

Italian market of organic wine: A survey on production system characteristics and marketing strategies

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Received 5 August 2014; received in revised form 1 December 2014; accepted 3 December 2014

Available online 12 December 2014

Keywords: Italy; Organic wineries; Marketing strategies

1. Introduction

Wine is commonly recognized as a particular type of processed agrifood product, showing several different characteristics. Above all a close relationship seems to exist between wine and land of origin, the environment and the ecosystem in general (including not only natural aspects but also human skills, tradition, etc.) based on a complex web of interrelation between all the involved elements/operators. Since 70s the interest on “clean wine-growing” has been increasing among the operators; this fact has also caused the development and the improving of organic processes for wine production (Iordachescu et al., 2009). Consumers recognize the close connection between this product and the environment (Thach and Matz, 2008) and they like to know that the wineries adopt green and clean practices to sustain the environment and support natural habitats and wildlife.

Since 2000 organic regulations of several non-EU countries (Australia, Canada, New Zealand, USA, etc.) started to include specific standards for organic wine making (IFOAM, 2012). In Europe for long time the legislation framework on the organic

wine regulations has been incomplete and inefficient: EC Reg. 2092/91¹ and afterwards EC Reg. 834/2007² were extremely generic and through these regulations it has been only possible to certify as “organic” the raw material (grapes from an organically growing technique) and not the whole wine-making process. In 2012 the European Commission approved Regulation (EU) no. 203 which allows the use of the term “organic wine” for those products complying with specific requirements and standards and with Organic Certification (released by an external figure). Before Reg. 203/2012 entering into force, it was only possible to use the wording “wine made from organic grapes”. Currently, for *organic wine* it is meant a product obtained from organic raw materials that (i) uses products and (if available) substances authorized in Annex VIIIa of Reg. 203/2012, obtained as well from organic raw materials and (ii) is subject to processes and enological treatments provided in Reg. 203. Even before this regulation, in the wine sector many stakeholders had shown a growing interest for organic production. In Italy, and in many other countries, in recent decades a movement of producers has grown, who have started referring to their wines as “natural”,

¹Council Regulation (EEC) no. 2092/91 of 24 June 1991 on organic production of agricultural products and indications referring thereto on agricultural products and foodstuffs.

²Council Regulation (EC) no. 834/2007 of 28 June 2007 on organic production and labeling of organic products and repealing Regulation (EEC) no. 2092/91. It is interesting the point 19 “(whereas...) Organic processed products should be produced by the use of processing methods which guarantee that the organic integrity and vital qualities of the product are maintained through all stages of the production chain” but this proposal has not been further specified for the wine sector.

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Peer review under responsibility of Wine Economics and Policy.

and to rely on official certification model and Origin Based Labels (PDO and PGI).

In recent years European Union has established equivalence arrangements with 11 non-EU countries—Argentina, Australia, Canada, Costa Rica, India, Israel, Japan, Switzerland, Tunisia, USA and New Zealand³—for the import–export of organic products. With regard to the organic wine sector, regulations of USA and New Zealand have been recognized as equivalent to the European one but only a small number of certification bodies are accepted.⁴ Most third-country organic wines have, indeed, to be imported through import authorizations issued by EU member states. Considering for instance the equivalence arrangement established between EU and US,⁵ Organic Certification from EU Reg. 203/2012 is totally accepted from the US market without any kind of further document needed: this is very important for the organic wine export because US consumers appear really interested in organic wine purchase (Vastola and Tanyeri-Abur, 2009; <http://www.winemonitor.it>, last access in October 2014).

The wine sector interest in the environmental sustainability is also stimulated by the increasing consumers “green attitude” in their purchasing behavior; the environment-friendly characteristic of a product has become a significant marketing tool useful for the differentiation on the market. It must be noted that “only” environment-friendly wine cannot be sold as organic: they are two different beverages.

According to FiBL-IFOAM data, in 2010, worldwide surfaces cultivated with organic vineyards exceeded 217,600 ha, almost doubled since 2006; more of 88% located in Europe (192,671 ha; +51% since 2006). During the period of 2006–2010 North and Latin America registered interesting upward trends: +25% and +23% respectively. Also in other countries, like New Zealand, the organic wine movement is increasing. The NZ organic wine producers declared that in 2020 the 20% of vineyards in their country will be organic, an increase of around 15% considering that in 2011 this surface represented the 4.5% of total vineyard area. Argentina is the country in which organic viticulture is most spread in the world (4048 ha; 2010). In EU, Italy France and Spain, traditionally wine producers, since 2000 have registered a steadily increase of the organically wine-growing surfaces, despite the lack of a clear legal situation. Nevertheless, at a worldwide level the organically wine-growing sector still represents a small quota of the total wine context. As far as this fact is concerned it could be interesting to remember what Willer has emphasized in 2008 (Willer, 2008): “the share of the organic/in-conversion grape area, however, tends to be lower than that of organic farming general because of the production based problems, the direct payments are not high enough and the competition from Southern countries to the Northern producers. There are signs of a strongly growing

