes they refer to more innovative distribution channels, like e-commerce (only the 14% of the wineries). On the other hand, in the average Apulian wineries export 30% of their product. Moreover, they refer with foreign importers for the 77%, the 23% refers to distribution societies and only the 13% has direct contact with foreign great distribution.

The investments in communication and promotion are limited; in fact more than the half of the wineries invests less than 3% of their revenues advertising. The most used communication channels are specialized magazines, web sites, fairs, and public relations. Obviously, given the dimensions of these enterprises, only few of

Table 2: Components matrix.

Variables	1	2	3	4	5	6	7	8	9	10
Coop	-0.66	0.25	-0.07	-0.08	-0.14	0.01	-0.21	-0.21	0.28	0.37
Limited liability	0.19	0.24	0.03	0.36	0.38	0.03	0.28	-0.19	-0.27	-0.49
#employees	-0.18	0.70	0.06	0.04	0.24	0.26	0.30	0.05	-0.08	0.14
Oenologist	-0.05	0.56	0.19	-0.03	-0.35	-0.02	-0.16	0.09	-0.28	-0.05
Organic	0.32	-0.46	0.44	-0.32	0.04	0.37	-0.06	-0.05	-0.12	0.06
Single curtain	0.25	0.21	-0.04	0.59	-0.31	0.10	-0.10	-0.13	0.04	0.08
Mechanic harvest	0.15	0.21	0.21	-0.35	-0.23	-0.38	0.26	0.27	0.39	-0.20
Volume produced	-0.59	0.42	-0.02	-0.08	-0.02	0.25	0.08	0.27	-0.28	0.06
#references	-0.12	0.49	0.12	0.16	0.29	-0.01	0.33	-0.32	0.32	-0.02
DOC	0.49	0.10	-0.27	0.16	-0.07	0.57	-0.16	0.18	0.33	-0.06
IGT	0.10	-0.06	0.48	-0.12	-0.05	-0.57	0.17	-0.33	-0.25	0.19
Bottled	0.83	0.05	-0.11	0.07	-0.06	-0.02	-0.04	-0.09	0.00	-0.09
Other certifications	0.19	-0.02	0.52	-0.25	0.13	0.58	0.04	-0.13	-0.01	0.31
Regional markets	-0.10	-0.22	-0.07	0.29	0.60	-0.23	0.13	0.24	0.12	0.37
Other regions	-0.53	0.14	-0.14	-0.10	-0.49	0.18	0.03	-0.22	-0.06	-0.18
Selling agents	0.26	0.58	0.04	-0.33	-0.16	-0.20	0.06	0.24	0.21	-0.06
Italian Exporters	-0.10	0.03	0.26	0.55	-0.03	0.01	0.14	0.51	0.07	0.09
Foreign Importers	0.15	0.20	0.25	-0.37	0.18	0.13	0.07	0.39	-0.28	-0.08
Foreign Distribution	0.07	0.39	0.48	0.07	0.13	0.17	-0.04	-0.33	0.29	-0.11
Foreign enoteche	0.23	0.27	0.43	0.01	0.07	-0.23	-0.53	0.10	0.19	0.09
Foreign HORECA	0.03	0.33	0.27	0.48	-0.01	-0.16	-0.48	0.03	-0.30	0.01
Advert<3%	-0.59	-0.37	0.41	0.09	0.14	0.06	-0.17	0.09	0.18	-0.39
Advert>3<6%	0.33	0.47	-0.53	-0.32	0.33	-0.09	-0.20	-0.10	-0.13	0.16
Advert>6%	0.33	-0.11	0.15	0.29	-0.58	0.04	0.46	0.02	-0.06	0.29

them invest in commercials on television, radio and generic press.

Considering the certifications, about 20% of the wineries shows ISO 9001/2000 certification, it certifies the efficiency of the productive systems and the relations with customers and suppliers. About 25% of the interviewed wineries have other kind of certifications, such as: organic product, traceability, etc. More the half of the sample is part of a consortium that should provide marketing support, but according to the interviewed people, they offer scarce services.

Empirical Investigation

The given theoretical framework, although strong, hides deep difficulties for the empirical analysis. In order to approach with a quantitative experiment, the categories representing the activities of the firm need to be identified as numerical variables. For convenience, it is possible to circumvent this problem by using proxies. The following analysis, in fact, has considered variables that might be intended as proxies of the activities of a winery (Table 1).

The empirical analysis aims to analyze the competitiveness by measuring the impact of firms' activities on consumer demand. In fact, in this work it is assumed that the value of the exports of a winery, normalized by its production, is the best indicator of competitiveness on international markets. The other variables present in the information obtained by the census are:

- Organic is a dummy that assumes values of 1 if the grapes are produced following organic production rules. A positive effect is expected because of these techniques might increase the quality the consumers perceive.

