Hopelessly devoted to sustainability: marketing challenges to face in the wine business.

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Summary: In the last decade, academic research has shown a growing interest towards sustainability in the wine business. Most of the research has focused on the adoption of sustainable practices and a few has been done in marketing and strategic marketing for sustainability in wine. The paper wants to highlight the main challenges that wineries should face when marketing their products by underlining their orientation towards sustainability. More specifically, this work aims to answer to the following questions: how sustainability can be effectively used by wineries for achieving a differentiation? How consumers perceive sustainable orientation in the wine industry? How wineries can maximize their market share and reach new customers by using sustainability as a brand?

KEYWORDS: Wine, Marketing, Sustainability, Differentiation

1. Introduction

In the last decade, academic research has shown a growing interest towards sustainability in the wine business. In particular, beside an extensive research on the implementation of sustainable practices in production (Howell, 2001; Manktelow et al. 2002; Gabzdylova et al. 2009; Hughey et al. 2005), a large part of the research has focused on understanding the implication of a sustainable approach from the marketing perspective: research has gathered around the topic of consumer preferences (Fotopoulos & Krystallis, 2003) trying to understand the inner motivations that drive consumers to buy organic, biodynamic or sustainable wines and to pay a premium price (Delmas and Grant, 2008; Corsi and S Strøm, 2008; Skuras and Vakrou, 2002). Wineries that adopt sustainable practices and that sell organic and biodynamic wines on the market are likely to adopt a niche strategy. Although there is a growing demand for biodynamic and organic wines, the market is still relatively small (Hughner et al. 2007): the share of "hard core" consumers (Hughner et al. 2007) is particularly thin and the majority is made up of occasional buyers. Wineries who are hopelessly devoted to sustainability have to face many challenges. The principal challenge is understanding what is the most effective way to use firm's sustainable orientation for achieving a competitive advantage; in other words it is a matter of turning top management's personal convictions into a strategic mindset in order to gain profitability and sustain further winery's development. There is no doubt that sustainability can be an effective tools for differentiating wines (Bernabéu et al 2008; Zucca et al., 2009), but the real matter is the effectiveness of focusing on sustainability characteristics of the product, when the companies are operating on a market characterized by a surplus on the supply side.

This paper wants to answer to the following research questions:

1) how sustainability can be effectively used by wineries for achieving a differentiation?
2) How consumers perceive sustainable orientation in the wine industry?
3) How wineries can maximize their market share and reach new customers by using sustainability as a brand?

This paper is a first attempt to propose an extensive reasoned literature review in order to answer to the upper research questions. The paper wants also to highlight the main challenges that wineries should face when marketing their products by underlining their orientation towards sustainability.

2. Background

The concept of sustainability is extremely wide and somehow ambiguous (Warner & Douglas, 2007).

There are many definitions of sustainability, especially when this word is associated to development, that can be found across a large range of fields of study. In 1993 Morati et al. have reviewed over 40 definitions of sustainable development found in the scientific literature or in the political discourse; they detected three central elements in most of the definitions of sustainable development:

(i) a notion of environmental decay that has to come to a halt;
(ii) a notion of intergenerational equity so that future generations will not be worse off
than present generations;
(iii) a notion of intra-generational equity

According to the "mosaic view" of sustainability[1] firstly hypothesised at World Bank (Munasinghe, 1996), economic environmental and socio-cultural systems need to be balanced.

[1] The call for papers of EAAE seminar in Capri underlines the importance of the "mosaic view" of sustainability, considering its ecological (the conservation or even the improvement of the current quality of natural resources economic), economic (long-term economic viability of the agro-food system) social (as for instance, the community and social cohesion in rural areas and working conditions in the agricultural system) and institutional (compatibility between agro-food activities and the existing social capital and institutional environment) dimensions.