market for organic wine in many countries, triggered by a generally growing interest in organic products and growing demand (particularly in Europe and North America)”. National Rural Network 2007–2013 (2012) data show that, in 2010, Italy was the second EU member in terms of organic viticulture surface after Spain, with more than 50,000 ha and 628 certified wineries processing organic grapes. More recent data from Italian Confederations of Farmers (CIA) show that, in 2012, the Italian organically cultivated vineyards overpassed 52 thousands of hectares, more than 96% of these producing grapes for wine processing. The leading regions are Sicily (+65.5% from 2009), Apulia (+12% from 2009) and Tuscany (+12.4% from 2009).

2. Background and aims

This paper aims to analyze the main characteristics of Italian organic wine sector before the enforcement of regulation 203/2012, taking into account also biodynamic and similar productions. In particular the study focuses on marketing practices adopted by wineries both in promotional and in strategic terms. Based on the results obtained by the survey, the potential of European certified organic and biodynamic wine on the Italian market can be defined.

To the best of our knowledge, the literature related to the exploration of the organic wine sector is up to now scarce. Some authors emphasize a lack of materials and of data (Stolz and Schmidt, 2008; Willer, 2008; Remaud et al., 2008) from different points of view: production, surfaces, yields, distribution channels, consumer expectations and marketing strategies. Before 2012 when an appropriate regulation was still missing, the lack of clarity along the production chain has strengthened the purchaser's uncertainty about the product (Vastola and Tanyeri-Abur, 2009). An important outcome of the ORWINE project (see next in text) was the Recommendation for EU Rules on organic wine comprehending proposals and advices for the elaboration of rules for organic wine production and labeling in EU Regulation. Currently, the large part of scientific studies focuses on wine “from organically growing grapes”, without a complete certification of the process because of the extremely recent EC Reg. 203/2013. Furthermore in several research works organic wine is often included in a wider class of environment-friendly products like biodynamic, “natural”, “true” and other *bio-soundings* (<http://www.teatronaturale.it>, last access 2013-05-14) or non-conventional wines (Vastola and Tanyeri-Abur, 2009).

An important work on organic wine sector is the collection of studies originated from the European project named ORWINE (<http://www.orwine.com>), which surveyed many different aspects of the sector, concerning technological, economic and sensory analysis issues.

There are two main fields of study in the economic literature on organic wine.

(a) Surveys about wine system, mainly addressed to get a clear picture of the sector dimensions for small contexts (Crescimanno et al., 2002; Rossetto, 2002; Brugarolas et al., 2009) or for bigger ones, but in this case sometimes it is

³See Annex III of Reg. (EC) no. 1235/2008.

⁴See Annex IV of Reg. (EC) no. 1235/2008.

⁵That means that as long as the terms of the arrangement are met, organic operations certified to the USDA organic or EU organic standards may be labeled and sold as organic in both countries (<http://www.ams.usda.gov>, last access 2013/11/30).

possible to register some lack of accuracy or precision in the data (Jonis et al., 2008 and others from 16th IFOAM Orwine Congress). Some interesting studies allow defining the state of the organic wine sector (Jonis et al., 2008 and others from 16th IFOAM Orwine Congress). According to Micheloni and Trioli (2008) at European level, the organic wine-makers present medium-scale activities: only 8% of wine farms produce more than 1500 hl (nearly 200,000 bottles) while 42% register a production level around 300–hl/y (40,000 bottles). The biggest wine farms are located in France and in Italy, where this kind of production is a traditional heritage. As far as the marketing strategies (especially distribution and price choices) are concerned, in Veneto region small wine growers appear to prefer a wine quality strategy and sell their product through traditional retailing. On the other hand, large-scale wineries pay attention to price and product variety and prefer foreign or domestic supermarket chains or direct selling to final consumers (Rossetto, 2002). Studies related to the analysis of farm profitability (Corsi and Strøm, 2013) enhanced that organic qualitative characteristic seems to influence the components of wine price, like a sort of premium price obtained not only adding a plus value to the price but also acting on the price components; therefore organic wine final price appears higher than the conventional one. A general framework of organic wine market (structures, operators, dimension of the sector, trend of the organic wine market and consumption aspects) derives also from the ORWINE project (particularly Stolz and Schmidt, 2008). This project emphasizes that four main obstacles appear to constrain this sector: low consumer knowledge about organic wines and production, lack of marketing strategies, strong competition deriving from the conventional products and the high price of organic wine.