- Coop is a dummy variable that assumes value of 1 if the winery is a cooperative.

- Limited liability is a dummy variable that assumes values of 1 if the winery is limited liability society.

- #employeesspecifies the number of employees.

- Oenologist is a dummy variable that assumes value of 1 if the winery has specialized people that take care of the wine process, of the chemical and physical parameters, and of the taste.

- Singlecurtain represents the percentage of the vines pruned as single curtain; this technique leads to the highest grapes' quality and the smallest quantity.

- Mechanicharvest represents the percentage of the processed grapes that have been harvested mechanically, without allowing any selection. It is considered a resource because it represents the level of technology of the winery. Mechanized harvesting affect negatively the quality of the wine because the machines do not consent to select the best grapes, although it increases labor efficiency [27]. An ambiguous

effect of the degree of mechanization on competitiveness is expected. If the increase in efficiency is higher than the quality reduction a positive sign it is expected. A negative one otherwise.

- Volumeproduced indicates the number of hectoliters produced by the winery.

- #references indicates the number of different wine products that are produced by the winery.

- DOC represents the percentage of wine produced with DOC, DOCG appellation.

- IGT represents the percentage of wine produced with IGT appellation.

- Bottled represents the percentage of wine that is bottled; this is a proxy of the amount of high quality wine produced by the winery. It is considered a capability because it represents the ability of the producer to have a certain amount of high quality wine on the total. Only the wine that is going to be sold at a high price will be bottle because of the high incidence of bottling costs.

- Othercert is a dummy variable that assumes value of 1 if the wine produced by the winery is certified as being organic and/or traceability certification. It is considered a resource for the image and for the quality expectation about the product.

- Regional Markets represent the percentage of wine sold in the regional market.

- Other_regions represents the percentage of wine sold in the other Italian regions.

- DistSoc is a dummy variable that assumes value of 1 if the winery refers to a society that takes care of the distribution of its product.

- Italian Expoters is a dummy variable that assumes value of 1 if the winery refers to Italian exporters for selling its product abroad.

- Foreign Importers is a dummy variable that assumes value of 1 if the winery refers to foreign importers for the selling of its product abroad. The effect of those variables might be considered as the capability to choose the best path to sell on the international market.

- Selling agent is a dummy variable that assumes value of 1 if the winery sells its wine through agents.

- Foreign Distribution is a dummy variable that assumes value of 1 if the winery sells its wine to a foreign grocery stores company.

- Foreign Enoteche is a dummy variable that assumes value of 1 if the winery sells its wine in foreign specialized shops.

- Foreign HOTECA is a dummy variable that assumes value of 1 if the winery sells its wine to foreign hotel restaurants and catering.

- Advert<3%, Advert>3<6%, Advert>6% are dummy variables that assume value of 1 if the winery spend, respectively, less than 3, between 3 and 6, more than 6 percent of its revenues in advertising the products, communication, and reputation development.

Methodology and Results

Given the large number of variables and the limited number of the observations, a variable reduction analysis was applied before the econometric experiment. The set of variables has been, in fact, reduced by using the Principal Component Analysis (PCA). The aim of this method is to create a small number of components that group patterns of correlations within a set of variables and explain most of the observed variance. Thus, assuming that data have a bivariate normal distribution for each pair of variables and that observations are independent, the PCA model specifies that variables are determined by common factors (the factors estimated by the model) and unique factors (which do not overlap between observed variables); the computed estimates are based on the assumption that all unique factors are uncorrelated with each other and with the common factors. In particular, PCA components are found using the criterion of minimum distance with single points (observations), and different component are found in order to be orthogonal one to the other. This last statement avoids multicollinearity in the further regression experiment.

Once the principal components were obtained, the most important were selected if they had an Eigen value greater than 1, giving rise to a total number of 10 that explain the 74.93% of the observed variance (Table 2).

Component 1 - includes wineries that are mostly sole proprietorship; their volume of production is not big; they produce DOC and DOCG wines, also organic ones, and they bottle it; these wineries do not sell much of their wine in other Italian regions but they are mainly export oriented; their expenditure for advertising the winery itself and its products is higher than 3% of their total annual revenues (TR).

Component 2 – includes big size wineries with a large number of employees, oenologists as well, in fact they are mostly limited liability societies; they produce a wide variety of wine products; they refer to agents to sell the product; their foreign market is mostly grocery stores distributors; they investment in communication is between 3 and 6 percent of the TR.

