

Sillani, Sandro; Miccoli, Alessandra; Nassivera, Federico

## Article

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# Different preferences for wine communication

Sandro Sillani<sup>a</sup>, Alessandra Miccoli<sup>a</sup>, Federico Nassivera<sup>b,\*</sup>

<sup>a</sup>Dept. of Agricultural, Food, Environmental and Animal Science, University of Udine, via delle Scienze 208, 33100 Udine, Italy

<sup>b</sup>Dept. of Economics and Statistics, University of Udine, via Tomadini, 30/a 33100 Udine, Italy

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## Abstract

This study aimed at verifying the presence of variations in the reactions of different types of audiences to certain communication tools for wine. Five samples of audiences were compared: wine professionals, organic produce specialists, wine tourists, and two samples of general tourists. The following bundle of attributes were considered: name of the grape; information on organic production methods; type of closure; QR code; landscape; advertising language. Diverse audience's preferences were measured by conjoint analysis. The results have shown a common sensitivity to certain attributes, and a different or contrary sensitivity to others. In particular, all samples have demonstrated that: 1) certified organic wines communicated in standard wine-market style have the potential of becoming market leaders; 2) photographs facilitate the acceptance of technologically-advanced closures; 3) the presence of the QR code in printed advertisements increases the expected value of the product; 4) a landscape characterised by holistic "garden viticulture" increases preferences. Textual language was more effective with professionals, while photographic language was more effective with tourists. Supplementary information on the organic production methods, in addition to the mandatory labelling requirements, increased the preferences of professionals and wine tourists, and was counterproductive with the general tourists.

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**Keywords:** Consumer behaviour; Wine consumer; Conjoint analysis; Wine communication

## 1. Introduction

Wine communication is addressed to a variety of audiences, favouring different marketing tools in different situations. Audiences are typically composed by segments of the end consumers and by various categories of professionals and intermediaries including journalists, restaurateurs, wine-shop and wine-bar managers, and others. An audience's response to communication-mix tactics depends on numerous factors, such as their background knowledge and experience (Martínez et al., 2006; Sam and Thompson, 2012; Orth et al., 2005; Klohr et al., 2013). This study examines four types of audiences, divided in five samples, and some of the possible

levers in wine-communication mixes. The first type of audience is composed by a sample of subjects with professional experience in the world of wine (wine professionals at a wine fair); the second by a sample of subjects with professional experience in the field of organic food (organic produce specialists at an organic food fair); the third and the fourth by subjects with experience in the world of wine as consumers (respectively, a sample of wine tourists at a wine fair and two samples of general tourists). The bundles of product's attributes taken into account comprise: the name of the variety of grape; information on the organic production methods; the type of bottle closure; the possibility to connect to a company website via QR code; the particular landscape impressed on front label; the type of language used to codify the advertising message (textual, graphic, musical, and so on).

The aims of the study are both general and particular. The general objective is to verify the presence (or the lack) of variations in the response of the specific audiences considered to the different attribute employed; in other words, if the

\*Corresponding author.

E-mail addresses: [sandro.sillani@uniud.it](mailto:sandro.sillani@uniud.it) (S. Sillani),

[alemiccoli@hotmail.com](mailto:alemiccoli@hotmail.com) (A. Miccoli),

[federico.nassivera@uniud.it](mailto:federico.nassivera@uniud.it) (F. Nassivera).

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“ideal” ways to communicate wine to these audiences are the same for all or should be differentiated. The more particular objectives concern the individual attribute as marketing tool.

## 2. Theoretical background

With regard to the grape name, [Rea and D'Antone \(2011\)](#) have shown that the prevalent cognitive structure in the product category “wine” is hierarchical, in that consumers respond first to the area of origin or to the grape name, and only later, within a category of wines having the same origin or produced from the same grape, do they choose among the different producers or products. Given the large number of grape varieties being grown around the world and their importance to consumers ([Anderson and Aryal, 2014](#); [Pomarici, 2001](#); [Borsellino et al., 2012](#)), we wanted to evaluate the reaction of the four kind of audiences, divided in five samples, to the name of a “native” grape variety outside its area of cultivation, comparing it with their reaction to the names of well-known international grapes. At present, in Apulia (southern Italy) wine industry is committed in order to boost and spread as well as to protect the geographical origin and autochthonous varietal of typical wines. Primitivo is an autochthonous grape variety which Apulian producers have increasingly put the accent on premium quality, and by now Primitivo wines are quite well acknowledged by the international experts as some of the best Italian red wines.

Studies on organic wines have demonstrated that these products can be useful in a perspective of market segmentation ([Barber, 2012](#); [Barber et al., 2010a](#); [Troiano et al., 2016](#)). Other studies have shown that consumers in certain wine-producing areas of Spain are willing to pay more for local organic wines than for local non-organic products ([Barber, 2010](#)), and that American wine consumers are willing to pay more for “green” wine packaging ([Barber, 2010](#)). In brief, certain research results support the use of organic wines in market segmentation strategies, while others indicate that wine consumers are generally sensitive to environmental issues ([Schimmenti et al., 2016](#)). In this paper, regarding the information on organic production, we meant to compare the reaction to these wines by consumers who did not belong to this market segment and by organic food specialists. In addition, we aimed to establish if the audiences considered were sensitive to the fact that an organic production process can be adopted for all the production lines of a company or only for some of them, and subsequently to the fact that a company may or may not be defined as exclusively organic.

As regards bottle closures, research has established that wine packaging stimulates consumer motivations, which in turn are strong predictors of their preferences ([Barber et al., 2010b](#)). Other authors have underlined the importance of communication in the spreading of innovations that consumers may be reluctant to adopt, making reference to the case of screw cap bottle closures in the USA, Australia and New Zealand ([Choi et al., 2010](#)). In this work, we proposed to investigate if the photographs used in wine advertising could have an effect on the adoption of technologically-advanced solutions in this field.

