

Regulatory policies and consumers quality perception in the wine sector

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Abstract

The paper analyses how different aspects connected with regulations can influence consumer quality perception and the value that consumers attribute to wine sector products. In particular, aspects concerning labelling and presentation of designations of origin, which, in turn, mirror different regulations of production methods, are considered. Consumer preference can allow enterprises to comply with more restrictive rules and sustain higher costs for differentiating their products and achieving higher quality. When choosing a product, consumers do not evaluate each single quality factor but the product as a whole, therefore the analysis has to be done with a methodology considering both the combination of all characteristics of the product, and the contribution of every factor to the creation of value for consumers. For this reason the value that consumers attribute to different characteristics is evaluated through an experimental economic analysis applying the method of the Conjoint analysis. The experiment was realized evaluating different labels of a protected designation of origin "Montepulciano d'Abruzzo DOC" wine, with two different groups of consumers: a group of inhabitants of the Abruzzo Region, the region of origin of the wine, and a group of Brazilian people (inhabitants of the Santa Catarina State).

JEL classification: Q13, Q18.

Keywords: Conjoint analysis, wine sector regulation, consumer perception.

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1 Introduction

In the Common Agricultural Policy, the Wine Common Market Organisation presents a very complex frame, because support measures are joined to regulatory ones and both have effects on the sector competitiveness. Changes in regulatory systems produce effects on enterprise competitiveness, either operating on the costs side (i.e. oenological practice restrictions or designations of origin product specifications) or operating on the income side, namely allowing enterprises to differentiate products and collocate them in higher added value market segments.

In particular provisions in wine labelling and presentation, which are joined to rules on production methods linked to health concerns, origin and quality would allow consumers to distinguish between products of higher and lower quality level and differentiate consumers' willingness to pay. This is possible if consumers are able to notice the diversities and attribute a higher value to some quality aspects of the products.

The paper analyses how different aspects connected with regulations can influence consumers' quality perception and the value that consumers attribute to wine sector products. In particular, aspects concerning labelling and presentation, which, in turn, mirror different regulations of production methods, are considered. Consumers' preference can allow enterprises to comply with more restrictive rules and sustain higher costs to differentiate their products and achieve higher quality.

Generally, in retail selling points, consumers mainly choose on the basis of extrinsic cues, used as quality signals of the product. Moreover, they cannot taste the product or get specific information about it by the selling point staff.

In this case, attributes that are usually considered in marketing and consumer science studies are: packaging (bottle colour and shape, label, etc.), brand name (producer, geographical indication), information about wine characteristics (variety, region of origin, vintage) and price.

However, we have also to consider other information that is directly linked to rules about labelling and wine-product presentation (Reg. EC No 607/09), concerning compulsory (i.e. horizontal rules about ingredients: "contains sulphites") or optional particulars (i.e. the indication of a geographical unit smaller or larger than the area underlying the designation of origin; terms referring to certain production methods; indication of the Community PDO and PGI symbols; terms referring to a holding; the bottling in the production area), as well as information concerning other regulations like the EU organic legislation (Council Regulation (EC) No. 834/2007 about organic production and labelling of organic products).

All these attributes are not usually taken into consideration together in evaluating consumers' preferences, even if some studies analyse differences in consumers'

perception and willingness to pay between organic and traditional wine products (Sirieix, Remaud, 2010). However, we feel that they are significant since they can modify consumers' perceptions and preferences considerably.

In the new wine CMO, an evident novelty is also the change in provisions concerning designations of origin and geographical indications, which are brought back to the rules concerning all the other PDO and PGI agro-food products. On the wine labels, producers can insert the PDO (and PGI) abbreviation and logo, in addition to or as a replacement for the national designations that were previously in use in each national state (in Italy DOC, DOCG and IGT). So the effect of this change in consumers' perception has to be analysed.