Strictly connected with the mosaic-system is the mosaic principle approach (de Bruyn and van Drunen, 1999) that focuses on the main three principles inherent in the concept of sustainability: Economic principles (maximising welfare and improving efficiency), Ecological principles (living within carrying capacities and conservation of resources) Equity-principles divided in intragenerational and intergenerational equity (for instance the disparity of wealth among different regions of the world on one side and among generations on the other side).

These definitions and approaches are related to sustainability in general. Defining agricultural sustainability is more and more difficult because the boundaries of sustainability are difficult to detect. "That is because sustainability involves everything you do on the farm, including economics, environmental impacts of everything done on the farm and all aspects of human resources, including not only you and your family but your employees and the surrounding community" (Ohmart, 2009: 7).

The Food, Agriculture, Conservation, and Trade Act of 1990 (also known as Farm Bill) which improved conditions in the agricultural sector in U.S. supported the promotion of freer trade and greater market orientation. According to Young and Westcott (1996) the main goals of Farm Bill were to further market orientation, reduce government spending on agricultural programs, help maintain farm income through expanding exports, and protect the environment. In this regulation, the concept of sustainable agriculture is depicted as an: ‘‘...integrated system of plant and animal production practices having a site specific application that will, over the long term: (a) satisfy human food and fibers needs; (b) enhance environmental quality; (c) make efficient use of non-renewable resources and on-farm resources and integrate appropriate natural biological cycles and controls; (d) sustain the economic viability of farm operations; and (e) enhance the quality of life for farmers and society as a whole’’ (Public Law 101–624, Title XVI, Subtitle A, Section 1603; quoted in Aldy, Hrubovcak and Vasavada (1997)).

The three domains of social, economic and environmental sustainability represent the basic framework used by European Commission on its institutional website to define sustainable agriculture. Particularly, the EU aim is "to create a market-oriented, competitive European farm sector that improves living conditions and employment opportunities in rural areas and lives up to good environmental practices and maintain habitats, biodiversity and landscapes". Consequently the EU recommends that a market oriented farmer should "reflect consumers' demands in order to be able to sell his products, particularly as regards quality, safety and traditional/organic production methods".

Sustainability has implication on company's activities that are planned according to some principles whose reception varies in function of company's reactivity to internal and external drivers towards sustainability.

Entrepreneur's personal motivations play a key role in implementing sustainable practices: top management's value (Berry and Rondinelli, 1998; Quazi, 2003), as well employees values can influence global companies' attitude towards sustainable practices. Schaltegger (2002) provides a very interesting framework for understanding entrepreneur's degree of commitment to sustainable practices and environmental issues. Entrepreneurs have different behaviours, according to the priority given to environmental goals (they can look at environmental goals as a trustee duty, as a supplemental to conventional business or as an integral part of core business activities). Combining this dimension to the market sized served by the company, that can be small (alternative scene), medium (a eco-niche), or large (mass market), Schaltegger and Petersen (2001, in Shaltegger, 2002) obtain five different profiles: Environmental Administrators, Environmental Managers, Alternative actors, Bioneers and Ecopreneurs[2]. The model proposed by Schaltegger (2002) helps in understanding the different degrees of "green orientation" that can be found in companies.

Many companies see in sustainability a way for achieving competitive advantage or an effective differentiation (Bhaskaran, 2006; Maxwell et al. 1997; Porter and Linde, 1998; Chahal and Sharma, 2006). Sustainability could also have positive effects on corporate image and reputation. Through the adoption of sustainable practices, companies can improve cost saving or improving profitability. Companies can be strategically oriented towards sustainability since their birth, or during their existence. In the first case, Isaak (2002) talks about green-green businesses, that are businesses designed "to be green in its processes and products from scratch, as a start-up, and, furthermore, is intended to transform socially the industrial sector in which it is located towards a model of sustainable development" (Isaak, 2002: p.38).Green businesses, instead, did not started on that way, but, once they have been established "managers discovered the cost and innovation and marketing advantages, in not the ethical arguments, for "greening" their existing enterprise" (Isaak, 2002: p.38).