With reference to m-commerce, and the presence of QR code on back label, studies have examined the quality of wine producers' websites and of the marketing strategies adopted ([Gurău and Duquesnois, 2011](#); [Mills et al., 2012](#); [Velikova et al., 2011](#); [Begalli et al., 2009](#); [Cata et al., 2013](#)). Other research has concentrated on consumer behaviour, in particular analysing motivations, perception of risks and information quality, customer retention and preferences for online retailing ([Okazaki et al., 2011](#); [Shin et al., 2012](#); [Okazaki and Mendez, 2013](#); [Chong, 2013](#); [Kim et al., 2010](#); [Zhang et al., 2012](#); [Lin and Wang, 2006](#); [Kowatsch and Maass, 2010](#); [Korgaonkar et al., 2006](#); [Bressolles and Durrieu, 2010](#)). In our paper, we planned to test whether the presence of a QR code on a printed advertisement ingenerates a greater preference for the wine even in advance to visiting the winemaker's website.

Recent literature has highlighted the relationship between viticultural practices and landscape, and the importance of landscape features which are external to the process of wine production (natural, historical, architectural, and others) in determining the perceived value of a wine-producing landscape ([Yengue, 2013](#); [Badiali and Piacente, 2012](#)). It has also shown that landscape influences the decision to visit a winery and the preference for a wine, and is useful in market segmentation ([Cohen and Ben-Nun, 2009](#); [Tempesta et al., 2010](#)); some authors have also analysed the design of the spaces outside the winery buildings ([Tassinari et al., 2013](#)). In this study we compared a natural landscape typical of a conventional “rational/specialised” vineyard and a specially-designed landscape accommodating a “garden vineyard”, aiming to convey an image of “holistic viticulture”.

Finally, [Farahani et al. \(2011\)](#) have found that the majority of respondents in a sample of international tourists, when looking for information on possible travel destinations, preferred visual language over textual and vocal – a behaviour that the authors explained with the fact that photography is the only language which is understood throughout the world. Other authors have pointed out that the perception of photographic images is influenced by the cultural background of the observer, and that the same image can have a different effect on people and segment the market ([Dewar et al., 2007](#)). Lastly, [Purchase et al. \(2010\)](#) have highlighted the transformation of contemporary culture from “written” to “visual”, and have discussed the importance of images in business to business relations. In our paper, we intended to compare the effects of photographic and textual language on different audiences and, in particular, on consumers and food sector operators.

## 3. Materials and methods

Normally audiences are exposed to different stimuli at the same time, and it is in this context that the decoding of messages and attribution of meanings takes place. In order to reproduce this situation, Conjoint Analysis was used and reactions were measured in terms of contribution to the shaping of the preferences for the products or the partial preferences ([Head and Ziolkowski, 2012](#); [Mesaroš et al., 2013](#); [Silayoi and Speece, 2007](#); [Tempesta et al., 2010](#)).

Table 1  
Experimental variables and levels: elements analysed as marketing tool.

Attributes	Levels
Wine	Chardonnay; Merlot; Primitivo
Organic	Absent; Wine made from organic grapes; Wine made from organic grapes – Exclusively organic company
Price (€/bottle)	6; 9; 12
Closure	"Cork" <sup>a</sup> ; "Screw cap" <sup>b</sup>
QR	Absent; Present
Landscape	"Holistic garden vineyard" <sup>c</sup> ; "Rational/specialised vineyard" <sup>d</sup>
Language	Textual <sup>e</sup> ; Photographic <sup>f</sup>

<sup>a</sup>Photographic image of a wine bottle with a traditional seal (cork or synthetic stopper).

<sup>b</sup>Photographic image of a wine bottle with a screw cap.

<sup>c</sup>Photographic image of a vineyard with rows of vines planted "in waves", incorporating natural and historical elements which predated the establishment of the vineyard.

<sup>d</sup>Photographic image of a vineyard with straight rows of vines, without any natural and historical elements which may have predated the establishment of the vineyard.

<sup>e</sup>Phrase "Where history, art and nature meet in an original landscape" placed at the centre of a photograph of the vineyard.

<sup>f</sup>Photographic reproduction of a drawing of a wine harvest, taken from an archaeological artefact, placed at the centre of a photograph of the vineyard.

Conjoint analysis is a multivariate statistical technique which aims to evaluate the preferences of respondents for a number of alternative products expressed in a bundle of attributes (Cicia et al., 2004; Furlan and Martone, 2011; Green et al., 2001; Gustafsson et al., 2001; Molteni and Troilo, 2007). It enables to measure the partial preferences, or utilities, assigned to the single levels of each attribute used to describe the products; these attributes of the product can be seen and consider as marketing tools. Partial preferences give a measure of the respondents' reactions to individual attribute. The peculiarity of conjoint analysis lies in the similarity between its characteristic procedure and the real-life process of decision making. In particular, respondents do not express preferences or judgements on the single attribute but on the bundles of attributes, and so on the product as a whole. In other words, partial preferences are not openly declared by respondents but are estimated on the basis of the preferences they have expressed for the products being compared.

