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Sustainable wine labeling: a framework for definition and consumers’ perception

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Abstract

In the last twenty years there has been a large interest in sustainable winegrowing initiatives worldwide. As a consequence, the wine sector has seen the growth of “environmentally-friendly” and ethical claims according to specific eco-certification schemes and labelling programs. Thus, sustainable claims are becoming credence attributes that compete with other quality indications on a wine label and might influence the choice, the quality perception and willingness to pay (WTP). The objective of this study is twofold: first, to explore the concept of consumers’ perception of sustainable wine and second, to investigate different cluster groups based on three factors identified (belief about environmental protection, beliefs about sustainable wine certification and attitude towards sustainable labelled wine) and WTP.

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1. Introduction

According to the RESOLUTION CST 1/2004, the OIV (International Organisation of Vine and Wine) defines the development of sustainable vitiviniculture as a “global strategy on the scale of the grape production and processing systems, incorporating at the same time the economic sustainability of structures and territories, producing quality products, considering requirements of precision in sustainable viticulture, risks to the environment, products safety

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and consumer health and valuing of heritage, historical, cultural, ecological and aesthetic aspects” (OIV. RESOLUTION CST 1/2004).

Background research has shown that people generally appreciate the idea of “sustainable winemaking”, but they do not know much about it, its meaning or processes (Zucca et al., 2009). Many consumers associated the term “sustainable” mostly to the environmental dimension of sustainability, without a strictly relation to the economic and social aspects. Consumers can be confused by the complex systems of sustainable labelling and some of them are doubtful about “green” claims (Forbes et al., 2009). In this case, sustainable certifications and labels play a very important role: (1) to convey useful information for discerning more sustainable wine and, thus promote more sustainable consumption patterns; (2) to increase product trustworthiness; (3) to “educate” consumers on the topic and the different meanings of sustainability. Although consumers seem not willing to trade wine quality for more environmentally friendly aspects (Lockshin et al., 2012), it is worthwhile to ascertain how sustainable certification on the wine label is perceived. The objective of this study is twofold: first, to explore the concept of consumers’ perception of sustainable wine and second, to investigate different clusters based on three factors identified (belief about environmental protection, beliefs about sustainable wine certification and attitude towards sustainable labelled wine) and WTP. Then, socio-demographic characteristics have been considered to assess whether group’s composition differ considerably.

2. Sustainability in the wine market

In the recent years we have seen a growing interest of sustainable production method from wineries, although it is not clear if this has reflected in consumers’ positive environmental perception and preferences (Mueller and Herve, 2010).

Furthermore, consumers’ choice about wine is considered more complex than for other food products (Lockshin and Hall, 2003) and it is difficult for an individual to judge a bottle just by looking at it. Based on this assumption, it becomes important to explore what the expectations for sustainable wines might be (Barber et al., 2009).

First of all, even though price and quality are still the main drivers influencing wine choice (Rasmussen and Lockshin, 1999), sustainable wine claims might compete with other quality indications on the product label, such as price, brand, region of origin, grapes’ variety and some consumers might be willing to pay a price premium for this attribute (Loveless et al., 2010; Appleby et al., 2012).

As indicated by Thøgersen (2000), in order to purchase a sustainable product, consumers must firstly notice the environmental label and then understand, trust and valorize this sign as a tool and main factor for purchasing decisions.

Background research has shown that consumers generally like the idea of sustainable winemaking, but they actually do not know much about it, its meaning and the processes behind it (Zucca et al., 2009). Furthermore, it has been demonstrated that there is a general positive perception and awareness of sustainable wines; however this does not translate into a significant purchasing demand. Moreover, several studies have shown how consumers are skeptical about products with green claims and think that companies induce these environmental issues in order to make higher prices (Peattie, 1995).

One of the strongest barriers against sustainable wine success is that this industry is already perceived as “green” and environmental-friendly, compared to other food and non-food industries (Berghoef and Dodds, 2011).

These circumstances have brought to a lack of transparency about this meaning: even though consumers like the concept of sustainable winemaking, there is a variability of perception concerning wine with eco claims. For instance, some consumers relate such indications to health issues. In a study performed by Stolz and Schmid (2008), organic wine was perceived to be healthier than conventional wine, mainly due to the absence of synthetic pesticides and additives in the winemaking process.

Another research, carried out by Sirieix and Remaud (2010), indicated that even if organic wines are viewed as healthier than conventional wines, most consumers still perceive environmentally-friendly products as too expensive and with a lower sensorial quality image. Additionally, there is a general perception that wine is a “natural” product and therefore the organic claim does not provide a significant diversification as it happens for other food products (Sogari et al., 2013). According to Colman and Paster (2007), wine is perceived as one of the most “natural”

alcoholic beverages, although winegrowing and winemaking practices are responsible for environmental changes, through carbon inputs and emissions.

3. Consumers' purchasing perception and willingness to pay toward sustainable wine

During a purchasing decision making process, consumers can have a low involvement and knowledge about the product (uninformed choice) or instead a high engagement (well informed choice). Consumers generally are looking for information about the products that they care most, in order to make informed choices. At the same time, preferences are also based on personal socio-demographic characteristics, such as age, education, income, gender, place of residence.