The growing interest for sustainability and green image has fostered a renewed concept of marketing, the so-called "green marketing". Green marketing underlines environmental aspects of a product (Charter and Polonsky, 1999). Some authors (Lee, 2008; Peattie & Crane, 2005) have depicted the evolutionary stages of green marketing and its challenges.

We can say, paraphrasing Peattie and Charter (2003), that green marketing:

- put an emphasis on the physical sustainability of the marketing process and its social acceptability;
- has a holistic and inter dependent view of the relationship between economy society and the environment;

[2] "Ecopreneurship is thus distinguished from other forms of corporate environmental development by the company's vivid commitment to environmental progress and its strong desire for business growth." (Schlatteger, 2002: 48).

- has an open ended perspective
- treats environment as something that has an intrinsic value
- focuses on global concerns.

Green marketing can open companies new opportunities, but can also represent a disastrous failure, if marketers adopt an opportunistic approach, if they do not understand what consumers really want or if they try to develop a green image without responding to regulations (Peattie and Crane, 2005).

The issue of sustainability has attracted many scholars: the birth of academic journals specialised in sustainability and their rapid and successful diffusion is a signal of the importance that this theme has acquired among academics. Among the journals we cite: *The virtual journal of environmental sustainability*, *Sustainability* or *The renewable agriculture and food systems*.

Although wine industry has revealed a growing interest for environmental and sustainable practices, we can say that research on sustainability in wine is still limited to some practical and technical aspects, but there is still lot to do in order to exploit managerial and marketing implications for a sustainable approach.

Several universities, especially in the New World, have promoted through their research centres specialised in wine, research programmes on sustainability, whose inputs have been particularly helpful for wine growers. It is the case of UC Davis, Sonoma State University, Cornell University, in US or of Charles Sturt University, University of Melbourne, University of Sidney in Australia. Most research has focused on consumers, trying to depict consumer's behaviour, motivations and attitude that lead to buying organic. There have been many empirical research, mainly survey based (see Esles and Smith, 2007:8 for a list). As some authors have underlined (Esles and Smith, 2007), studies reveal conflicting results, because of differences in the methodological approach adopted.

At a first sight it appears that research on sustainability is particularly dynamic in new world countries.

3. A sustainable wine industry: market data and trends

There is a lack in the availability of specific and recent data about the consumption of organic and bio-dynamic wines at a global level, whilst research centres, policy institutes and organizations provide statistics about organic viticulture.

In 2008 almost 150,000 hectares of organic grapes were grown world-wide, a 85% of which is located in Europe, while Northern and Latin American share another 6% and 5% respectively. Although the considerable growth that the organic viticultural system registered over the last 10 years (in 1998 the hectares organically grown where 48,000), if compared to the global grape production, organic wines still represent a niche, as organic grapes account just for 2% out of the total grape harvested. With specific regards to Europe, the three main organic grape producers are Italy (40,480 hectares), Spain (30,856 ha) and France (28,190 hectares), representing 84% of the total European production (Organic World, 2010). According to A.L.A.Bio (2009) France is the organic wine consuming Country.

France is experimenting a growth in demand for organic wines whose prices are relatively low, after two scarce harvests. In Spain the domestic demand for organic wine is limited, although organic wines are sold at medium-low prices; the 90% of organic wine production is exported to Northern European Countries, e.g. Germany, Belgium, The Netherlands, etc.

In Italy organic wine is sold mainly through specialised shops who have registered in 2009 good performance.

Differently from organic wines, there are no global market data on biodynamic grape production. The most recent figures about Europe are reported by Vastola and Tanyieri-Abur (2009), based on Demeter (2008). They report that there are 375 certified bio-dynamic farms in Europe, covering a surface of 25,000 hectares, yielding a revenue of € 30 millions, 70% of which comes from export, mainly to Germany, the UK and the USA. In Italy there are 750 hectares of biodynamic grapes spread across 84 farms.