(b) Surveys on organic wine consumer aimed to define his purchasing behavior (including choice decision elements) and needs. According to recent research, organic characteristics do not generally influence consumers' preferences, even in countries where organic food is largely common in the market (e.g. Switzerland in Mann et al. (2012)). The most important factors determining consumer choice are the country of origin, the blend of grapes and the price (as in the case of the conventional wine market). In particular, price is a fundamental benchmark for consumers because it is considered strictly linked to the quality; price is considered often too high (Jonis et al., 2008) and “healthy” characteristic is not a sufficient reason for this (Iordachescu et al., 2009). In some extreme cases organic certification label has also a negative influence on price causing its reduction; thus some American organically wine-makers do not use this label on the bottle (Delmas and Grant, 2014). Furthermore, US consumers are confused about organic definition; they appear to prefer biodynamic wines seen as “a holistic and friendly approach to the Earth” (<http://www.wine-business-international.com>). Also in Australian market the organic attribute receives a low value by the so-called “average Australian wine consumer”; it has a few relationships with consumers' mind (Remaud et al., 2008; Sirieix and Remaud, 2010). An important obstacle to organic wine spreading is originated by a bad reputation not only linked to the wine price but also on its taste (Stolz and Schmidt, 2008; Delmas

and Grant, 2014). This is enhanced by the literature and it appears widespread, mostly in Italy among the other EU producers (National Rural Network 2007–2013, 2012). According to consumers' judgments “organic wine is good for the environment but not for those who drink it”. This may be affected by several factors, e.g. the inexperience of the winemakers (National Rural Network 2007–2013, 2012; Delmas and Grant, 2014).

3. The survey

An explorative web survey was conducted in order to collect a set of information aimed at getting a picture of the organic, biodynamic and *natural* wine sector. A questionnaire composed by four sections (34 questions) was sent via mail to a sample of wine producers during summer 2011. The first section of the questionnaire considered the firm in general terms and its products. It is composed by 14 questions (i.e. year of foundation, vineyard areas per production technique, presence of organic/biodynamic certifications etc.). The second section is focused on issues linked to marketing and communication strategies. There were administrated 17 questions ranging from motivation for producing organic/biodynamic/*natural* wine, distribution channels, target markets etc. The third part of the questionnaire investigated more in depth respondents' perception of several organic and biodynamic wine attributes by administrating five questions such as strengths and weaknesses for producing according to organic and biodynamic methods, opinion on organic regulation, and the possibility of implementing an organic winemaking regulation. Finally, the last section is focused on the entrepreneurs' personal data. For more details about the questionnaire structure see Table 1.

The sample included both certified organic/biodynamic wineries and producers of *natural* wine (like organic/biodynamic without certification) all around Italy. The first group of firms includes certified companies extracted from Biobank and Sinab⁶ database and the biodynamic units from Demeter database; the arrangement of the second group was more difficult because a specific list of Italian *natural* wine-makers does not exist. Thus, the authors collected all the firms belonging to specific Associations⁷ and to organic–biodynamic–*natural* producers consortia; the list was completed with the units found in specialized websites⁸ and finally there have been considered those wineries which participated at least to one specialized trade fair⁹ or exhibition during the last two years.

After a further selection,¹⁰ the final sample frame included 891 units, located in different Italian regions. The return rate has been about 21%—183 filled questionnaires.

⁶BioBank is one of the most important Italian website on the organic sector. Sinab is the Italian Information System on Organic Farming.

⁷VinNatur, ViniVeri, Renaissance Italia and Triple A.

⁸www.vinobio.com, www.viticolturabiodynamica.it

⁹Mainly VinNatur and VinoVinoVino in Italy, Biofach in Nuremberg (Germany) and Millésime Bio in Montpellier (France).

¹⁰The selection process excluded: organic/biodynamic firms not involved in wine production; conventional firms with no organic productions; wine cooperatives; entrepreneurs involved only in bottling phase.

Table 1
Structure of the questionnaire.