In this study, we consider the following elements linked to regulation provisions that can be used by enterprises as means of differentiation in product labelling and presentation:

- the discipline of organic farming (Council Regulation (EC) No 834/2007);
- the possibility of using additional producer organization brands (Italian Dlgs. April, 8 2010, No 61, in application of the Council Regulation (EC) No 479/2008);
- the indication of the bottling in the production area, and other specific indications about production methods (Reg. EC No 607/09);
- the content of sulphur dioxide in wines and the rules concerning its indication on the labels (Reg. EC No 607/09 and Directive 2000/13/EC).

All these elements influence the consumers' quality perception and the value that consumers attribute to a product and, therefore, their willingness to pay for it, so conditioning the profitability of the enterprises.

When choosing a product, consumers do not evaluate each single quality factor but the product as a whole, therefore the analysis has to be done with a methodology considering both the combination of all characteristics of the product, and the contribution of every factor to the creation of value for consumers. For this reason the value that consumers attribute to different characteristics linked to regulation aspects will be evaluated through an experimental economic analysis applying the method of the Conjoint analysis.

Conjoint analysis is usually used for guiding enterprises in their marketing choices; in this paper we use this technique, together with Factor and Cluster analysis, to evaluate how regulations and provisions in wine labelling and presentation can affect consumers' quality perception.

The experiment was realized evaluating different labels of a protected designation of origin “Montepulciano d’Abruzzo DOC” wine, with two very different groups of consumers. The first one was composed by inhabitants of the Abruzzo Region, the region of origin of the wine, in Italy, a country with strong tradition in wine consumption and familiarity with the EU wine regulation. The second group was composed by wine consumers of a new consumer country, Brazil, where consumption and production are strongly increasing. The interviewed are inhabitants of Florianopolis, capital of the State of Santa Catarina, in the South of the country.

Nonetheless the designation of origin Montepulciano d’Abruzzo is exported all over the world and the product is present usually in many retail selling points of the city of Florianopolis. We have also to consider that the States of South Brazil host one of the bigger Italian communities in the world, so Italian culture is not so unfamiliar in the area.

2 Methodology

2.1 The Conjoint analysis

Conjoint analysis is a marketing technique that researchers use to determinate the importance of some aspects of a product/service. It assumes that consumers may be able to evaluate a range of products/services along some key dimensions, called attributes. With the Conjoint analysis we construct different series of product profiles (concepts) that represent a possible product or service, in our case a different combination of information on wine labels and prices (different scenarios). The aim of the research is to estimate the importance of each attribute of the plan. For categorical attributes, the utility function consists of part-worth estimation for each level of the attribute. The market simulation models use this information to predict how each respondent would choose among alternative products.

In the literature related to the agricultural and food field, there are various applications of the conjoint analysis to the study of the impact of some factors/elements of a product on purchase decisions. Cicia and Perla (2000) have carried out an experiment of Conjoint analysis applied to the organic extra-virgin olive oil, analyzing four attributes: the place of origin (Campania, Tuscany, Calabria), the institute of certification (AIAB or IMC), the aspect (limpid or cloudy) and the price (10,000, 15,000 and 25,000 Italian lire). The impact of the place of origin is the most important.

In the wine field an interesting experiment has been realized from Szolnoki et al (2010) that has estimated the impact on various targets of consumers of

some variables characterizing the product: the type of wine (Pinot Gray, Palatinate Riesling, Moselle Riesling), the shape of the bottle (Bordeaux, Schlegel), the colour of the bottle (green, brown, white) and three different styles of label (extravagant, traditional, international); in this study a reduced plan constituted of nine different profiles was used. Nardella (2009) has applied the Conjoint analysis to milk products, studying the impact of some factors on product acceptance: expiration, origin of the milk, percentage of fat. All the variables has been evaluated with a score from 0 to 100. Others interesting applications have been carried out on other products, like bovine meat (Makokha et al., 2007), fish (Haldrendt et al, 1991), transgenic milk (Schnettler et al., 2008).