It is not easy understand the dimensions of the biodynamic wine production: this is because most of the farms cultivating grapes use them for producing grape juice, rather than wine, following Steiner's production philosophy. Secondly many wineries declare themselves biodynamic, but they are not Demeter certified: according to DeLoach, a certified winery in Santa Rosa (CA), 60% of California's vineyards claim to be somehow sustainable, organic or biodynamic, but there is only one Demeter Certified winery in California (Jaymi Heimbuch, San Francisco, California, 2010). According to Demeter "In order for a product to bear the Demeter logo it must be made with certified Biodynamic ingredients and meet strict processing standards to ensure the purest possible product" (Demeter website).

Biodynamic wines have grown in popularity in the past 10 years, because some prestigious domains have turned to the biodynamic method (Reeve et al, 2005). In particular, France has registered an impressive growth in biodynamic viticulture (Meunier 2001), thanks also to the active involvement of biodynamic winemakers who have worked to spread biodynamic culture among producers.

4. Sustainability in wine

Although this research issue is particularly appealing, the topic of sustainability in wine has focused mainly on: selected areas or countries (California, Australia and New Zealand); on wine related businesses (sustainable practices in wine tourism) and on consumers' motivation when buying organic wines. Research limits have also been highlighted by Lockshin (2009), when he says that a very few studies have been carried on organic wine consumers and there has not been research in biodynamic. In the light of our first attempt to collect literature on this topic, we propose a classification of research on sustainability in wine into the following mainstreams:

- principles and practices
- orientation and its determinants
- consumer attitude
- marketing and strategy

4.1 Principles and Practices

In 2006 FIVS has build a guideline to the principle of sustainability in wine (the Global Wine Sector Environmental Sustainability Principles): given the diversity of wine industry conditions among producing countries, the Principle are general and recognize some common features that can be implemented when planning programmes to support sustainability in wine (Russel, 2008). According to the "Principles", adopting a sustainable approach in wine production means taking into account the three facets of sustainability, economic, environmental and social, (Principle # 1). Any sustainable programme should be based on an environmental risk assessment (Principle #2, 3). Being sustainable oriented implies a continuous improvement (Principle #4), auditing and monitoring activities (Principle #5), training and education (Principle #6) and the development of a network of relationships in order to establish partnerships (Principle #7).

Background researches (Gabzdylova, 2009; Silverman, 2005) have shown the effects on adopting sustainable practices in wineries activities. In particulars sustainable practices have an impact on water and waste management (chemical storage and containers, treated posts, cleaning agents, grape marc), on land use (biodiversity, erosion, soil salinity, vegetation clearance), on greenhouse gasses (energy use and emissions from waste), and have also an impact upon community (chemical spray drifts, odours, noise, genetic modification).

If we consider a winery value chain, by following the model provided by Fraine (2009), we can better understand the impact that sustainable orientation can have on winery's activity (Fig. 1).

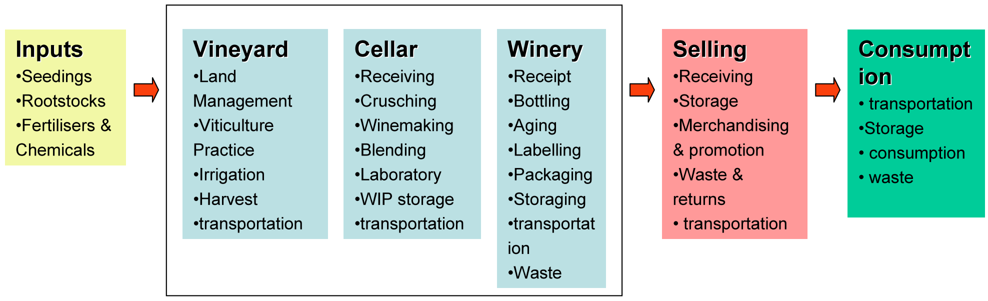

Fig. 1 Sustainability in wine: a value chain analysis

4.2 Orientation and its determinants

We have previously highlighted how companies can differ in their orientation towards sustainability.