Component 3 – these wineries produce much organic wine and they use certifications for product differentiation strategies; their wines are for the most IGT; their investment in advertising and reputation development is generally below the 3% of their TR.Component 4 – these wineries as for the most limited liability societies; the grapes they process are grown following traditional cultivation methods; they choose national exporters rather than agents or foreign importers; they sell their product mostly to HORECA and their investments in advertising and communication is really high.

Component 5 –it includes limited liabilities societies that sell the wine mainly to regional markets; they have a medium expenditure in advertising and communication.

Component 6 –these wineries produce quality wines and organic wines; their strategies are based on certification and brand image.

Component 7 – it includes wineries with a large number of

Table 3: Distribution of wineries per percentage of their export (dependent variable).

Export = 0%	8.18%	Mean 33.26
0%<Export<10%	28.18%	
10%<Export<30%	17.27%	St.Deviation 27.09
30%<Export<50%	21.82%	
50%<Export<70%	16.36%	
70%<Export<90%	4.55%	
Export>90%	3.64%	

employees but not necessarily big producers; they produce a large variety of wine products; they do not sell to foreign HORECA neither to foreign specialized shops; their investment in advertising and communication is above 6% of their TR.

Component 8 – it includes sole proprietorship wineries, which produce few wines with a low-quality level; they sell abroad mostly to groceries distributors and they refer to both, national exporter and foreign importers.

Component 9 – these wineries operate at a high level of technology, in fact they harvest the grapes mechanically; they produce a vast variety of wines, which are DOC; they sell mainly to grocery distributors rather than HORECA.

Component 10 – includes cooperatives that sell mainly to the regional market; their expenditure in advertising and communication is most of the time above 6% of their TR (Table 3).

Because of the distribution of the dependent variable, which shows about 8% of non-exporting wineries, a truncated model was thought to be the most appropriate way to analyze the data. Truncation, in fact, arises in the linear regression model with normally distributed error when only positive outcomes are completely observed [28]. For this purpose, Tobit Model (TM), whichtruncate from below at zero, has been used [29]. Thus:

$$y^{*}=x'\beta + \varepsilon \qquad (2)$$

where the error term:

$$\varepsilon \sim N(0,\sigma^2) \qquad (3)$$

This implies that the latent variable $[y]^{*} \sim N(x'\beta,\sigma^2)$. TM treats the dependent variable as a latent for L=0 and as a continuous for the L > 0 [28] (Table 4).

Conclusions

Results indicate that the models of winery that succeed the most, in international trades, are high quality producer of medium/small dimension, which spend more than 3% of TR in advertising, improving winery reputation and communication. They produce mainly DOC/DOCG wines, but also organic wines. In addition, the wineries producing mostly organic wines found their strategic position by using differentiation based on product certification. Another model of competitive winery, although the component representing it did show a statistical significance, might be the big size firm with a wide variety of wines, which sell mostly to groceries distributors. These successful models are sole proprietorship or limited liability societies but not a cooperative. Southern Italy cooperatives, in fact, show management

Table 4: Estimates for TM experiment.

Variable	Coefficient (Standard Error)
Constant	31.47 (2.49)***
Component 1	15.61 (2.40)***
Component 2	1.92 (2.35)
Component 3	5.3 (2.36)***
Component 4	-5.67 (2.36)***
Component 5	-3.55 (2.37)*
Component 6	1.02 (2.35)
Component 7	-4.87 (2.35)***
Component 8	-0.29 (2.36)
Component 9	-3.49 (2.41)*
Sigma (disturbance standard deviation)	22.98 (2.35)***
LM test (DF) = 29.207 (11)***	

*** < 0.05 *P*-Value, ** < 0.10 *P*-Value, * < 0.15 *P*-value.

and cash problems. Therefore, further studies must be addressed to analyze causes and find solutions for these kinds of businesses. By consequence, cooperatives and limited liability societies, which sell their product mainly on regional markets and invest heavily in advertising and communication, are non-competitive models, in fact, the relative components show negative coefficients. Non competitive wineries are also other kinds of enterprises with organizational difficulties such as a high number of employees and not necessarily large size.

Results, therefore, highlight the importance management and organization first of all, wines appellations and certifications (organic, product traceability, ISO 9000, etc.), the choice of the appropriate path to approach international markets(foreign importers rather than national exporters), and the importance of the investments in communication and winery reputation in determining the competitive position of the wineries.

The present study, therefore, highlights important managerial and policy implications. The role of quality associated to efficient organization and brand building strategies seem to be fundamental to succeed the very competitive arena of wine market. While this study confirms what supported by EU policies at the regard of quality improvements, more attention should be paid to cooperation policies in order to develop specific actions aimed at improving organizational efficiency and brand strategies of those wines produced by cooperatives.

Limitations of this study appear to be the regional data. Having national dimension would allow higher degrees of freedom and a more general view of Italian wineries behavior into the competitive context.

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