There are different ways to use the Conjoint analysis and different techniques. With the full profile method, complete products are presented to consumers, namely with all attributes of a product at the same time. In any case the product to evaluate is a real physical object or similar to real.

The method is developed constructing various profiles to be evaluated. In each profile, all the factors are present although with different combinations of levels and attributes. The respondent must then classify each profile using a criterion of preference: it could be liking, purchase intention, or other scales of preference.

With the full profile method the number of possible profiles grows in extremely fast way thanks to the various combinations of attributes and levels. So it has to be reduced to a fraction of all possible combinations. The plan must be balanced with a sufficient rotation of the attributes and with a sufficient number of profiles in order to maintain the overall significance of the experiment.

In the applied method, the respondent is asked to assign a score of preference to each profile, constituted by the label and the price of the wine, indicating a number between 1 and 100 (score method). Then the impact of each attribute on the decision of the consumers and the part-worth of the different attributes will be estimated.

The full profile method better mirrors what consumers actually do, they focus on the complete product, not only on some aspects of it; in fact, the importance of full profile Conjoint analysis is that consumers value the product considering all factors together. In this case the situation is similar to the real process of buying.

2.2 Research design

The survey concerned more than two hundred fifty wine consumers interviewed:

- at the Faculty of Agriculture of the University of Teramo and in different wine shops in the Abruzzo region (Italy);
- at the Federal University of Santa Catarina (UFSC) among participants to

a course on the valorisation of typical products (mainly belonging to the Italian community) and in different wine shops of the city.

The participants had to answer a questionnaire composed of two parts: the first part containing questions about personal information, attitudes in wine consumption and wine sector knowledge; the second one containing pictures of eight labels differing in some elements that identify eight different profiles of the same product. The respondents had to evaluate each profile on a scale from 1 to 100 on the basis of the willingness to buy the specific product.

The participants evaluated different versions of the same label of a Montepulciano D'Abruzzo DOC wine, provided by a local producer and modified by an image managing software to obtain eight different product profiles. Consequently, the profiles are the same for the characteristics concerning the type of wine, the name and description of the product, the denomination of origin, the year, the alcoholic strength by volume, the label style, but differ for indications related to the applications of some regulations.

In this way the labels are comparable to a label of a PDO wine sold on the market (both in Italy and in Brazil) in terms of information, aspect and way to present the contents.

The regulatory aspects taken into consideration are the organic production of grapes, the membership of a Designation of origin Consortium (in this case the "Consorzio di Tutela Vini d'Abruzzo"), the sulphites content, production and bottling in the enterprise. The variable "price" has been added to these elements, with the purpose to verify its influence as a marketing variable.

Organic production is regulated by the Council Regulation (EC) No 834/2007; this is the variable more often analysed in literature, but not in conjunction with the other factors considered in the paper. Usually a premium price for organic products is recognized by consumers, especially if sensible to natural and environmental aspects, even if this positive attitude does not always seem to extend to organic wines (Remaud et al, 2008).

The obligation of indicating the presence of sulphites on the label is regulated by Directive 2000/13/EC that was modified by Directive 2003/89/EC; the use of the terms "contains sulphites" or "sulphur dioxide" is compulsory when the SO₂ concentration is higher than 10 mg/L or 10 mg/kg. The opportunity of avoiding this indication (very difficult to achieve because a small amount of sulphur dioxide is naturally produced by the yeast during the fermentation stage of winemaking) can be used like an indicator of naturalness (sulphites are usually added to prevent microbial contamination) and safety (sulphites are considered allergens) of the product.

The indication of bottling in the production area (Reg. EC No 607/09) rep-

resents another guarantee of origin and naturalness of the product, because it states that the production and bottling of a designation of origin or geographical indication wine is done in the same area of origin.

Finally the use of a Designation of Origin Consortium brand (regulated by the Italian Dlgs. April, 8 2010, No 61 in application of the Council Regulation (EC) No 479/2008) is another guarantee of origin and control of production.