Previous researches have depicted those drivers responsible for a sustainable orientation within companies. This has been a issue explored in wine: Marshall et al. (2005) realise a classification that has found a diffusion among other scholars (Gabzdylova, 2009) into two main groups: internal drivers and institutional drivers. Internal drivers are those factors internal to the firm, such as top management orientation towards sustainability. Institutional drivers, instead are those factors that can be classified in local institutional networks or regulations.

Other authors have classified the pressures that motivate the greening of business organizations in internal and external (Dillon and Fischer, 1992; Lawrence and Morell, 1995; Winn, 1995; Bansal and Roth, 2000; Davidson and Worrell, 2001). Following previous researches, we classify the drivers towards sustainability into internal and external.

Internal drivers are all those drivers – ethical motives or the individuation of an economic opportunity- that take place within the firm; those drivers can be classified into two main groups: personal motivations and strategic orientations.

External drivers come from regulators, customers, communities, environmental groups, activists and competitors.

Regulators play a key role in orienting wineries toward the adoption of sustainable practices: we cite here just the European case of the Integrated Production Standards, but there are many regional cases all around the world.

The influence that key players can have on wineries' strategies depend on the strategic mindset that followers have, and, moreover, on the strategic approach they have. Furthermore, key players can influence competitive environment dynamics.

> Fetzer was on the first pioneers in the organic wine production in Mendocino County (CA). The company was founded in 1968 and by 1988 the company was fully organic. Annual sales account for 3.8 million cases. The leading brand is the Bonterra Brand, 100% made with organic grape and introduced in 1992; sales

account for 200,000 cases per year. There is no doubt that Fetzer has opened the way to other wineries in Mendocino that converted to organic production.

Robert Mondavi company has always shown a concernment for environmental matters. The company decided to reinvent packaging for reducing wastes. Mondavi invented the flange-type bottle with a C-Cap seal. Mondavi, as a pioneer, take a huge risk, but the introduction of this innovation succeeded and several companies have adopted it. (Murphy, 2000)

We should also remind the importance that consumer' groups or industry associations can have on imprinting a green orientation in wineries.

In California there are some industry associations that are having a great impact on wineries willingness to implement sustainable practices. Several authors (Silverman, 2005; Broome and Warner, 2008; Warner, 2007) have carried out some researches on associations and partnerships with the local wine Industry. In California associations among wineries and people involved in the wine business are widely diffused: in northern California there are about 40 industry organizations (Broome and Warner, 2008) and a concernment about environmental issues is widely diffused in the industry (Warner, 2007); wine grape growers created six partnerships in California (Broome and Warner, 2008). Furthermore there are several grape grower associations involved in organic (Washington State Association of Winegrape Growers; Oregon Wine Advisory Board; New York Wine & Grape Foundation; Penn State Cooperation Extension; Canadian Vintners Association; Wine Council of Ontario)

The Central Coast Vineyard Team or Wine Vision are only a couple of examples of green associations.

The **Central Coast Vineyard Team** (CCVT) was born under the influence of Robert Mondavi Winery, in 1994 and now counts 300 members whose mission is "*identify and promote the most environmentally safe, viticulturally and economically sustainable farming methods, while maintaining or improving quality and flavour of wine grapes. The Team will be a model for wine grape growers and will promote the public trust of stewardship for natural resources*" (from the website). This non profit organization is a collaborative partnership of growers, wineries, consultants, researchers and natural resource professionals and has received awards from the US Environmental Protection Agency, among others institutions. The organizations organizes events (such as the Earth Day Wine & Food Festival), and promotes a green culture through conferences and meetings in a perspective of continuous education.

