

# **Marketing innovation in green-oriented firm: two ways to competitiveness? An empirical investigation in the wine sector in Apulia.**

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## **Abstract**

The wine business is characterized by a strong complexity (Orth & Lockshin, 2007) and by innovative dynamics that are affecting wineries strategies (Choelette et al, 2008). Marketing innovation can be considered as a tool for maintaining competitive advantage and achieve growth (Chen, 2006) and a way to overcome market crisis (Naidoo, 2010).

The aim of the paper is to investigate the relationship between marketing innovation and orientation to sustainability in the wine supply chain: a sample of 280 wineries in Apulia region (in southern Italy) was analyzed by means of an on line survey. 204 were the respondents. A correlation analysis - Pearson's Correlation matrix - was performed in order to highlight significant relationships between the selected variables.

**Keywords:** marketing innovation, green orientation, sustainability, wine, Apulia region

## 1. Introduction: objectives and research question

The competitive dynamics in the wine market are complex (Orth & Lockshin, 2007): the scenario has expanded into a global competition on consumer's taste preferences and on hedonic and emotional aspects, as well as on aspects related to the health and to the respect for environment. These innovative dynamics are affecting wineries' strategies (Choelette et al, 2008). Marketing innovation can be considered as a tool for maintaining competitive advantage and achieve growth (Chen, 2006) as well as a strategy to overcome market crisis (Naidoo, 2010). Businesses are recognizing the need to acquire more environmentally efficient technologies, and reduce waste and pollution, as 'the rise of the "green" consumer marks a shift in the pattern of consumer purchasing, away from products that are considered to be damaging to the environment and toward products that are sustainable' (Ristovska, 2010). The issue of sustainability both in primary production processes (grapes growing) and in its transformation (wine-making) is taking a central role in operational and strategic wineries' choices, because of the increasing concerns about the environment, ecological consequences, and the efficient use of natural renewable resources as reflected in public opinion and in consumers perceptions.

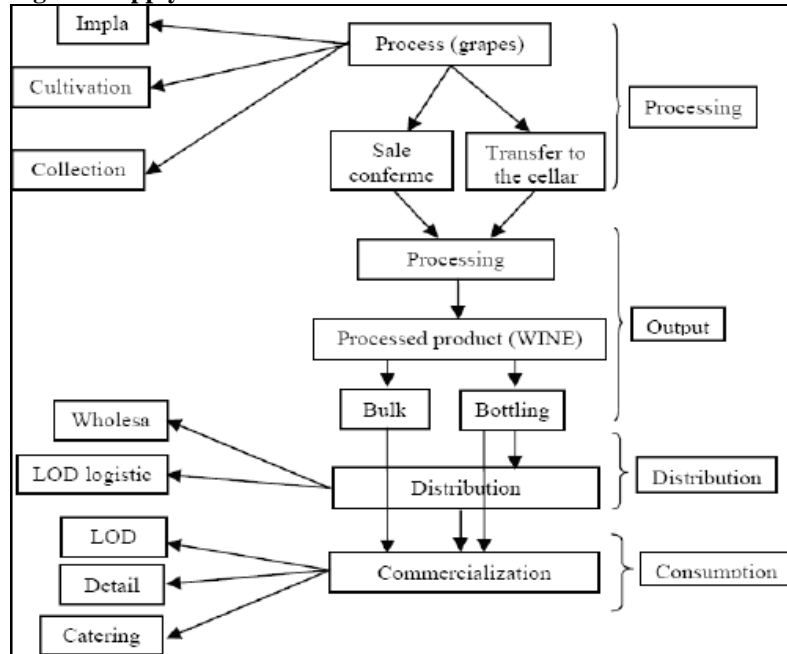
The study was designed to answer the following research question: are innovative marketing choices affected by the propensity for sustainability?

*Hp1 marketing innovation in the wine supply chain is positively affected by the sustainability orientation*

*Hp2 new technologies (sustainable oriented) affect positively wineries in penetrating new market segments*

The purpose of the paper is to investigate the relationship between orientation to sustainability and green marketing innovations in the wine supply chain (see table 1) in Apulia region, in southern Italy.