Opposite to this "traditional purchase behavior", consumers might face products with extra-information regarding credence attributes. For instance, sustainable production is a credence attribute which means that the feature cannot be ascertained even after the consumption of the product (Sporleder et al., 2014). Such characteristics based on trustiness are generally conveyed to the consumer using a specific labeling (Saunders et al., 2011). For example, a "fair trade" labelled chocolate bar is due to concerns for working conditions in developing countries or an environmentally friendly logo suggests a greener planet. This type of information is related to the so-called "ethical purchase behavior" (Harrison et al., 2005).

Even if recent studies have shown that there is a segment of consumers (the so-called ethical consumers) which make buying decisions based to ethical or environmental criteria (Saunders et al., 2011), the more traditional consumers' attributes such as price, safety and overall quality are taken in consideration as well. Both from a consumer and producer point of view, the adoption of social responsible behavior is based on the individuals' cultural values and beliefs (Canestrino et al., 2015).

Based on background research and critical literature review examined to this point, we have proposed different consumer perception profiles considering the level of involvement in sustainability and their WTP for such wines. Following, three different profiles have been identified.

Interested: in this segment it was found that there are individuals with a high understanding of sustainability issues and high WTP for sustainable wines. These consumers give importance to traditional wine attribute like locality (Mueller and Herve, 2010; Krystallis and Chrysosoidis, 2005; Remaud et al., 2010; Loureiro, 2003) and to the value for the environmental protection which is needed to motivate the purchasing decision (Olsen et al., 2012; Tobler et al., 2011). Furthermore, they believe that organic products are safer and healthier compared to conventional ones because of the absence of synthetic products like pesticides (Brennan et al., 2003; Govindasamy et al., 2005; Harper and Makatouni, 2002; McEachern and McClean, 2002). All these reasons, along with the wish to support organic producers (Worner and Meier-Ploeger, 1999), contribute to pay a premium price for environmentally friendly wines. Usually people who prefer such products might consider themselves as oenophiles (Mann et al., 2010). High WTP may also be due to a higher household income and gender status: women tend to pay more attention to such products compared to men (Remaud et al., 2010; Loureiro, 2003). In addition Cicia *et al.* (2002) suggest that older people are likely to spend more on such products than the younger generation, even though Mann *et al.* (2010) suggest no correlation with their age. Finally, also friends' advice might have a positive influence in eco purchasing decision-making (Zhua and Geng, 2013).

Cautious: people highly concerned with environmental issues but low WTP for eco-wine. In this category we have young consumers who despite being interested in eco-friendly practices might not have a financial budget to buy organic products which are considered more expensive (Sogari et al., 2013; Magnusson et al., 2001). In addition, this group of consumers does not believe that eco-certification systems will add value to the wine (Loureiro, 2003). Other studies suggest that some consumers, even if they are willing to pay a premium price for eco-certified wines, their WTP actually decreases for eco-labeled wines (Delmas and Grant, 2008). Finally, in a study conducted by Bazoche *et al.* (2008) it seems that some consumers are not willing to pay any price points for eco wines even when they are informed about the possible negative effects of pesticides used in the winegrowing process. Some of them may think that sustainability issues do not concern the wine industry.

Adverse: people who have a low involvement and interest in sustainability issues and very low WTP for eco wine. In this category wine consumers consider price the only important attribute for their purchasing decision (Bernabéu et al., 2008). They do not consider an eco-label as a strong element of differentiation and they identify

these wines with a low overall quality (Loureiro, 2003). They do not look for sustainable wines because they believe such products have no environmental benefits compared to conventional products (Olsen et al., 2012).

4. Research methodology

After literature review and qualitative analysis through focus groups (Sogari et al., 2014), an on-line questionnaire was designed to explore the perception of Italian consumers toward sustainable wine. Data were collected from a sample of regular Italian wine drinkers and a total of 495 valid responses were obtained from September to November 2013.

The questionnaire consisted of four blocks of questions: wine consumption and purchase habits (place, frequency, etc.); 16 items to measure variables such as beliefs and attitude towards sustainable-labelled wine; questions to elicit willingness to pay for sustainable wine (measured through contingent evaluation); respondents' demographic and socio-economic characteristics (region of origin, gender, educational level and age). An exploratory factor and cluster analysis (combining hierarchical and k-means methods) were conducted using IBM software SPSS (Statistical Package for Social Science) to identify the existence of different profiles.

5. Preliminary results: factor and cluster analysis

Respondents were asked to state their level of agreement with each of the 16 statements presented in the questionnaire (see Table 1). All replies were measured on a 5-point Likert scale from 1 to 5, ranging from a completely negative response “none” to a positive agreement “much”.

Firstly, the factor analysis was carried out, and using Cronbach's α , which gives the internal consistency of the constructs, reliability was estimated. Table 1 shows the three factors identified: Belief about sustainable wine certification (F1), Attitude towards sustainable wine (F2) and Belief about environmental protection (F3).