4.3 Consumer attitude

Many studies have focused on specific areas, and have adopted different methodology (see table 1).

Fotopoulos et al. (2003) have depicted consumer attitudes towards organic wines in Greece, revealing the role of motivational benefits in wine purchases. Barber et al. (2009) and Forbes et al. (2009), have investigated how wineries' environmentally friendly practices influence consumers when choosing a wine respectively in US and Christchurch (New Zealand). Sirieix and Remaud (2010) focused on the role that eco-friendly claims (e.g. organic, preservative free and biodynamic) have on Australian consumers' attitude towards organic wines.

Other studies have focused on the willingness to pay a premium price for an organic wine: we can say that this is one of the hot issues in research that has created a debate among scholar. Brugarolas Molla-Bauza et *al*. (2005) have investigated and determined the premium price that Spanish consumers are willing to pay for an organic wine. Also Barreiro-Hurlé et al. (2008), studying the potentialities of functional wines in the Spanish market, have shown that consumers are willing to pay an extra for an organic wine. Remaud et al. (2008) and Mueller and Remaud (2010) conducted two studies on regular wine consumers in Australia in order to estimate their willingness to pay for organic wines, showing that there was a small part of the sample willing to pay a premium price and that this sample was growing over time. Delmas and Grant (2008) have investigated the willingness to pay consumers have towards an eco-labelling signal that a product has been eco-certified.

Although the perspective of consumer is extremely interesting when analysing "sustainable" wines, we should remark two aspects arising from the analysis we have conducted. The first is that this kind of research found a wide diffusion among new world producers. The second is a general consideration that has been made by Lockshin (2009): there is still a few studies in this field, and there is no research in Biodynamic.

4.4 Marketing and Strategy

Marketing and strategic issues in this research field have investigated under which conditions a sustainable orientation can become a plus for wineries.
Background researches have outlined how organic issues can be implemented for achieving an effective differentiation (Bernabeu et al. 2008).

> Delmas et al (2006) explore the case of Ceago winery, in California, owned by Fetzner, who produces organic wine with the precise aim of differentiating its products from the mass.
>
> Another case to cite is the Banrock Station brand, owned by BRL Hardy, a global scale wine company, who decided to launch on the market a green wine for reaching a certain customer segment and differentiate its production (Pugh and Fletcher, 2002).

We have seen how consumers can be receptive to claims on the label. There is no doubt that also retailers' shelves are going green (WineBusiness Monthly), and that a successful management of the marketing mix would ideally lead the company to achieve optimal returns. It clearly appears that it is not only a matter of production, or of price, but also promotion and packaging play a key role in product positioning.

> Again, when dealing with marketing mix, we find Fetzer winery with Bonterra brand, as an exemplar case of successful repositioning through packaging: when the company has launched Bonterra, they were the first to produce a 100% organically grown grapes wine and there was a segment of customers to serve. Besides expectations, sales were not good: wine was positioned as a earth friendly wine, and target customers were those consuming very little wine. The package had no real message: "Fetzer was in the wine business, not the natural foods business" (Murphy, 2000). The company had to reposition their wine, and a new packaging was the winning choice. The company introduced a new recycled paper label, and also bottles are made up with recycled glass. This has created an image of a product that is unique, as it is 100% sustainable.

According to Bernward (2006) organic wine "has a high proportion of direct marketing, giving the producers a greater and fairer share of financial returns". The importance of direct marketing channels in organic wine sales has been outlined by Fotopoulos et al. (2003).

5. Discussion and Conclusions

We have seen that sustainability offers several opportunities to wineries, but it also requests some changes and wineries willingness to invest in the process of acquiring new resources.

The adoption of sustainable principles have several implications for wineries.