The variable price has been divided in four ranges, which usually identify in literature (Rabobank, 2003) different segments: popular premium (price range between 3-5 euro), premium (5-7 euro), super premium (7-14 euro) and ultra-premium (14-25 euro). For Brazil a different price range has been used, due to the fact that wines are sold at higher prices in the country, especially the imported ones. However the prices may be brought back to the same segments in consumers perception.

The experimental design has been constructed with a reduced orthogonal plan with eight profiles, presented in table 1. The software employed for the experiment is SPSS 18.0.

Table 1: Experimental design

Profile (label) number	Brand Membership of the Consortium Abruzzo wines	Indication "contains sulphites"	Indication of bottling in the production area	Grapes' organic certification	Price category
1	Present	Not present	In the production area	Not present	Premium
2	Present	Not present	Outside the production area	Indication of organic certification	Ultra-premium
3	Present	"contains sulphites"	In the production area	Indication of organic certification	Popular premium
4	Not present	Not present	Outside the production area	Not present	Popular premium
5	Not present	"contains sulphites"	In the production area	Not present	Ultra-premium
6	Not present	"contains sulphites"	Outside the production area	Indication of organic certification	Premium
7	Not present	Not present	In the production area	Indication of organic certification	Super Premium
8	Present	"contains sulphites"	Outside the production area	Not present	Super Premium

Source: own elaboration

3 Results

3.1 Analysis of the utility values and the relative importance of the factors

The valid answers to the questionnaire of the Abruzzo region respondents have been 207. The sample is composed of 42% of people between 18 and 30 years, 30% between 31 and 40 years and 28% more than 41 years old. Males are 55% and females 45%.

Forty-six percent of the sample declare sufficient knowledge of the wine sector, 26% quite good knowledge, 22% very limited knowledge and only 6% of the sample are expert or professional of the sector.

The sample is composed by 47% of people with a medium frequency in wine consumption (at least once a week), 20% of regular consumers (daily consumption), 20% of social drinkers (at least once a month), while 13% of people drink wine rarely (less than once a month).

In the following table are indicated the main results of conjoint analysis that indicate the relative importance of the various factors.

Table 2: Conjoint Analysis. Relative importance of the factors (%)

Factor	Level	%
Consortium	(= Associated or not with "Consortio di Tutela Vini d'Abruzzo")	18.399
Sulphites	(= Contains sulphites or not)	9.583
Bottling place	(= The wine is bottled in the production area or outside the production area)	27.591
Organic certification	(= Organic certification or not)	11.968
Price range	(= The four different price ranges used in the experiment)	32.459

Source: own elaboration

From the result of the conjoint analysis it turns out that the greatest importance is attributed to the price, with a score of approximately 32.5%; then we find the bottling place, with a value of approximately 27.6% and the association or not with a Consortium brand. The organic certification of grapes has a relative importance in the consumers' perception of about 12% and the presence or not of sulphites represents the least important factor (about 9.6%).

Referring to the price values, a positive utility results correlated to the ranges from 3 to 5 euros and from 5 to 7 euros, while negative utility characterizes the ranges from 7 to 14 euros and, above all, that from 14 to 25 euros. Forty-nine percent of the sample answered "controlled denomination of origin (DOC)" to

Table 3: Estimate of the factors utility value

Factor	Level	Utility value
Consortium	Associated	3.355
	Not associated	-3.355
Sulphites	It contains sulphites	-1.748
	It does not contain sulphites	1.748
Bottling place	In the production area	5.031
	Outside the production area	-5.031
Organic certification	Certificated	2.182
	Not certified	-2.182
Price range	From 3 to 5 euros	3.289
	From 5 to 7 euros	5.076
	From 7 to 14 euros	-1.603
	From 14 to 25 euros	-6.762
<u>(Constant)</u>		<u>48.856</u>
R of Pearson – Value 1.000		
<u>Tau of Kendall – Value 1.000</u>		
Source: own elaboration		

the question: "Based on acquaintance, which of the following acronyms better indicates the wine of denomination of origin to be of high quality?"; 32% believe that the denomination of protected origin (DOP) is a synonymous of a better quality level, while 19% answered that the acronyms do not indicate qualitative differences.