**Fig 1. A supply chain model for the wine sector**



Source: Contò et al., 2011

Table 1 identifies a model of supply chain in the wine sector with a scheme of vertical supply chain relationships, as a part of horizontal relations with the socio-economic area where the chain is located.

By means of Survey Monkey - online survey software, a survey was submitted to a sample of 280 wineries, extracted from the population of companies participating at IPFs (Integrated Project of Food chain). Data analysis has been performed by using SPSS software. A correlation analysis - Pearson's Correlation matrix - was performed in order to highlight significant relationships between the variables selected. A cluster analysis was carried out for clustering of the wineries. We expect to find a positive correlation between orientation to sustainability and marketing innovations, which might indicate a need for SMEs in the wine sector to transition into a more green oriented business model in order to sustain their market competitiveness. This paper contributes to the burgeoning field evaluating relationships between green marketing and competitive strategy and provides insights with respect to the relationships between innovation and “green” orientation as well as suggestions for further research. The paper is structured as follows: in the first part an overview of background research on marketing innovation and business sustainability orientation in wine sector is provided; secondly, the methodology is presented. Next, an exploratory and qualitative case study of the Apulia region, Southern Italy, is discussed. A conclusion and implications section follows data analysis and close the paper.

## 2. Literature review

### 2.1 Orientation to sustainability

There has been an emerging conventional consensus that present patterns of consumption are unsustainable as growing demand for natural resources faces a finite and diminishing supply. The body of scientific research increasingly recognizes a range of ecological challenges, including climate change, depletion of natural resources, overpopulation and air pollution, among others (Krausmann et al., 2009; Oreskes, 2007; Vlek & Steg, 2007). According to Gaillard and Nemecek (2009) agriculture and food production are one of the principal

responsible for environmental impacts and natural resources. Actually there are several environmental pressures generated by governments and environmental groups associated with existing product supply chains, and the major challenges and driving forces to improve the sustainability of supply chains. In this context it is preferable to carry out a farm management system which combines carbon capture and emissions reduction considering several farming activities including grazing and fertilizing, tillage, crops alternation, harvesting Khan and Hanjra (2009). Sustainability has become a key issue for the Italian wine industry. A variety of systems, methodologies and tools are being implemented, for a variety of reasons with different objectives. In the framework of V.I.V.A. (Evaluation of wine production environmental impact) project, launched by the Italian Ministry for the Environment in 2011 new methodology was developed to assess the environmental impact in order to improve the Italian wine sector's sustainability. In this context sustainability is evaluated on three dimensions (environmental, economic, and social). Businesses are recognizing the need to acquire more environmentally efficient technologies, and reduce waste and pollution, as 'the rise of the "green" consumer marks a shift in the pattern of consumer purchasing, away from products that are considered to be damaging to the environment and toward products that are sustainable' (Ristovska, 2010). There are three main types of driving forces for businesses to coordinate supply chain sustainability: (i) internal drivers such as cost reductions and corporate social responsibility; (ii) market drivers such as consumer demand; (iii) legal drivers, including current and anticipated future regulations. Some of the potential business benefits of sustainability actions are difficult to quantify because they relate to less tangible elements such as reputation and risk avoidance, or to future circumstances related to resource availability, commodity prices and regulations (Caniato et al., 2012). Mechanisms applied by retailers to drive environmental improvement across product supply chains include: product certification; environmental criteria for suppliers; dissemination of better management practices across suppliers; promoting eco-labelled products; eco design; application or subsidization of clean technologies; local or regional sourcing; optimization of logistics (Caniato et al., 2012; Styles et al.,). The effectiveness of different mechanisms varies across product groups and according to specific implementation. Detailed information on the economic implications of supply chain improvement mechanisms are lacking, although some references refer to product certification costs. Managing environmental issues is a critical element of strategic planning. Less well known is whether or not managing environmental issues represents a potential or even beneficial entrepreneurial response in pursuit of either a low-cost or a differentiation position, essential to attaining a competitive advantage in a context in which the consumers are more and more oriented to sustainability (Atkin et al., 2007). The green consumer's buying behavior is one that is more 'socially conscious' in its decisions, and is influenced by strong, ethically oriented, 'pro-environmental' personal values and attitudes. The 'green' consumer considers whether the product they are purchasing will, in consumption, result in a positive or negative 'ecological consequence' to the environment (Noonan K.E., 2013).