Table 1 shows the different bundles of attributes being analysed in the conjoint analysis tests. The attribute "Wine", expressed as marketing tool on the label, is textual and includes three levels denoted by the names of three varietal wines, Chardonnay and Merlot, because they represent world-famous international grapes/wines and well distributed in the our research area, and Primitivo representing a local grape/wine less known outside its traditional area of production. The attribute "Organic" is textual and includes three alternative levels. The level "Absent" indicates the absence of information on label on the production process and implies a non-organic wine; the second level is represented by the text "Wine made from organic grapes", as prescribed by the European regulations in force at the time of the survey; the third level, in addition to the mandatory European information, includes the

sentence "Exclusively organic company", informing potential customers that all production processes carried out by the producer were meeting organic farming requirements (at the time this was not regulated or certified by a third party). The attribute "Price" has been introduced to give an indication of the category of the wines being compared, and to make the decision-making process more realistic; it also enables to evaluate the reaction of different audiences to the variable price. The levels included are € 6, € 9, and € 12 a bottle, defined after a little focus group with wine experts of our research area. The attribute "Closure" is graphic and includes two levels. The level "Cork" is represented by a photograph of a wine bottle with a conventional seal, implying the presence of a cork or synthetic stopper. The level "Screw cap" is represented by a photograph of a wine bottle with a screw cap. The attribute "QR" is graphic and on two levels, one indicating the presence and the other the absence of a QR code. The code, when present, does not enable to connect with any website, so if it had an effect on the respondents' preferences that would be independent from the quality of the company's site. The attribute "Landscape" is graphic and on two levels. The first level is represented by a photograph of a "garden vineyard" with rows of vines planted "in waves", designed in such a way to convey the idea of holistic viticulture, open to visitors and including pre-existent natural, historical and cultural elements. The second level is expressed by a photograph of a conventional vineyard with straight rows of vines, designed purely on the basis of its technical and productive aspects and without any explicit landscaping objective, but still constituting an attractive natural landscape. The messages transmitted by the simulated advertising pages created for the study are encoded in photographic and textual language; yet the textual and photographic attributes considered until now are different also for the messages they transmit and for the number of levels, so they cannot be used to evaluate the reactions of respondents to the two languages. As a result the attribute "Language" has been introduced, comparing a "Textual" level with a "Photographic" level. The former is represented by the phrase "Where history, art and nature meet in an original landscape" placed at the centre of a photograph of a vineyard. The latter transmits the same message using the photograph of an archaeological artefact from Magna Graecia depicting a wine harvest, placed in the same position as the text.

All the variables in the model are categorical except "Price", where a linear relation is anticipated between the attribute and the scores of preference expressed for the product. A linear hypothesis has enabled us to distinguish between respondents who view price as a cost (negative partial preferences) and respondents who consider it as an indicator of product quality (positive partial preferences) when more than two levels of price are compared. For the other attributes no hypothesis has been made on the relation between factor and preference scores.

In order not to tire respondents with an excessive number of experimental variables and risk to deteriorate the quality of the information collected, it was decided not to consider any more

Table 2  
Orthogonal array for the collection of preferences.

N	Wine	Organic	Price (€/bottle)	Closure	QR	Landscape	Language
1	Merlot	Wine made from organic grapes – Exclusively organic company	12	“Cork”	Present	Rational/specialised vineyard	Textual
2	Chardonnay	Absent	12	Screw cap	Absent	Rational/specialised vineyard	Textual
3	Chardonnay	Wine made from organic grapes - Exclusively organic company	6	“Cork”	Absent	Holistic garden vineyard	Textual
4	Merlot	Absent	9	“Cork”	Absent	Holistic garden vineyard	Photographic
5	Primitivo	Wine made from organic grapes	12	“Cork”	Present	Holistic garden vineyard	Photographic
6	Merlot	Absent	6	Screw cap	Present	Rational/specialised vineyard	Photographic
7	Chardonnay	Absent	12	Screw cap	Absent	Holistic garden vineyard	Photographic
8	Chardonnay	Wine made from organic grapes	6	“Cork”	Absent	Rational/specialised vineyard	Photographic
9 <sup>a</sup>	Chardonnay	Absent	12	Screw cap	Present	Rational/specialised vineyard	Textual
10	Chardonnay	Wine made from organic grapes - Exclusively organic company	9	Screw cap	Present	Holistic garden vineyard	Photographic
11	Chardonnay	Wine made from organic grapes	9	Screw cap	Present	Rational/specialised vineyard	Textual
12	Chardonnay	Absent	6	“Cork”	Present	Rational/specialised vineyard	Photographic
13	Primitivo	Absent	6	Screw cap	Present	Holistic garden vineyard	Textual
14	Chardonnay	Absent	6	“Cork”	Present	Holistic garden vineyard	Textual
15	Primitivo	Wine made from organic grapes -Exclusively organic company	6	Screw cap	Absent	Rational/specialised vineyard	Photographic
16 <sup>a</sup>	Merlot	Absent	6	“Cork”	Absent	Holistic garden vineyard	Textual
17	Merlot	Wine made from organic grapes	6	Screw cap	Absent	Holistic garden vineyard	Textual
18	Primitivo	Absent	9	“Cork”	Absent	Rational/specialised vineyard	Textual

<sup>a</sup>Holdout.

variables and to exclude attributes such as the designation of origin, the name of the winery, and others which play a role in choosing a wine (Bernab   et al., 2012; Palma et al., 2013). This exclusion implies that the values of the partial preferences “measured” in this research are comparable among them but not with the values expressed in other researches.

Conjoint analysis has been carried out using SPSS Conjoint 19.0 software, which employs a full-profile approach with fractional factorial design and which has generated the orthogonal array presented in Table 2. In particular, we have adopted an additive hypothesis without considering possible interactions between attributes.

In order to collect the preferences we have decided to ask respondents to choose a wine from a catalogue of advertising pages which used textual elements and photographic images. Every profile in the orthogonal plane in Table 2 corresponded to an advertising page with the required combination of bundles of attributes. So, every advertising page in the catalogue represented one of the marketing tool devised in the experimental plan. The images and texts of the attributes “Landscape” and “Language” were provided by a wine-growing company (Amastuola, 2011), the other images and the advertising catalogue were created by a design studio. All the communicative stimuli present in the catalogue such as style, background, shapes, colours etc. were standardised (the same for all the advertising pages) except for the combinations



Fig. 1. Example of image proposed in the advertising catalogue.

of levels (Fig. 1 and Fig. 2). For the expression of preferences three versions of the catalogue were produced, in English, German and Italian. Respondents were asked to express their preferences on a scale of 1 to 10, with the maximum score indicating the maximum preference.