The weight of the various factors that influence the choice of the consumer in terms of product acceptance differs in the various age range. For individuals aged 18 – 30 years the price variable has a relative importance of 27.2% and represents the most important element; in the range between 31 and 40 years the incidence of such factor is 47.9%, while over 41 years the most important element is the bottling place. In the range between 18 and 30 years the various factors (with the exception of the affiliation to the "Consorzio di Tutela Vini d'Abruzzo", whose relative influence on product acceptance is evaluated as 9.5%) have a similar incidence that is close to 20%.

The price is an element that influences more men (36.3%) than women (27.1%), while sulphites seem to be considered by the sample, especially by the feminine component, the least important factor (respectively, 11% by men and 7% by women).

It turns out that price is the factor of highest impact for the standard and

Table 4: Relative importance of the factors / age range of the sample

	Between 18 and 30 years (n=87)	Between 31 and 40 years (n=62)	Over 41 years (n=58)
Consortium	9.564	19.899	30.025
Sulphites	21.814	2.804	1.185
Bottling place	20.254	26.579	41.136
Organic certification	21.175	2.836	13.312
Price range	27.194	47.881	14.343

Source: own elaboration

Table 5: Relative importance of the factors / gender

	Male (n=113)	Female (n=94)
Consortium	16.788	20.632
Sulphites	11.204	7.336
Bottling place	23.285	33.565
Organic certification	12.389	11.383
Price range	36.335	27.083

Source: own elaboration

occasional consumer (36% and 35%), while, for the frequent consumer and for the non-consumers, the bottling place turns out to be the most important factor (40.1% and 27.6%).

Table 6: Relative importance of the factors / frequency of wine consumption

	Regular consumption (daily) (n=42)	Medium (at least once a week) (n=97)	Occasional (at least once a month) (n=41)	Non consumer (less than once a month) (n=27)
Consortium	13.924	18.04	25.341	16.2
Sulphites	7.061	11.287	1.64	18.761
Bottling place	40.887	22.05	27.774	27.576
Organic certification	9.195	11.843	10.155	20.012
Price range	28.933	36.779	35.09	17.451

Source: own elaboration

The 7-14 euros price range, although generally with a negative impact on the product acceptance, is instead a positive factor both for irregular wine consumers and for the consumers who have insufficient acquaintance with the wine product.

3.2 A comparative analysis between Italian and Brazilian consumers

An analysis of the utility values and the relative importance of the factors was carried out also using a Brazilian wine consumer sample (table 7). The aim of this study is to verify similarity and differences between a so called new consumer country, Brazil, and Italy that is one of the country in the world with the higher wine consumption per capita level.

For the Brazilian consumer, price is by far (by 50%) the variable with the greatest impact on consumer choice.

Sulphite content is the second-most important (28.2%) variable. Little attention is paid to organic certifications of the grapes (only 6.3%); membership in the Abruzzo Wines Consortium is almost completely irrelevant (2.84%).

The results of the comparative analysis that was obtained between the data collected from Italian consumers and those from Brazilian consumers show the following differences:

- bottling location is the second-most important variable for Italian consumers, by a value of 28%, while for Brazilian it is only 13% (table 8). The policies adopted by the Italian institutions and producers with regard to the appreciation of the concept of quality food chain have probably enhanced this aspect for the consumer. It is important to point out that in the Brazilian market the great majority of Montepulciano d'Abruzzo DOC wines commercialized by the large-scale retail trade is wine of low quality bottled outside the region of production (Abruzzo);
- sulphite content expresses completely different values in the two countries: in Italy the presence/absence of sulphite is not an important element of choice, while in Brazil it holds in consumers choice (9.6% versus 28.2%);
- in Italy there is a greater value placed to membership (or not) in the Abruzzo Wines Consortium; this result appears tied to the greater presence in Italy of structures geared to guarantee the product than in Brazil; it should be recognized that the characteristic of typical local product on the basis of territorial origin normally loses its importance when the product is acquired far from the area of production, especially if it is not well known in the global market.