Section	Sentence	Number of options	Question type	
1	Q1. <i>Company activity</i>	4	Dichotomous	
	Q3. <i>Presence of a certification</i>	12		
	Q5. <i>Organic/biodynamic methods adopted before certification</i>	2		
	Q8. <i>Future production expectation</i>	3		
	Q10. <i>Future number of labels expectation</i>	3		
	Q13. <i>Public subsidies</i>	2	Multiple choice with text entry	
	Q6. <i>Annual production per method</i>	3		
	Q7. <i>Hectares per method</i>	5		
	Q9. <i>Number of labels</i>	3		
	Q11. <i>Grape varieties</i>	3		
	Q14. <i>Extra cost perception for non-conventional production</i>	5		
	Q2. <i>Foundation year</i>			Open
	Q4. <i>Year of first certified bottle</i>			
	Q12. <i>Turnover</i>			
2	Q18. <i>Main reasons to produce organic/biodynamic</i>	6	Dichotomous	
	Q24. <i>Advertising channels for organic and biodynamic labels</i>	8		
	Q27. <i>Organic/biodynamic labels promotion</i>	2		
	Q28. <i>Fairs participation</i>	5		
	Q30. <i>Reasons for not participating in fairs</i>	6		
	Q31. <i>Meetings and wine tasting organization</i>	2		
	Q19. <i>Sale channel distribution weight</i>	6	Multiple choice with text entry	
	Q20. <i>Sale markets for organic and biodynamic productions</i>	8		
	Q21. <i>Factors influencing business strategies of wineries</i>	9	5-point Likert scale	
	Q15. <i>Number of employees</i>		Open	
	Q16. <i>Average age of management team</i>			
	Q17. <i>Year of last change in ownership or management</i>			
	Q22. <i>Average price for organic/biodynamic wine</i>			
	Q25. <i>Percentage investment on turnover</i>			
	Q26. <i>Investment expectation</i>			
	Q29. <i>Annual expenditure for fairs participation</i>			
	Q23. <i>Importance of organic/biodynamic characteristics</i>	8	Rank order	
	3	Q32. <i>Opinion on production disciplinary of organic grapes</i>	4	Dichotomous
		Q33. <i>Interest in a law regulating organic winemaking</i>	2	
Q34. <i>Advantages of organic production</i>		6		
Q35. <i>Main problems of organic production</i>		10		
Q36. <i>Presence of no-certified organic production</i>		2		
4		Q37. <i>Company title</i>	7	
	Q38. <i>Province of company headquarters</i>		Open	
	Q39. <i>Respondent qualification within the company</i>			
	Q40. <i>Contact details (optional)</i>			

4. Results

4.1. Characteristics of production system

Table 2 shows the main characteristics of the final sample. Over 70% of the sample declared to cultivate organically part of their vineyards, a surface between 0.5 and nearly 102 ha. The majority (63.91%) is the areas up to 10 ha but just six over 50 ha and almost one-third of the interviewed wineries show intermediate values. The average of the entire sample stood at 10.4 ha. With regard to

biodynamic producers, there are 48 companies that claim to cultivate according to this technique. In this case, the hectares average is less than 3 ha per farm. 39 out of 49 declare to be 100% biodynamic producers; in other words, all wine grapes are grown by this method, while 8 of them claim to cultivate also organic vineyards. Just nine companies claim that grape is obtained according to conventional methods but they also have some hectares certified as organic or in conversion phase.

The total average wine production of the sample is around 821 hl/y, approximately 62,000 bottles of wine. However, this

Table 2

Sample characteristics: number of wineries according to technique of cultivation and the dedicated vineyards surface.

	Categories of vineyard surface					Total respondents
	0	0.1–10 ha	11–30 ha	31–50 ha	> 50 ha	
Organic ^a	51	83	34	8	6	182
Biodynamic	135	31	15	1	1	183
In conversion	153	21	7	2	0	183

Note: In this table vineyard surfaces are considered organic or biodynamic with or without official certification (in this last case wine growers declared to follow that standards or natural practices but without certification).

^aOne winery did not answer.

Table 3

Sample characteristics: number of wineries according to the technique of vinification and the relative production volume.

	Categories of production volume ^a						Total respondents
	0 (hl/y)	0.1–100 (hl/y)	101–300 (hl/y)	301–500 (hl/y)	501–1000 (hl/y)	> 1000 (hl/y)	
Organic	48	33	50	16	18	19	183
Biodynamic ^b	135	16	13	4	11	3	182

Note: In this table winemakers stated to produce organic or biodynamic wine, with or without official certification (in this last case they claimed to follow the same standards or natural practices but without certification).

^aAverage of last three years.

^bOne winery did not answer.

Table 4

Sample characteristics: employees per winery.

	No. of employees							Total respondents
	1	2–3	4–5	6–7	8–10	11–15	> 15	
No. of wineries ^a	65	60	22	6	8	8	11	180

^aThree wineries did not answer.

Table 5

Main reasons for wineries to produce organic/biodynamic wine (percentage).

Ethical choice	88.5
Higher product quality	53.8
Differentiation	23.1
Demand response	12.6
European contributions/subsidies	6.6
Difficulty in selling conventional product	3.3

data change significantly if the different methods of production are considered separately (Table 3): in fact the organic wine average production of the sample stands, indeed, at about 480 hl while the biodynamic one is about 110 hl.