Fig. 2. Example of image proposed in the advertising catalogue.

Table 3  
Characteristics of respondents.

		Samples of professionals		Samples of consumers / tourists			Total
		Organic products	Wine	General tourists Travel agencies	General tourists Seaside resorts	Wine tourists	
		(A)	(B)	(C)	(D)	(E)	
Number		293	261	185	120	174	1033
Males (%)		57.7	53.3	68.6	63.3	53.8	58.6
Age (%)	18–30	17.5	30.2	0.5	14.2	41.7	21.0
	31–44	52.4	42.3	15.7	50.0	39.3	40.8
	45–58	24.7	22.2	43.8	29.2	13.5	26.3
	> 58	5.5	5.2	40.0	6.7	5.5	11.9
Country of origin (%)	Italy	40.6	80.8	0.0	90.0	89.1	57.4
	Germany	25.9	8.4	100.0	0.0	2.3	27.8
	Other Europe	23.9	10.0	0.0	10.0	8.6	11.9
	Other	9.6	0.8	0.0	0.0	0.0	2.9
Graduates (%)		58.7	39.8	99.5	58.3	33.5	57.5
Professionals working with wine (%)		23.4	100.0	0.0	0.0	0.0	31.9
Wine consumers (%)		87.3	88.6	94.9	92.5	86.0	89.3
Smartphone owners (%)		75.5	52.9	41.1	39.2	47.4	53.4

#### 4. Sampling method and sample characteristics

Table 3 describes the five different samples of audiences examined in our experiment. Column A describes the organic

produce specialists. They were contacted at the international trade fair for organic food Biofach, in Germany, in February 2011. This sample is composed of 293 subjects; 23.4% of them have declared to have a professional interest in wine and 87.5% have stated they are consumers of this product. Column B describes the wine professionals. They were contacted at the international wine fair Vinitaly, in Italy, in April 2011. This sample is composed of 261 subjects who have declared to have a professional interest in wine. Columns C and D describe two consumer samples. The first (Column C) is composed of 185 tourists who were contacted at various travel agencies in Germany in June 2013. They represent a sample of potential wine tourists, in the sense that they were contacted at a place of possible contact between supply and demand of wine-related tourism. The second consumer sample (Column D) is composed of 120 tourists who were contacted at various seaside resorts in north-east Italy, in April–May 2011. This is a sample of potential buyers/consumers of wine. None of the subjects in either sample has declared to have a professional interest in wine, and over 92% have stated to consume it. Column E describes the wine tourists. They were contacted in April 2011 at the International Wine Fair Vinitaly, that take place every year in Verona, city in the northeast of Italy. This sample is composed of 174 subjects who have declared not to have a professional interest in wine; only 86% of this sample are wine consumers.

#### 5. Analysis and results

Preferences were often collected in crowded places, so respondents were not always in an ideal condition to carefully evaluate alternatives and there was a danger of casual answers. In order to set a limit for the acceptability of answers, 5000 hypothetical statistical units were generated using Random Number Generator for Excel. The correlation indexes between estimated preferences and those produced by Random Generator were as follows: Pearson's  $r$  0.604 (sig. 0.007) and Kendall's tau 0.383 (sig. 0.019). These values have been used to assess the acceptability of results.

Table 4 shows the correlation indexes between the preferences expressed by respondents and those estimated by the choice-based models generated by conjoint analysis. The Table

Table 4  
Correlation between observed and estimated preferences.

	Pearson's $r$		Kendall's $\tau$	
	Value	Sig.	Value	Sig.
<i>Samples of professionals</i>				
A) Organic products	0.908	0.000	0.812	0.000
B) Wine	0.947	0.000	0.733	0.000
<i>Samples of consumers / tourists</i>				
C) General tourists / Travel agencies	0.941	0.000	0.700	0.000
D) General tourists / Seaside resorts	0.958	0.000	0.762	0.000
E) Wine tourists	0.963	0.000	0.850	0.000

Table 5

Contribution of each marketing tool (levels) to the preferences for wines (mean partial preferences).

Attributes	Levels	Samples of professionals				Samples of consumers / tourists				
		Organic products		Wine		General tourists / Travel agencies		General tourists / Seaside resorts		Wine tourists
		(A)		(B)		(C)		(D)		(E)
Wine	Chardonnay	(a) 0.15	bc	0.10	b	0.02		−0.01		0.10 bc
	Merlot	(b) −0.06		−0.10		−0.07		−0.07		−0.05
	Primitivo	(c) −0.09		−0.01		0.05		0.08		−0.04
Organic	Absent	(a) −0.38		−0.39		−0.09	ABE	−0.03	ABE	−0.28
	Wine made from organic grapes	(b) 0.06	a	0.01	a	0.17	BE, ac	0.21	BE, ac	0.00 a
	Wine made from organic grapes – Exclusively organic company	(c) 0.32	CD, ab	0.38	CD, ab	−0.08		−0.18		0.28 CD, ab
Price	6	(a) −0.47	c	−0.40	c	−0.47	c	−0.53		−0.24
	9	(b) −0.71		−0.60		−0.71		−0.80		−0.36
	12	(c) −0.94		−0.79		−0.94		−1.06		−0.48
Closure	“Cork”	(a) −0.06		−0.13		−0.07		−0.09		−0.11
	Screw cap	(b) 0.06	a	0.13	a	0.07	a	0.09	a	0.11
QR	Present	(a) 0.16	b	0.18	b	0.08	b	0.08	b	0.11 b
	Absent	(b) −0.16		−0.18		−0.08		−0.08		−0.11
Landscape	“Holistic garden vineyard”	(a) 0.18	b	0.24	C, b	0.12	b	0.14	b	0.18 b
	“Rational/specialised vineyard”	(b) −0.18		−0.24		−0.12	B	−0.14		−0.18
Language	Textual	(a) 0.15	CDE, b	0.14	CD, b	−0.13		−0.21		0.02 CD
	Photographic	(b) −0.15		−0.14		0.13	ABE, a	0.21	ABE, a	−0.02 A
(Constant)		6.96	BCDE	6.37		6.34		6.29		6.26