The study reveals that the price range quoted for Brazilian consumers is the Popular premium, while for Italians it is the Premium. For both countries prices connected to Super premium categories and above represent negative indicators of utility (table 9).

Table 7: Sample description

Age	% Italian sample	% Brazilian sample
18-30	42	12
31-40	30	20
Over 41	28	68

Gender	% Italian sample	% Brazilian sample
Male	55	59
Woman	45	41

Wine consumption Frequency	% Italian sample	% Brazilian sample
Regular	20	6
Medium	47	53
Occasional	20	23
Rarely	13	18

Wine cognition level	% Italian sample	% Brazilian sample
Expert	6	2
Good	26	8
Sufficient	46	51
Limited	22	39

4 Market segmentation (factor analysis and cluster analysis)

The need to be fast in developing new products as a consequence of constant changes in the market, strong competition, globalization and a difficult economic situation, contributes to make product improvement a key point for on-going competitive advantage (Deliza et al., 2003). In the competitive and dynamic wine market, it's very important for the wine producers not only to find out what kind of product the consumers look for, but also to understand which particular information, provided in the label, can influence the consumers acceptance of a specific wine bottle.

To study the consumer attitude towards the product, a factor analysis was used to analyse the main components of the consumer's characteristics and the product. The aim of this research is to enable the response of each wine consumer to be analysed for the relative importance of each factor and, similarly, performing consumers can be clustered. Only the Italian sample has been used for this

Table 8: Conjoint Analysis. Relative importance of the factors (%)

Factor	Brazilian	Italian
Consortium	2.84	18.399
Sulphites	28.169	9.583
Bottling place	12.652	27.591
Organic certification	6.288	11.968
Price range	50.051	32.459

Table 9: Estimate of the factors utility value

Factor	Level	Brazilian	Italian
Consortium	Associated	.571	3.355
	Not associated	-.571	-3.355
Sulphites	It contains sulphites	-5.668	-1.748
	It does not contains sulphites	5.668	1.748
Bottling place	In the production area	2.546	5.031
	Outside the production area	-2.546	-5.031
Organic certification	Certificated	-1.265	2.182
	Not certificated	1.265	-2.182
Price range	Popular Premium	9.577	3.289
	Premium	7.240	5.076
	Super Premium	-6.250	-1.603
	Ultra Premium	-10.566	-6.762

analysis.

The statistical analysis was performed using the SPSS statistical package.

Results of the Factorial Analysis are statistically significant ($KMO = 0.731$) and the first 5 components explain more than 68% of the total variance of the studied phenomenon:

- Component n. 1 “YOUNG PEOPLE WITH LOW PRODUCT COGNITION”: it explains more than 20% of the total variance and is correlated to young male subjects, without a detailed knowledge of the product and with a standard frequency of purchase; the preference for the types of wine is above all for profiles 4 and 3, while high price appears decidedly to be little appreciated (profile n. 5, characterized by a negative coefficient).
- Component n. 2 “WOMEN AVAILABLE TO PAY FOR QUALITY”: it explains 18% of the total variance and is characterized by women who preferred

Table 10: Factor Analysis. Descriptive Statistics

	Mean	Std. Deviation	Analysis N
Age	1.86	.827	207
Purchase frequency	2.26	.928	207
Product cognition	2.84	.841	207
Gender	.5459	.49910	207
Average purchase cost	2.6618	1.27776	207
DOC_DOP	0.1836	0.38808	207
Profile 1	61.88	23.071	207
Profile 2	44.35	24.874	207
Profile 3	60.97	27.542	207
Profile 4	43.32	27.699	207
Profile 5	39.84	24.494	207
Profile 6	45.98	23.779	207
Profile 7	52.86	22.312	207
Profile 8	41.65	23.101	207

Source: own elaboration

Table 11: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.731
Bartlett's Test of Sphericity	Approx. Chi-Square	877.909
	Df	91
	Sig.	.000

Source: own elaboration

product profiles are 5, 8 and 7, indicating a preference for wine characterized by a medium-high price range.