Table 1. Factors identified

Statements	F1	F2	F3
	(Cronbach's α 0.86)	(Cronbach's α 0.85)	(Cronbach's α 0.81)
I am willing to make personal sacrifice for the sake of the environment			0.737
I would be willing to change my behavior to help protect the environment			0.768
I feel that purchasing sustainable products helps protect the environment			0.418
Purchasing sustainable products does not really do much to help the environment (reverse scored)			0.575
I think that protecting the environment is a worthwhile goal			0.795
It is important to me to preserve the environment for future generations			0.820
Sustainable wine labelling certification is a guarantee of high product quality	0.679		
Sustainable wine labelling certification is a guarantee of high hygiene standards	0.772		
Sustainable wine labelling certification is a guarantee of the origin of raw materials	0.749		
Sustainable wine labelling certification is a guarantee of economic support for local producers	0.748		
Sustainable wine labelling certification encourages employment in the area	0.776		
Sustainable wine labelling certification is a guarantee of the respect of working conditions	0.710		

If it is a sustainable wine label, sustainability might be an important factor	0.764
Sustainable wine label could be a good tool to grow the Italian wine market	0.749
Sustainable wine label could help me to understand sustainable winegrowing issues	0.697
I could be interested in buying a bottle of wine with a sustainable label (showing environmental, economic and social aspects)	0.786

Source: our elaboration

The cluster analysis based on the three factors confirms the presence of different segments of consumers. Four groups were identified and a preliminary description follows.

As shown in Table 2, the first cluster includes consumers with very strong beliefs about sustainable certification, positive attitude towards sustainable wine, especially female gender and aged range between 31-40 years old. The second group has individuals with negative beliefs about environmental protection, not interested in environmental programmes, mostly young people (18-30 years old). The third cluster includes consumers with very positive attitude towards sustainable wine, negative beliefs about sustainable certification and aged between 51-60 years old. The last group has very low attitude towards sustainable wine, mostly male and over 60 years old consumers.

Table 2. Factor values for each Cluster

Cluster (number of individuals)	Belief about sustainable wine certification	Attitude towards sustainable wine	Belief about environmental protection
1 (257)	.6010	.2319	.2785
2 (63)	-.0677	.0249	-2.0457
3 (107)	-1.2001	.5444	.3629
4 (68)	-3203	-1.7564	.2716

Source: our elaboration

Table 3 illustrates the different range of WTP for a bottle of wine (75cl) with a sustainable label certification distributed in the four cluster.

Main results from WTP analysis show that cluster 1, which is characterized by consumers with a positive attitude towards sustainable wine and high beliefs in its certification, has the majority of individuals (30.7%) with a WTP in the range of 2.01-3.00€. On the other hand, consumers in cluster 2, which presents a positive attitude towards sustainable wine and negative belief in its certification and environmental protection, are more willing to pay in range between 1.01-2.00€. Cluster 3 is characterized from a very high WTP for both the range 3.01-5.00€ and more than 5€ confirming that even if they have negative beliefs in the certification system, their attitude towards sustainable wine is extremely positive. In the last cluster more than 45% of the consumers will pay nothing or less than 1.00€ for a wine certified to be sustainable.

Cluster analysis confirms that consumers who have a positive attitude towards sustainable wine and higher value of environmental protection are also those willing to pay higher premium prices for sustainable labelled wine.

Table 3. WTP according to cluster groups

WTP for a bottle of wine with a sustainable label	Cluster			
	1	2	3	4
Nothing and less than 1€	12.5%	30.2%	21.5%	45.6%
1.01-2€	31.1%	31.7%	28.0%	30.9%
2.01-3€	30.7%	23.8%	21.5%	11.8%
3.01-4€	12.8%	3.2%	14.0%	7.4%
4.01-5€	5.4%	4.8%	5.6%	1.5%
more than 5€	7.4%	6.3%	9.3%	2.9%
Total	100%	100%	100%	100%

Source: our elaboration

6. Conclusions and implications

This work aimed to investigate, using both an integrated conceptual framework and data from an on-line questionnaire, how consumers perceive sustainable wine in order to understand whether the adoption of sustainable practices and relative eco-certification and labeling system will be an added value for the wine industries. These preliminary results can help us to develop a better understanding of what influences individuals to pay more for sustainable certified wines. This could be an opportunity for firms to develop marketing strategies targeted to specific clusters of consumers.

Results suggest that eco label on the wine bottle might be useful to gain consumers' attention, but not sufficient to be purchased if the product is considered of low quality or too expensive. Giving these findings, we can suggest there are some specific target of consumers who might be interested to buy and value sustainable wine. Therefore, this claim might become one of the major issues in the marketing strategies and consumer communication in the forthcoming years, as it has already happened in the past for grape's variety and geographical indication.

Considering that for specific targets of consumers the positive perception of sustainable wine is influenced by environmental concerns and beliefs in this type of certification, we recommend that firms, certification bodies and organizations involved in the wine industry should focus and invest in promotional campaigns to influence public opinion about environmental issues surrounding this business, and about the importance of seeking for eco-labels on the bottle.

Finally, in this kind of studies the social desirability bias might occur. Further research shall take in consideration this limitation trying to use choice experiments to measure a more accurate WTP.

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