In relation to the number of employees per winery, the average data is quite low (4.42) and shows a reality of small companies. Nevertheless, the data are strongly influenced by some outliers within the sample: only 5% of companies claims to have more than 15 employees, while 94.54% has a lower number of employees. More specifically, less than 65 companies (35.5%) are composed just by the owner or rather, and more than two-thirds of the companies do not reach 4 permanent employees (68.3%) (Table 4).

As it is easy to infer from Table 5 (question with multiple answer; respondents could choose more than one), among the reasons that have led companies to adopt organic/biodynamic production the most important are *ethical aspects* (89%). 54% of respondents pointed out the *qualitative factors*, considering both the absence of chemical residues and specific taste of wine connected with the territory. Regarding the economic reasons, product *differentiation* from competitors (23%) and *response* to consumers and market needs (13%) appear less important among the other items. *Government grants for organic farming* do not seem to be considered among the main reasons (only 7%). Finally, the *difficulty in selling a conventional product* does not appear decisive (3%).

A five-point Likert-scale (1 = not important at all, 5 = very important) was used to measure the relative importance of the factors influencing business strategies of wineries. Table 6 shows the mean values of respondents for each factor. *Quality* seems to be the most important: 89% of respondents, indeed, tick a value of 5 and the final mean value is 4.9, even if with lower evaluations, *price*, *promotion* and *brand* are considered important, obtaining a mean value around 3.5.

The most used sale channels are represented by *wholesalers* and *traders* (33%) (Table 7). *Direct selling* also plays a key role for these wineries representing the second sale channel with 29% preferences assigned and it is considered also an important way for communication with the consumers. The other channels used are represented by *wine shops/bars* and *Ho.re.ca* which respectively reached a value of 16%.

The most important market for all the interviewed wineries is *Italy* while *European Union* reaches a quota of 25% on the total export, followed by *North America* with 10% and by *Asia*

Table 6
Main factors influencing wineries' business strategies (mean).

Quality	4.86
Price	3.57
Promotion	3.53
Brand	3.52
Distribution	3.47
Packaging	2.86
Specialized guides	2.82
Certification	2.81
Certification of origin	2.45

Table 7
Sale channels distribution weight (frequency).

Wholesalers/export agents	32.8
Direct selling	28.8
Wine shops/bars and traditional retailers	16.3
Ho.re.ca	16.2
Mass retail channel	2.7
Other firms	2.0

Table 8
Wineries' sale markets for organic and biodynamic wine (percentage).

Italy	56.0
Others EU	24.6
Other European countries	3.6
North America	9.6
South America	0.3
Asia	5.2
Africa	0.1
Oceania	0.6

with 5.2%. All the other countries exhibit values below 5% (Table 8).

As far as different promotional tools concern Table 9 shows the frequency of their use. It emerges that almost half of the wineries (43%) stated they do not use any tools to promote their wines (some of them participate to fairs but not with the primary goal to advertise their organic/biodynamic labels) and even a significant 39% adopts a simple brochures. Only 12% of wineries use traditional media (television, radio, and poster) presumably at local level. Strategic is the role of the fairs, which are becoming more important among different promotion activities. In particular, Vinitaly shows the highest participation: almost half of the sample attended it. VinNatur and ViniVeri obtained surprising results. Significant presence was registered within two foreign exhibitions: BioFach in Nuremberg, one of most important European events dedicated to organic farming, and Millesime Bio in Montpellier, focused specifically on organic wine world.

Considering the modern communication tools, it has been asked if organic and biodynamic labels were promoted by a website and/or sold by an e-commerce channel. In the first case over the half of respondents (55%) answered that they use a website to promote and enhance their wine, while the second issue was adopted only by 16.6% of them. Consequently 45%

Table 9
Place/channels adopted by wineries to advertise their organic/biodynamic labels (percentage).

Fairs	57.1
Brochure	39.0
Press	8.8
Internet	8.8
Radio	1.6
Poster	1.1
Television	0.5
No advertising	42.9

of firms of the sample do not use the internet as communication tool. Finally, 70.06% of respondents claim to propose wine tasting in order to promote their product and almost 90% (89.82%) of interviewed wineries stated to organize guided tours to their cellars and to their production areas.

4.2. Cluster analysis

In order to perform a cluster analysis, six questions have been selected from our dataset¹¹ (Table 10). To the first variable “How important are the following aspects of your business strategy, in relation to organic and biodynamic production?” has been applied the principal component analysis to reduce the numbers of 8 options provided by the questions (see Table 6. The variable “specialized guides” was excluded because it does not represent a specific marketing tool of a winery).

Three methods were used to identify an appropriate number of components: the cumulative variance explained by the autovalues (Table 11), the screeplot (Graph 1) and Kaiser criterion based on the average autovalue so that three components were chosen.

Table 12 summarizes the contribution (in percentage) of each variable defining new axes. Thus it is possible to attribute a name to the dimensions. The first component may be called *marketing mix*, the second *Certification* and the last *Product characteristics*.