First of all Top Management should have a propter mindset in order to evaluate properly how sustainability can be complex and, more specifically, its economical, environmental and social implications. Regouin (2004), exploring the conversion to organic agriculture determinants has highlighted that it depends on some personal traits such as curiosity, flexibility, risk propensity and creativity in exploring innovative marketing approaches. Another issue to consider is the cost of being sustainable oriented, in terms of time and financial resources: it is not only a matter of initial investment for turning green, but it is a continuous investment. The California wine industry has invested resources for diffusing a green orientation among local wineries (Warner, 2007).

An orientation towards establishing networks among local players is a key factor of success. In some specific contests, such as California, it emerged that agroecological partnership became the leading vehicle for extending sustainable agricultural practices (Swezey and Broome, 2000; Dlott, 2004); it has also been recognised the proactive role that those partnerships had in diffusing a green orientation among wineries (Broome and Warner, 2008).

We must also underline that companies are required to maintain a high flexibility in order to face dynamism in sustainability. The boundaries of sustainable business are merging, as it has been highlighted by Grunert (2007). Walter Pedersen, Owner and Founder of Four Chimneys winery,

clearly depicts the situation: “As for the future (…), I really do not know. Interest in organic is definitely on the rise (…). Perhaps one day conventional growing will become so ecological that organic will simply merge with it, and the organic movement’s role as a cry in the wilderness will vanish as the essence of its message will have been heard and received. I hope so. At that point the “history of organic marketing” will be over” (from a speech at Cornell University). Wineries who have been able to create a strong brand awareness and a inimitable brand proposition would succeed. Yet, it is difficult to forecast if those companies who have embraced sustainability but have not fully integrated it (Gabzdylova, 2005), would be more advantaged respect to those who are completely devoted to sustainability. Referring to the generic marketing principles, we could say that those wineries who have been able to develop a unique selling proposition based on sustainability would be more likely to succeed in a dynamic competitive environment.
We should also underline that companies need to develop direct marketing tools in order to improve effectiveness of communication flows from companies to customers.
The marketing challenges that companies must face vary according to typology of strategy wineries follow when dealing with sustainability.
Based on main findings from previous researches, we have elaborated a descriptive matrix that helps in positioning wineries strategy according to the degree of implementation of sustainable practices in the firm (*orientation*), and to the degree of communication (*exposure*) of companies’ sustainable orientation (Fig.3).

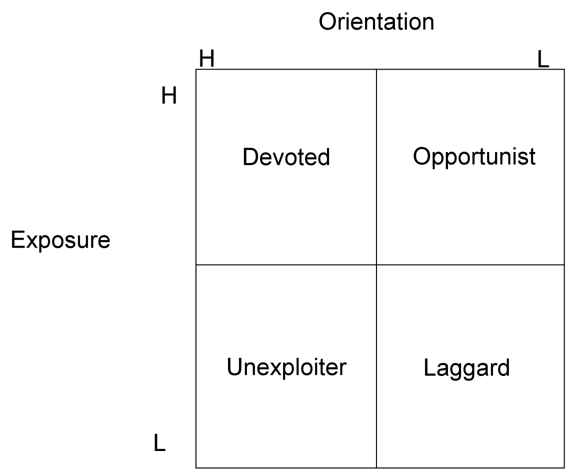

Fig. 3 The sustainable winery positioning matrix

We obtain four different profiles.

- *Devoted*: wineries that are highly oriented to implement sustainable practices and tend to communicate it as much as they can (on the website, during winery tours, or on the wine label) can be defined "devoted". They can be green start up wineries, or wineries that turned green; in any case they have a strong orientation and a specific positioning in the wine industry. Those companies are asked to invest in continuous training and to ensure an alignment between corporate vision and managerial vision: green devoted wineries should carefully manage corporate image and reputation. Green devoted should also work hard in order to build a strong brand, able to survive to the shocks that could affect organic wine business and its dynamism, as it has been previously outlined;