- Component n. 3 “YOUNG WOMEN WITH HIGH PRODUCT COGNITION”: it is characterized by young women with highest product knowledge among all the other components, they buy wine regularly, above all at a popular premium price; this component differs from the others, in the sense that it is not correlated to the preference for detailed product profiles.
- Component n. 4 “MATURE AND TRADITIONALLY WOMEN”: it is correlated to mature women who buy premium price wine, without detailed recognition of the product and with a standard frequency of purchase; it seems that they do not appreciate organic wines and those bottled by the producer.
- Component n. 5 “MEN LOOKING FOR PRICE-QUALITY RELATION-

Table 12: Rotated Component Matrix (a)

	Component				
	1	2	3	4	5
Profile 4	.856			-.194	-.144
Profile 3	.854			.148	
Profile 6	.773	.433		-.134	
Profile 1	.705	.168		.112	.255
Profile 5	-.148	.823		.167	
Profile 8	.228	.758		.102	
Profile 7	.311	.717		-.114	
Profile 2	.138	.671		-.218	
Product cognition			.839		
Purchase frequency			.824		
Age	-.109		-.336	.793	
Average purchase cost	.278	-.143	.392	.570	
Gender		-.216	-.296	-.448	.408
DOC_DOP					.906

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization. a Rotation converged in 5 iterations.

Table 13: Total Variance Explained

Component	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	2.842	20.303	20.303
2	2.520	18.001	38.304
3	1.754	12.531	50.835
4	1.355	9.675	60.510
5	1.098	7.845	68.356

Extraction Method: Principal Component Analysis.

SHIP[®]: it is correlated above all to male subjects that declare indifference for DOP and DOC quality markers, without detailed knowledge of the product and with a standard frequency of purchase; this component is also characterized by a middle-aged consumer, expressing preference for profile 1 and showing not to appreciate in particular profile 4.

Results of cluster analysis, obtained using the 5 above described components as variable, provided 5 segments (of which the fifth represent the only subject that has given extremely positive judgments to the several profiles):

- First segment (35 elements): mainly young men, with good product recognition; their wine purchases are characterized by an average frequency, and

they pay a super-premium price for wine; they identify the DOC mark (60%) more times than the DOP one (34.29%), as a quality indicator; in this segment we can verify a remarkable preference for the wine profiles 3 and 4;

- Second segment (83 subjects): mainly young women, with sufficient product recognition; their wine purchases are characterized by lower frequency than the average; and they pay a super-premium price for wine; they identify the DOC mark (56.63%) more times than the DOP one (39.76%), as a quality indicator; the wine profiles 1 and 7 are the most preferred in this segment;
- Third segment (42 subjects): middle-aged subjects, not differentiated by gender, with little more than sufficient product cognition; their wine purchases are characterized by an average frequency; they pay a premium price for wine; they identify the DOC mark more times than the DOP one, as a quality indicator; the wine profiles 1 and 7 are the most preferred in this segment;
- Fourth segment (46 subjects): middle-aged male subjects, with little more than sufficient product cognition; their wine purchases are characterized by an average frequency; they pay a popular-premium price for wine; almost 70% of the subjects of this segment correctly identify both the DOC and DOP marks as quality indicators; the wine profiles 1 and 3 are the most preferred in this segment;
- Fifth segment (1 subject): not to be considered.