The result of comparisons between means in the same row is indicated by an uppercase letter, the result of comparisons between means in the same column is indicated by a lowercase letter. For each significant pair, the score of the category with the lowest mean is written next to the category with the highest mean. Comparisons between means in the same column are made only between levels of the same attribute. The results are the output of two-tail tests, assuming identical variances with a significance level of 0.05. The tests are adjusted for all pair comparisons using Bonferroni correction.

indexes have values included between 0.908 and 0.963 for Pearson's  $r$  and between 0.700 and 0.850 for Kendall's  $\tau$ . These values are modest but clearly higher than those we might have obtained if respondents had given casual answers (respectively 0.604 and 0.383 for the two indexes). So we believe that the partial preferences estimated by conjoint analysis are representatives of the respondents' reactions to the communication stimuli offered by the test.

## 6. Contribution of each marketing communication tool in different audience

Table 5 presents the partial preferences expressed by the five samples, as estimated by conjoint analysis. The results will be described and commented first with reference to the audiences, highlighting possible differences among the samples, and later with reference to the individual attribute of the communication mix. The comparison between the samples of professionals and consumers will be carried out in two phases. In the first phase,

we will describe the combinations of communication attribute which defined the preferred wine for each of the five samples (ideal marketing communication tools). In a second phase, we will directly compare the partial preferences assigned by each sample to each individual level of each attribute. In this way we will be able to verify if samples expressed different reactions to the bundles of attributes as marketing tool.

The ideal marketing communication tool for each sample of audience are identified by comparing the mean partial preferences for each level of the same attribute along the columns of Table 5. A lowercase letter next to a value indicates a significant difference in the  $t$ -tests with  $\alpha=0.05$ . In particular, the score with the lowest mean is reported next to the highest mean. Significant differences indicate the levels involved have been perceived as different and vice versa. When interpreting data, it is worth remembering that: 1) the partial preference of a level is the contribution of this level to the formation of a preference for a product; 2) greater partial preferences help to obtain a greater preference for the product; 3) negative values

do not indicate a negative preference but only less preference for the product.

### 6.1. Organic food specialists

Column A of Table 5 shows the mean partial preferences expressed by the organic food specialists at the Biofach trade fair in Germany. Data indicate that: 1) Chardonnay was the preferred wine (0.15), while Merlot (−0.06) and Primitivo (−0.09) obtained lower preferences than Chardonnay but similar preferences to each other; 2) the level “Wine made from organic grapes – Exclusively organic company” obtained a greater partial preference (0.32) than the level “Wine made from organic grapes” (0.06) and an even greater preference than the level “Absent” (−0.38); 3) the mean partial preferences of the prices are negative and signify that, in general, low prices helped to obtain greater preferences than high prices, but in particular, for the levels of price considered in the study, the mean partial preference of the lowest price (−0.47) is different only from the mean partial preference of the highest price (−0.94); 4) the image of a bottle with a screw cap (0.06) produced a greater mean preference for the wine than the one produced by the image of a bottle with a conventional “cork” closure (−0.06); 5) the presence of the QR code (0.16) determined a greater mean preference for the product than that obtained by the absence of code (−0.16); 6) the landscape typical of a “holistic garden vineyard” produced a mean partial preference (0.18) greater than that of the landscape typical of a “rational/specialised vineyard”; textual language (0.15) generated greater preferences for the product than photographic language (−0.15). Summarising, with the sample “organic produce specialists”, the wine that obtained the greatest preference, is a Chardonnay from organic grapes, at € 6 a bottle, communicated with an advertising page reporting the information “Exclusively organic company”, a QR code, the images of a bottle with a screw cap and of a landscape typical of a “holistic garden vineyard”, and using textual language.

### 6.2. Wine professionals

Column B of Table 5 shows the partial preferences expressed by the wine professionals contacted at Vinitaly. Comparing the means along the columns, it emerges that the ideal marketing communication tool for this sample of audience is the same as for the organic food specialists, with one exception regarding the preferred wines (at Vinitaly, Chardonnay and Primitivo obtained similar preferences).

Similarly to the wine professionals, the wine tourists contacted at Vinitaly (Table 5, Column E) expressed higher mean preferences for Chardonnay, for the label “Wine made from organic grapes – Exclusively organic company”, for the QR code, and for the image of a “holistic garden vineyard”. Differently from them, they expressed mean partial preferences which are not statistically different for prices, bottle closures, and the textual or photographic encoding of messages. In short, the ideal marketing communication tool for this sample is a Chardonnay from organic grapes, indifferently priced at €

6, € 9, or € 12 a bottle, communicated in an advertisement including the information “Exclusively organic company”, a QR code, the image of a “holistic garden vineyard”, either the image of a conventional or a screw cap closure, and either a message expressed in textual or photographic language.

### 6.3. Tourists and consumers

The two samples of tourists-consumers contacted at the travel agencies in Germany and at the seaside resorts in north-east Italy (Table 5, Columns C and D) reveal: 1) similar mean partial preferences for the three wines being compared; 2) a mean partial preference for the level “Wine made from organic grapes” which is greater (0.17 and 0.21 for the two samples respectively) than that obtained by the levels “Absent” and “Wine made from organic grapes – Exclusively organic company”; 3) preferences for low prices with non-significant differences in the case of the tourists contacted at the seaside resorts and a significant difference between the mean partial preferences for the lowest and the highest prices in the case of the tourists contacted at the travel agencies in Germany; 4) greater mean partial preferences for the same alternatives preferred by the two “professional samples” for the attributes Closure, QR code, and landscape; 5) greater mean partial preferences for photographic language than for textual language (0.13 and 0.21 respectively). In short, the preferred wine for the two samples of consumers/tourists is a Chardonnay, a Merlot, or a Primitivo costing € 6/bottle presented in an advertising page which included the label “Wine made from organic grapes”, a QR code, the images of a screw cap closure and of a “holistic garden vineyard”, and using photographic language.