After a principal component analysis the dimension of data matrix is 162 × 14 and the variables are either quantitative continue and dichotomous so we use the metric “Gower” to calculate the dissimilarity matrix and the divisive algorithm PAM for clustering.

Using the average silhouette index 4 clusters are identified (Table 13). The first cluster (C1) is composed by 55 companies (34% of the sample). Considering the clustering variables, this group assigns to the strategic levers of *marketing mix* a higher average score compared to other clusters and to the sample mean. The other two clustering variables, *products characteristics* and *certifications*, obtain as well as a higher score preference compared to the sample mean.

Looking at the communication/promotion variables, the first cluster is characterized by companies that use traditional communication means (press, brochure and poster) as well as more modern tools linked to the internet. Deepening those

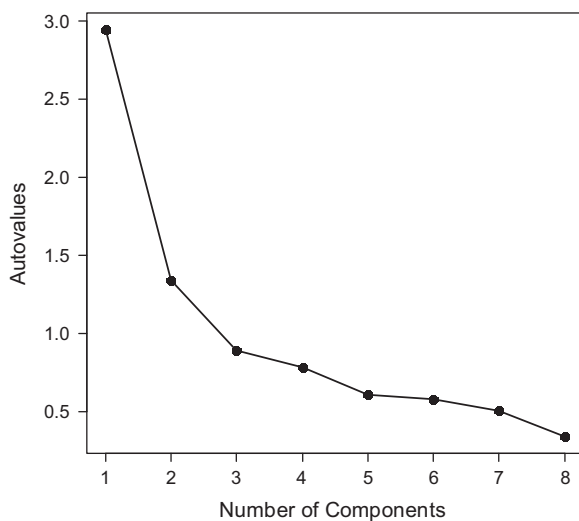
¹¹19 statistical units were dropped due to missing values.

Table 10
Clustering variables considered.

Questions	Number of options	Variables type
Q21. How important are the following aspects of your business strategy, in relation to organic and biodynamic production?	8	Quantitative discrete
Q24. Does your company make specific advertising for organic and biodynamic labels?	4	Dichotomous
Q27. Concerning organic and biodynamic labels your company...	3	Dichotomous
Q28. What wine exhibitions and/or fairs have you attended in the last three years?	5	Dichotomous
Q31. Do you organize meetings and wine tastings in order to promote organic and biodynamic wines?	2	Dichotomous

Table 11
Cumulative percentage of variance.

	Eigenvalue	Cumulative percentage of variance
Comp 1	2.947	36.831
Comp 2	1.340	53.581
Comp 3	0.895	64.771
Comp 4	0.783	74.554
Comp 5	0.609	82.168
Comp 6	0.581	89.431
Comp 7	0.505	95.745
Comp 8	0.340	100.000



Graph 1. Scree plot.

Table 12
Loading percentage contributions (bold values are the highest for each row (the most significant)).

	Comp 1%	Comp 2%	Comp 3%
Product quality	2.510	22.938	57.198
Price	9.813	6.969	0.086
Distribution	17.613	3.079	0.023
Brand	21.452	3.876	3.885
Packaging	16.976	0.106	19.089
Communication	15.214	10.036	0.182
Certification of origin	8.939	29.466	4.950
Certifications	7.483	23.530	14.588

Table 13
Clustering variables: descriptive statistics for each cluster (bold values are the highest for each row (the most significant)).

	C1	C2	C3	C4	Sample mean
Strategic levers					
Marketing mix	0.63	-0.17	-0.60	-0.20	0
Certifications	0.17	0.06	-0.16	-0.22	0
Product characteristics	0.21	-0.11	-0.11	-0.11	0
Relative frequency					
<i>Advertising</i>					
No advertising	0.18	0.19	0.86	0.97	0.48
Brochure, poster, press	0.82	0.60	0.06	0.03	0.45
Exhibitions/fairs	0.89	0.95	0.22	0.17	0.63
Internet	0.22	0.05	0.03	0.00	0.09
<i>Internet usage</i>					
Promotion	0.98	0.00	0.81	0.00	0.51
Selling	0.25	0.00	0.28	0.00	0.15
No usage	0.00	1.00	0.14	0.93	0.46
<i>Fairs</i>					
Vinitaly	0.58	0.17	0.33	0.62	0.43
VinNatur	0.18	0.38	0.31	0.10	0.25
Viniveri/Vinovinovino	0.18	0.24	0.33	0.10	0.22
Other	0.35	0.17	0.11	0.07	0.20
No fairs	0.02	0.05	0.08	0.10	0.06
<i>Other type of promotion</i>					
Wine tasting	0.78	0.69	0.78	0.34	0.68
Visits	0.95	0.88	0.86	0.79	0.88

aspects linked to exhibitions and fairs, companies in the first cluster take part mainly to the most important international wine fair, Vinitaly, and to other fairs as Biofach. Finally, companies of this group show to resort more than companies of the other clusters to wine tasting and guided tours considering them very important promotion means.