Table 14: Cluster Analysis - Average of the gender variables in the 5 clusters

Cluster	n. of cases	Women (%)	Men (%)
1	35	25.7	74.3
2	83	61.4	38.6
3	42	52.4	47.6
4	46	26.1	73.9
5	1	0.0	100.0
Total	207	45.4	54.6

Source: own elaboration

We can observe that results of cluster analysis show, in general, that no segments are characterized by the availability to pay for a bottle of the studied wine that is more than seven euro, which is a low-medium price. This confirms the results of Conjoint analysis, in the sense that price seems to be the variable that

Table 15: Cluster Analysis - Averages of the wine-profile evaluations

Cluster	profile 1	profile 2	profile 3	profile 4	profile 5	profile 6	Profile 7	profile 8
1	77.0	38.5	91.4	82.4	16.8	71.3	52.5	37.2
2	64.8	58.2	61.5	46.6	54.6	53.2	68.5	54.2
3	39.0	24.9	35.6	16.9	25.7	17.5	27.0	23.2
4	65.8	40.6	61.2	32.5	42.5	38.7	47.9	38.3
5	70.0	90.0	5.0	5.0	90.0	90.0	80.0	80.0
Total	61.9	44.3	61.0	43.3	39.8	46.0	52.9	41.6

Source: own elaboration

Table 16: Cluster Analysis - Average of the identification of DOC and DOP as quality indicators

Cluster	n. of cases	DOC (%)	DOP (%)	No difference (%)	Total (%)
1	35	60.0	34.3	5.7	100
2	83	56.6	39.8	3.6	100
3	42	81.0	16.7	2.4	100
4	46	0.0	30.4	69.6	100
5	1	0.0	0.0	100.0	100
Total	207	49.3	31.9	18.8	100

Source: own elaboration

influences, more than other components, consumer demand analysed in this paper. Anyway, the second segment, characterized by the feminine presence, shows the highest evaluations for the more expensive wine (profile 2 and 5).

We can also verify another confirmation of results of ACP analysis, which is the presence, in the wine market, of a segment characterized by the feminine demand that should be considered, if confirmed by a larger survey, for successful wine marketing.

5 Concluding remarks

This study provides a non-traditional segmentation, based not only on demographic and behaviour aspects of wine consumers but also on variables that indicate the individual acceptance for specific product attributes and the perception of changes in regulatory policies.

Also aspects of wine labelling and presentation, which are not usually analysed and are directly linked with regulatory policies, affect Italian consumer perception, especially when linked with naturalness, quality control and safety aspects.

In our analysis attributes like the membership of a Protected Designation of Origin Consortium (that may mean a deeper quality control guarantee) and the

indication of bottling in the production area have higher importance than the organic certification. Also the absence of the indication “contain sulphites” takes some importance. These are all elements of further differentiation within the designation of origin wines category.

The comparison with consumers of a so called new consumer country, Brazil, indicates interesting similarity and differences with Italian consumers. Brazilians ones are sensitive to aspects related to safety (the absence of the “contain sulphites” indication) and less sensitive to aspects related to quality and control of the food chain (i.e. bottling location and membership of a Consortium). The organic certification is less important for both Italians and Brazilians consumers.

Price is confirmed to be a key element in both countries, and we have to underline that high positive influence of price on consumers’ preference concerns the wines of the category “premium” and “popular premium”.

The differentiated attribution of quality to brand DOC rather than to PDO put in evidence for EU policy-makers the need to inform wine consumers in a more efficient way, considering that only about 19% of the sample, clustered into segment n. 5, gave the correct answer about these quality indicators. Labelling designation of origin wines with different indications (PDO and / or DOC) and using the Community PDO Logo can increase confusion in the consumers.

It was possible to identify different segments of Italian consumers characterized by their acceptance or rejection of the product attributes, their recognition of new designations of wine origin in the Common Market Organization and their demographic and consumption habits. From these results, emerges the interesting aspect of differentiation of women preferences from the men’s ones, and this is useful information for the market-orientation.

The results show clearly that, while the importance of a traditional factor like the price for the majority of wine consumers is confirmed, emerge differences among subgroups of consumers aggregated by their responses to concepts indicated by the wine label. So it is possible to identify meaningful segments of wine consumers on which elaborate a market-oriented strategy.

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