Examining the reactions to the individual attribute of the marketing communication is possible to underline the following considerations: by comparing the means along each line in Table 5, we can verify if the samples considered had different or similar partial preferences for the individual attribute analysed. An uppercase letter next to a value indicates a significant difference in the *t*-tests with  $\alpha=0.05$ . In particular, the score with the lowest mean is reported next to the highest mean.

### 6.4. Partial preferences

The five samples show mean partial preferences which are not dissimilar for the three wines, the three prices, the two images of closures, the two images of landscape, and for the presence or absence of the QR code. On the contrary, there are significant differences between the samples with regard to the attributes “Organic” and “Language”. For these attributes, the five samples can be divided in two groups: the first constituted by the two samples of wine/organic food professionals and by the sample of wine tourists; the second composed by the two samples of general tourists. The samples in one group do not present significant differences among themselves and significant differences from the samples in the other group. Regarding the attribute “Organic” in particular, the samples in the former group



(professionals and wine tourists) show higher mean partial preferences for the level “Wine made from organic grapes – Exclusively organic company”, and conversely lower preferences for the levels “Absent” and “Wine made from organic grapes” than the samples in the latter group (general tourists). Regarding the attribute “Language”, the samples in the former group present higher mean partial preferences for the level “Textual” and lower mean partial preferences for the level “Photographic” than the samples in latter group.

Ultimately, by considering both the ideal marketing communication tool and the comparisons between partial preferences in Table 5, three different types of audience can be identified. One is composed by the consumers/tourists contacted at the travel agencies in Germany and at the seaside resorts in north-east Italy. Although they belong to different linguistic and food cultures, and were contacted in different phases of the purchase/consume process (at a purchase stage for the “German” group and at a “consume” stage for the “Italian” group), they reacted more or less in the same way to the attributes as marketing tools of the wine communication mix. The second type of audience is composed by the two professional samples – the wine specialists and the organic food specialists. Again, these two categories could be reached by the same ideal attribute as tools of communication mix, which, for certain essential aspects, is different from that of the tourists. A third and different audience is composed by the wine tourists. They reacted in the same way as the professionals to attributes, as tools, such as the local grape variety (name of the wine), the organic certification, the QR code and the landscape, and differently from both the professionals and the other consumers to attributes such as the type of closure and the language used.

Finally, a characteristic is worth pointing out that differentiates the general tourists from the other audiences. Of all samples, the tourists at the travel agencies and those at the seaside resorts expressed the highest preferences for the grape variety/wine which was the least known outside its area of production, showing to be, in this respect, the most open to new proposals. In contrast, these two audiences also proved to be the most prudent and least trusting of wine producers, when they preferred organic wines displaying only the mandatory labelling over those which also displayed supplementary information which was not certified and regulated by law.

#### 6.4.1. Partial preferences for wine/grape variety

Analysing the individual attribute as tool of the communication mix, the local grape/wine considered in this study, Primitivo, was accorded partial preferences not different from Merlot by the wine professionals, organic produce specialists, wine tourists, and general tourists. In addition, it received lower partial preferences than Chardonnay from the organic food specialists and wine tourists, and non-dissimilar preferences from Chardonnay from all the other samples of respondents. These results indicate that, with the samples of professionals and consumers analysed in this study, the fact

that the grape/wine was not well known did not produce lower preferences.

#### 6.4.2. Partial preferences for organic certification

The presence of an organic certification produced greater preferences for the products with all the audiences considered, including the professionals and the consumers who did not belong to this particular market segment. So for the subjects contacted in this survey, organic wine was not a product aimed at a specific market segment or a niche product, but it played the role of a potential market leader. This result, which partially contradicts the experience of the operators of the wine market, where organic products are a minority, may depend on a greater sensitivity to environmental problems on the part of the five samples examined, and/or on the communication style adopted in the advertising pages of the tests. This communication style was not addressed to specific market segments and was identical for all the organic and non-organic products being compared. The lack of specificity in the communication style was criticised by some organic food specialists during the collection of their preferences. According to this criticism, the presentation of organic products requires a specific communication style; according to the results of this survey, instead, organic wines communicated in a standard style have the potential of becoming market leaders.

The presence of the label “Exclusively organic company”, in addition to the mandatory certification “Wine made from organic grapes”, increased the preferences expressed by the organic food specialists, wine professionals and wine tourists, and diminished the preferences of the general tourists. In particular, with the two samples of general tourists, the wines displaying the certification “Wine made from organic grapes” in addition to the label “Exclusively organic company” received the same mean preferences as those without reference to an organic production process (level “Absent”). With these two samples of audiences, the presence of the label “Exclusively organic company” offset the positive effect of the organic certification. The discrepancy between these results can be attributed, as it has been mentioned before, to the different degrees of trust that wine producers enjoy with the various kinds of audiences; in any case it indicates that any information concerning organic production which is not regulated by law and/or regards lesser known aspects must be used with caution and, at least for the element considered in this study, in a non-generalised way.

#### 6.4.3. Partial preferences for photographic images

The photographic images of wine bottles with a screw cap were accorded greater preferences than those of bottles with cork stoppers by all the audiences considered except the wine tourists, who expressed similar mean partial preferences for the two types of closures. This very satisfactory result for screw caps does not mean that the majority of respondents would prefer to purchase wine bottles fitted with this particular closure, but simply that photographs are a very powerful communication tool which can be used to promote the

adoption of product innovations (Barber et al., 2010b; Choi et al., 2010). In this specific case, the market experience of screw caps reminds us of the fact that there are other attributes influencing preferences, and that communication, however effective it may be, is not always sufficient to obtain the desired market shares. Our findings suggest, therefore, that more research is needed in order to identify visual attributes of screw caps that are able to influence consumers.