42 companies characterize the second cluster (C2), 26% of the sample. In this case the strategic levers obtain lower evaluations even under mean regarding the 4 *marketing mix* levers and the *product characteristics*, while the preference score for *certification* is coherent with the sample mean. In general terms it is possible to state that values assigned are close to sample mean.

The aspects linked to communication/promotion are much lower than in C1 and, in this case, they are identified in particular in the high participation to exhibitions and fairs, especially VinNatur event. Cluster 3 (C3) is composed by 36 companies, 22% of the sample and it is characterized by very

Table 14

Clusters profile: descriptive statistics (bold values are the highest for each row (the most significant)).

	C1	C2	C3	C4	Sample mean
<i>Distribution channels (%)</i>					
Direct selling	29.16	30.02	33.44	25.17	29.62
Wine bars, traditional retailers	12.64	19.10	15.56	19.86	16.25
Ho.re.ca	14.91	15.62	15.58	19.14	16.00
Wholesalers/exporters	36.16	30.48	31.33	34.10	33.25
<i>Markets (%)</i>					
Italy	57.84	55.43	52.33	56.03	55.67
UE	25.95	24.38	28.11	18.45	24.68
North America	9.69	7.57	10.11	13.86	9.98
Asia	3.58	7.26	4.17	5.41	4.99
Other markets	2.95	5.60	5.28	6.24	4.74
<i>Average price (€/litre)</i>					
	7.64	8.08	8.12	12.01	
<i>Average number of labels</i>					
Organic wine	5.57	4.33	3.38	2.55	4.20
Referred to DOC/DOCG ^a	2.63	2.49	1.32	1.55	2.10
Biodynamic wine	0.73	0.56	1.50	1.38	0.98
Referred to DOC/DOCG	0.33	0.18	0.91	0.59	0.47
<i>Average area (ha)</i>					
Organic	15.35	7.42	5.87	6.20	9.51
Biodynamic	2.12	2.19	3.09	5.69	3.00
<i>Average production (hl)</i>					
Organic	757.19	383.58	237.17	181.55	439.76
Biodynamic	78.44	88.57	135.47	132.93	103.65
<i>Sales volume (€)</i>					
	596,486	292,174	267,476	527,063	441,649.48
<i>Employees (number)</i>					
	4.96	2.95	3.97	6.58	4.53
<i>Foundation year of the winery</i>					
	1981	1987	1967	1979	
	C1	C2	C3	C4	Relative frequency
<i>Italian district</i>					
North East	0.22	0.31	0.29	0.36	0.28
North West	0.06	0.12	0.21	0.2	0.13
Central Italy	0.48	0.31	0.26	0.24	0.35
South	0.15	0.19	0.15	0.2	0.16
Islands	0.09	0.07	0.09	0	0.07

^aDOC means Denominazione di Origine Controllata (Controlled Appellation of Origin) and DOCG is Denominazione di Origine Controllata e Garantita (Controlled and Guaranteed Appellation of Origin). They are Italian quality labels for wine.

low evaluations for strategic levers of *marketing mix* compared to the values of the sample mean. Looking at the mean value assigned to item *no advertising*, 0.86, it is possible to state that the companies of this group do not consider important advertising. In this cluster, indeed, companies refer to specific fairs for organic wine (especially Viniveri) in order to promote their product.

Finally, within the last cluster (C4), 18% of the sample (29 wineries), either *marketing mix* levers or *certifications* obtain values slightly below the average of the sample. Companies belonging to this group do not use any kind of advertising or of the internet to promote their product.

Compared to the other clusters, in this case, companies that do not take part to exhibitions and fairs prevail, those companies that claim to go, and stated to prefer in particular Vinitaly. Turning to the analysis of those variables that have not been used in the clustering process and looking to data reported in Table 14, it is possible to state that companies more market-oriented (C1) are mainly located in the central regions of Italy as it is possible to infer from Table 14. Furthermore, these companies are the biggest in dimension terms and, thus, they have at their disposal more resources from all points of view. Compared to the other clusters, companies of C1 have a broader organic production area (15 ha), a three-year period

producing average of about 760 hl, which means an average annual sales volume of approximately €600,000.

In addition, firms in the first cluster show the highest number of organic labels for wine (average of 5.6). Data related to the products average price get the worst performance compared to the other clusters, the value mean of the group is indeed under 8 €/litre. With regard to distribution channels, the companies of C1 group are characterized by the use of *wholesalers/exporters* channel. Finally, by the analysis of the sales markets it can be seen that C1 presents value slightly above the average of the sample in relation to the national market.