- *Unexploiter*: those wineries are stuck in the middle, as they have adopted green practices, but they don't communicate their strategy. Such wineries do not fully exploit the marketing benefits coming from a sustainable orientation;
- *Opportunists*: green opportunists, are those wineries that don't have a particular interest in sustainability, but tend to heavily communicate the few sustainable practices introduced. In this category we can include those wineries that were forced to implement sustainable practices because of external drivers. Those wineries realise that green issues can be strategically implemented for reaching a certain market segment;
- *Laggards*: wineries that are not interest at all in sustainability, nor they recognize any benefit arising from communicating sustainable orientation, are defined as laggards.

This paper provides a tentative overview of the state of the art of academic research in sustainability in wine. The descriptive framework provided depicts wineries challenges according to their positioning in terms of sustainable orientation: although the framework has some limitations, this could be used as a starting point for future researches, in order to investigate evolutionary paths in wineries' strategy. The paper has also outlined some gaps in research that should be filled, and has revealed, that, although the research field is extremely interesting, there is still a lot of space for further researches that could provide useful insights for academics and practitioners.

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Appendix

Authors	Region investigated	Methodology	Research Issues	Key findings
Fotopoulos et al. (2003)	Greece	Means-end chain approach and a corresponding laddering interview technique to 49 chief household buyers in the city of Athens	Purchasing attitudes of buyers vs. non-buyers of organic wines	Wine buyers tend to buy in specialty shops, are more concerned about the healthiness of the products they buy, they are more environmentally conscious and they are eager to obtain more information about the products
Barber et al. (2009)	USA	820 questionnaires administered to the members of the US Society of Wine Educators	Wineries' environmentally friendly practices influence on consumers when choosing a wine	Consumers are more interested in helping "green" producers and they believe these wines are more environmentally friendly
Forbes et al. (2009)	New Zealand	Questionnaires administered to a convenient sample of 109 retail shoppers	Wineries' environmentally friendly practices influence on consumers when choosing a wine	When a wine is "sustainable" it should be advertised on the label to make the wine more recognisable on shelves; 80% of the intervieew says that they would be willing to pay a premium price for a sustainable wine
Sirieix and Remaud (2010)	Australia	151 online survey	Perception of eco-friendly claims	Organic wines are perceived as more expensive and should be commercialised among restaurateurs
Brugarolas Molla-Bauza et *al*. (2005)	Spain	Contingent evaluation on a sample of 400 respondents	Consumer willingness to pay a premium price	The average price premium consumers are willing to pay for an organic wine is 16.92%
Barreiro-Hurlé et al. (2008),	Spain	Choice experiment with six attributes: origin of the wine; production	Willingness to pay and Attitude towards functional and organic wines	Consumers are willing to pay an extra €5.89 for a functional wine and an extra €1.53 for an

		method; type of wine; type of grapes, and price		organic wine
Remaud et al. (2008)	Australia	A sample 756 respondents recruited through an on-line panel provider	Consumer willingness to pay a premium price	A small segment of the population investigated (14%), which gives value to organic wines and would pay an extra price
Mueller and Remaud (2010)	Australia	Replicated the study of Remaud (2008)	Consumer willingness to pay a premium price	Influence of environmental and organic claims on wine choice Australia increased slightly over time (+0.2%)
Stolz and Schmid, (2008)	Italy France Germany Switzerland	Sixteen focus groups with 158 participants	Consumer consumers' attitudes and expectations towards organic wines	Organic wines have problems, in terms of sensorial perceptions, although they are benefitting of a positive image with regards to grape production, wine processing and healthiness
Delmas and Grant, (2008)	USA	Hedonic price analysis of 13400 wine records	Willingness to pay consumers have towards an eco-labelling signal that a product has been eco-certified	Environmental certification increases the price by a 13%, but the inclusion of an eco-label reduces that by a 20%

Table 1 An overview of the literature about consumer attitude

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