#### 6.4.4. Partial preferences for QR code

The presence of a QR code yielded greater preferences for the wine with all the samples in Table 5. This result indicates that, with any audience, the QR code increased the expected value of a product even if it was not possible to connect to the company website. So the respondents' reaction to the QR code has, on the one hand, confirmed the importance of websites in wine communication, and on the other, underlined the necessity that, not to create disappointment, the quality of the website and of the product should at least confirm the superiority communicated by displaying the code. In addition, we have verified if the partial preferences for the QR code depended on the fact that respondents owned a smartphone. By comparing the mean partial preferences of the subjects who declared to possess a smartphone with those of the respondents who declared not to possess it ( $t$ -test  $\alpha=0.05$ ), it appears that wine and organic food specialists expressed greater partial preferences for the QR code if they owned a smartphone than if they did not, whereas wine tourists and general tourists did not show any significant difference. Ultimately, with all respondents, the presence of a QR code on the advertising pages increased the perceived value regardless of the fact that no website was accessed and, with the tourists/consumers, regardless of the fact that they owned or did not own the necessary technology. The results that we have found suggest that respondents used the presence of a QR code on a catalogue page as an indicator of wine quality. This hypothesis has been scarcely analysed in literature and deserves greater consideration by researchers.

With consumers and professionals alike and without significant variations between them, the photographic image of a landscape designed to suggest the idea of a "holistic garden vineyard" gained higher preferences for the wine in question than the image of a landscape suggesting the idea of a "rational/specialised vineyard". Being independent from the type of audience, this result demonstrates that landscape can be an important competitive tool not only in the consumer/tourist market but also in the market of commercial intermediaries. In addition, as the landscape labelled "holistic garden vineyard" differentiates itself from its competitor for its explicit reference to natural and historical elements predating the establishment of the vineyard, its greater appeal to respondents confirms the important role that these aspects can play in the competition among wine producers.

#### 6.4.5. Partial preferences for language

The two levels of the attribute "Language" transmit the same message. Textual language was accorded greater preferences

than photographic language by both food and wine specialists. Photographic language was accorded greater preferences than textual language by the general tourists at the travel agencies and at the seaside resorts. Textual language and photographic language received the same preferences from the wine tourists. With professionals and commercial intermediaries, even if specialised in partially different products, textual language has proven to be more effective, being less emotional and leaving less space to the decoding and attribution of meaning. With the general tourists, who have not yet been won over by the world of wine (travel agencies and seaside resorts), the more emotional photographic language has been more effective. With the wine tourists, who do not need to be convinced, the two languages have produced the same effects. While the results of the two samples of general tourists are consistent with those shown in literature (Farahani et al., 2011), the preferences expressed by the two samples of industry professionals are partially contradictory and require further research (Purchase et al., 2010).

### 7. Relative importance of each attribute and price perception

Table 6 shows the relative importance of each marketing communication tools in determining the preferences expressed by the five samples. When comparing the data along the rows, it emerges that, for any of the tool, there are no significant differences between the samples ( $\alpha=0.05$ ). By comparing data along the columns it is possible to identify the marketing tools which were more important to the respective samples. So it appears that the attributes Wine and Organic were the most important in determining the preferences with all five samples ( $\alpha=0.05$ ). Moreover, these two attributes had similar importance with all samples except for the organic food professionals, for whom the attribute Organic was significantly more important than Wine.

Table 6 also shows that price was more important than the attribute Closure, QR, Landscape and Language for samples A and C; more important than the attribute Closure, QR and Landscape for samples C and E; and more important than Closure and QR for the sample of wine professionals. Among the relative importance of the remaining attributes as marketing tools (Closure, QR, Landscape and Language) no significant differences have emerged for any of the samples, except for the attribute Language which was more important than Closures for organic food specialists and wine tourists.

Regarding the grape variety, our results are consistent with the position occupied by this attribute in the consumers' cognitive structure already identified in literature (Rea and D'Antone, 2011); our findings also indicate that, with the samples analysed, a similar position is taken by the attribute organic. In other words, with both consumers and industry professionals, grape variety and organic production played a similarly important role in categorisation and product choice. The good results obtained by organic wines are a further proof of the sensitivity to environmental issues which is now common in many wine markets (Brugarolas et al., 2010; Barber, 2010). In consideration of the competition among wine-making areas around the world, having different potentials in terms of organic production and environmental protection, we

Table 6  
Relative importance of attributes in determining preferences (%).

Table 1. Mean scores and standard deviations of the 12 attributes for the 5 samples of professionals and 5 samples of consumers / tourists											
Attributes		Samples of professionals				Samples of consumers / tourists					
		Organic products (A)		Wine (B)		General tourists / Travel agencies (C)		General tourists / Seaside resorts (D)		Wine tourists (E)	
Wine	(a)	19.66	cdefg	20.35	cdefg	21.88	cdefg	21.20	cdefg	20.27	cdefg
Organic	(b)	22.19	adcefg	20.47	cdefg	19.87	cdefg	19.56	cdefg	21.08	cdefg
Price	(c)	14.41	defg	13.73	de	15.04	defg	15.62	def	14.00	def
Closure	(d)	9.44		10.63		9.59		9.79		10.17	
QR	(e)	11.62		10.97		10.66		10.48		10.22	
Landscape	(f)	10.81		11.63		10.99		10.78		10.99	
Language	(g)	11.87	d	12.23		11.96		12.56		13.27	de

The result of comparisons between means in the same row is indicated by an uppercase letter, the result of comparisons between means in the same column is indicated by a lowercase letter. For each significant pair, the score of the category with the lowest mean is written next to the category with the highest mean. Comparisons between means in the same column are made only between levels of the same attribute. The results are the output of two-tail tests, assuming identical variances with a significance level of 0.05. The tests are adjusted for all pair comparisons using Bonferroni correction.