To sum up, it is possible to say that this group is characterized by better management performance than those obtained from the initial sample. This evidence confirms the hypothesis, already asserted in several empirical studies (Lynch et al., 2012), that a market-oriented approach provides the best performance from many points of view. In group C2, it appears evident that firms are characterized by a higher level of exports towards Asian market.

Third (C3) and fourth cluster (C4) show a common trend towards biodynamic production and a high presence of companies in the Northern Italy. The number of labels, on average lower than 2, results to be similar in both groups. On the other hand, the groups differ for some strategic orientations. In particular, C3 shows a higher production of biodynamic wines (135 hl), while production area, sales volume and number of employees result almost halved compared to C4. The aspect that basically differs among companies of C3 and C4 is the distribution channel: the group of companies belonging to C3, indeed, assigns a value higher than the average one for *direct selling* while in C4 companies distribute their products by wine shops/bars, traditional retailers and Ho.re.ca channels. Finally, looking at markets, it is easy to say that C3 exports mainly to EU countries, while C4 exports also to North American market.

5. Conclusions

In the last decades, changes in consumer's lifestyles and choices of food products on the one hand and an increasing market globalization on the other have significantly modified the wine sector structure both in terms of production organization and of marketing and distribution aspects. At the present time the Italian demand structure and trend show a consumer's attention for food intrinsic quality, safety, sanitary, organoleptic and nutritional properties; furthermore it should be emphasized the increasing importance of purchase factors such as health care, environmental protection and rural areas specificities as items that are confirmed by the consumers' preference for organic products (Shafie and Rennie, 2012). For Italian producers organic wine could represent a new and important tool for diversification strategy on the market. It has been noted that the current literature is lacking in information concerning organic and biodynamic wine sector and the choice of an exploratory analysis is motivated by this state of affairs. This paper in particular is aimed at surveying the production

system characteristics and marketing strategies adopted by Italian organic wineries.

The study results indicate a heterogeneous production system where medium- and small-sized firms represent the large part of the Italian units. The survey shows that the majority of companies (89%) adopted organic techniques because of ethical reasons. On the other hand CAP and/or governmental subsidies to organically produce, instead of a conventional method, do not represent an important lever for almost any of the companies considered in the survey.

Furthermore, the organic wine quality represents the most important business strategy for Italian wineries followed by aspects as price, promotion and brand. The high importance attributed to quality probably depends on a common belief (but there is a lack of scientific results about this) that wines from organic viticulture have a lower quality than the conventional ones, both in terms of sensorial characteristics and a supposed higher content in compounds harmful for human health (Comuzzo et al., 2013).

With regard to the sales channels the most used is represented by wholesalers and export agents (33%) and this is coherent with the decision to export almost half of the production and with specific advertising channels. Currently modern retailing is not playing a primary role, indeed an important role is acted by direct selling. This is probably justified also by the low volumes produced. Moreover, this channel is preferred during the start-up phase, in order to keep selling at low cost and establish a direct link with the consumers. It is interesting to highlight that the findings of this study confirm the results of previous research focused on non-conventional viticulture in Italy (Vastola and Tanyeri-Abur, 2009). As far as promotional aspects are concerned, the most surprising outcome of the study regards the scarce use of the internet as communication tool and, on the opposite, the crucial role that companies assign to fairs for promoting their wines as well as wine tasting and guided tours.

The cluster analysis revealed very different companies profiles and strategic tools adoption. The large number of the companies (C1), indeed, adopts different marketing mix strategies, from the more traditional tools to the use of the internet and the participation to the most important wine and organic wine fairs in order to promote their products. On the other hand, a group of companies composed by 22% of the sample (C3) claims to refer not to particular strategic tools except for the participation to specific fairs on organic wine. Finally a surprising 18% of the sample (C4) asserts that they do not use any promotional tool for boosting their wines but some of these wineries participate to fairs.

One of the sector weaknesses that emerges from this analysis is the lack of consumer knowledge. For long time in the Italian market many terms were used which define organic or biodynamic wines such as “natural”, “true”, “genuine”, “traditional” which refer to quality characteristics without any certification (Vastola and Tanyeri-Abur, 2009). The new EU Regulation about organic wine has the advantage to improve transparency and better consumer recognition but if suitable communication, either from a public policy or commercial

perspective, and labeling/certification is not taken into consideration, the added value of the production method might not be perceived by the final consumers. Facing the people's low awareness of this type of product, a collective approach aimed at communicating the organic wine distinctiveness could be strategic maybe also a collective approach of communication aimed at better explaining the specific organic wine characteristics could be strategic for the industry development (Sirieix and Remaud, 2010).

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