Table 7  
Partial preferences and price perception (Partial preferences).

		Samples of Professionals				Samples of Consumers / Tourists						
Price perception	Price level	Organic products (A)		Wine (B)		General tourists / Travel agencies (C)		General tourists / Seaside resorts (D)		Wine tourists (E)		
Negative role	6	(a)	−0.95	bc	−0.91	bc	−1.09	bc	−1.16	bc	−0.87	bc
	9	(b)	−1.42	c	−1.37	c	−1.63	c	−1.75	c	−1.31	c
	12	(c)	−1.89		−1.82		−2.18		−2.33		−1.75	
	Respondents %		70.0		65.1		68.1		71.7		56.3	
Positive role	6	(a)	0.63		0.57		0.84		1.07	ABE	0.58	
	9	(b)	0.95	a	0.85	a	1.27		1.61	ABE	0.87	
	12	(c)	1.27	ab	1.13	ab	1.69	a	2.15	ABE. a	1.16	a
	Respondents %		30.0		34.9		31.9		28.3		43.7	

The result of comparisons between means in the same row is indicated by an uppercase letter, the result of comparisons between means in the same column is indicated by a lowercase letter. For each significant pair, the score of the category with the lowest mean is written next to the category with the highest mean. Comparisons between means in the same column are made only between levels of the same attribute. The results are the output of two-tail tests, assuming identical variances with a significance level of 0.05. The tests are adjusted for all pair comparisons using Bonferroni correction.

recommend that further research be carried out on the categorisation of organic wines in conventional markets.

Up to this point our samples have been considered as groups with homogeneous preferences. On the contrary, in Table 7, respondents in each sample have been divided in two groups: those who throughout the tests attributed a negative role to price, and those who gave it a positive role and expressed greater preferences for products with a higher price tag. For each sample, the size of the two groups has been indicated in percentage under the respective partial preferences. Studies on perception have shown that the negative role of price depends on value consciousness, price consciousness, sale proneness, and coupon proneness. The positive role of price depends on a price-quality scheme and prestige sensitivity (Lichtenstein et al., 1993; Suri et al., 2012). Table 7 demonstrates that, in all samples, price played a negative role with the majority of respondents (who, in other words, viewed it as a cost), and the three price levels proposed obtained different partial preferences ( $\alpha=0.05$ ). Conversely, price

played a positive role for a minority of respondents varying between 28.3 and 43.7% depending on the sample. The two groups of professionals attributed different partial preferences ( $\alpha=0.05$ ) to the three price levels proposed in the tests, while with the three consumer groups the only significant difference was between the highest and the lowest price.

## 8. General discussion, conclusions and managerial implications

The study has compared the reactions of two categories of professional operators and three categories of tourists to certain attributes of product as marketing communication tools. The results have shown a common sensitivity to certain attribute, and a different, or in some cases a contrary, sensitivity to others. Consequently, the study confirms the necessity for wine producers not only to adopt separate attribute as marketing communication tools with the various segments of the

consumer market but also to differentiate between consumer market and the market of professional operators.

The main differences regard the language of communication and the presence of supplementary information on the organic production process, in addition to the mandatory labelling for these wines. Speaking of the language, the study has highlighted some important discrepancies between the preferences of professional operators and general tourists, requiring the adoption of different types of language for the message to be effective. So if a company employs two separate communication strategies for the two audiences, it will have to favour textual language with the professional operators and photographic language with the general tourists. Conversely, if the company chooses to devise a single attribute as communication tool, this will have to give importance to both types of language. In any case, the results we have obtained with our sample of industry professionals should be tested in further research, involving different samples, in particular regarding the reason why, contrary to literature data, this particular audience has expressed greater preferences in the presence of textual rather than photographic language.

Regarding the presence of supplementary information on the organic production process, it has been found that it increases the preferences of professional operators but is counterproductive with the general tourists without a strong personal involvement with the world of wine. In this case the communication targeted at professional operators on one hand, and at tourists on the other, needs not only to be different but also separate. Moreover, intermediaries will have to be informed if, when and how they need to communicate this additional piece of information to the end consumers.

On the other hand, professional operators and tourists reacted in the same way to the name of the local grape/wine, to the mandatory organic certification, to the images of the closures, to the QR code, and to the images suggesting an approach to wine-production which took the natural, historical and cultural context into account.

With regard to local grape varieties, the study has confirmed that wines bearing the name of a local grape can also be appreciated in markets located at a distance from their area of production or even in international markets. With regard to organic productions, our research has demonstrated the great commercial potential of these products even outside of their specific market segments, and with both professional operators and end consumers. The results obtained by the images of the bottle closures and the QR code have confirmed that the language of images is a very powerful attribute, with the professionals as well as with the consumers, and increases the expected value of the products. So when using this tools it is necessary to pay careful attention to the indications of consumer satisfaction, in order not to ingenerate disappointment in the following stages of communication (company website) and in the experience of purchase and consume.

Lastly, the study has proven that the combination of viticulture and wine-making on one side, and landscape, history and culture on the other, is a powerful product attribute as a tool of persuasion having an effect not only on the tourists but also on the wine and organic food professionals.

Limitation of our research consist in not consider that in the EU there are various domestic regulations that affect wine and grape production and production practices. EU agricultural policy has had a long history of regulating and supporting producers of wine through various quality provisions. Further research should analyse the interaction between the existing plethora of rules that govern the information required on wine labels, as well as the information that is allowed on labels, and the degrees of freedom in implementation of marketing tools proposed in our research.

## Conflicts of interest

The authors declare no conflict of interest.

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