## **2.2 Marketing innovation**

The issue of innovation is widely studied in the literature: several aspects have been explored with different approaches. The studies by Garcia & Calantone (2002) provide an excellent overview of the issue and propose a wide number of definitions; some authors distinguish the concept of innovation with categorizations based on different parameters (radical/incremental, product/process) (Wang et al., 2005) and highlight the various possible methods of measurement and observation of the innovation process (Van de Ven et al. 1989) through a multitude of variables (Wang et al., 2005). The concept of marketing innovations as a process

that allows the company to achieve a competitive advantage in connection with its target market and the penetration of new markets (market innovation, Johne and Davies, 2000; Halpern, 2010: 1312) is the focus of this paper. This is an underdeveloped area of research that is not well explored in the innovation related literature (Chen, 2006; Augusto & Coelho, 2009), to be analyzed in this paper. The distinction between market and marketing innovation should be noted: referring to the first one, the focus is on the firm's market orientation considered as management's ability to understand customer expectations and needs, that potentially can drive the product development process. The implementation and development of innovative processes for marketing have, according to some authors (Grewal & Tansuhaj, 2001) an incremental trend that will improve the quality of service levels for the consumer (Dosi, 1982, Henderson and Clark, 1990). In the literature, there are studies about the conditions that foster marketing innovation such as the size and location of the firm (Chen, 2006), as well as researches that highlight the relationship between the competitive advantage obtaining and marketing orientation (that affects positively marketing innovation), (see O'Cass Among the others and Viet Ngo, 2011 Naidoo, 2010) and studies showing the relationship between market orientation and firm's performance (Hult & Ketchen, 2001).

These issues identified by prior research raise a question regarding the determinants of marketing innovation in the wine industry: specifically, what is the role of innovation for small and medium-sized wineries seeking to obtain competitive advantage and what drives it? Some researchers suggest that for many wineries the growth and market positioning are more affected by innovation than by physical factors (Voelpel et al., 2006). The wine industry characteristics have to be carefully evaluated because they can constrain marketing innovation, since this is affected by the competitive dynamics of the sector (Malerba, 2007).

If the innovation process in marketing management is assumed to be as a component of the larger process of innovation, it can also be considered in terms of innovation in primary agricultural production (see among the others the works by Garcia-Martinez and Briz, 2000; Grunert et al., 1997). In the wine industry the possibilities of innovation in terms of new varieties are subject to stringent legal restrictions concerning the regulations of origin designation: the innovative mechanism in the wine industry is not straightforward, even if the continuous and intense changes in consumption and consumer behavior, which feed the competitive dynamics on a global scale, increase the need for product differentiation and optimization of production processes (Jennings and Wood, 1994). In this context, marketing innovation can assist in the formulation of differentiation strategies: some studies (Santini et al., 2007) highlight the influence that the innovative approach has on the winery's ability to improve the service level in meeting the consumer's expectations. Among the few aspects of marketing innovation in the wine sector explored in the literature, there is the role of location in the orientation to innovation (Gilinsky et al. 2008), the consumer perception of the product's innovations (see the study on packaging by Atkin et al., 2006; Marin et al. 2007) and the influence that business networks can give in adopting an innovative behavior (Giuliani et al., 2008; Giuliani and Arza, 2009). Besides the mentioned researches, there is a gap in the literature on the relationship between orientation to sustainability and marketing innovations

### **2.3 Sustainability and marketing**

Innovation is necessary but not sufficient to achieve food security (Pant, 2014). The process of innovation in marketing management can be considered as an innovative tool for the company utilized to develop a relation with its own target market. The world is becoming increasingly exposed to national and local decisions that affect resilience of production systems; indeed innovation systems have to face climate change challenges for choosing a path of development that would not bring ecological damages in the process (Muchie, 2013).

Innovations made by family farmers promote an agri-ecological transition process (das Chagas et al., 2012; Georgiou & Vrontis, 2014, 2014) by means of innovation marketing. The innovation process involved mobilization and strategic injection of various forms of tacit and scientific knowledge in the overall interaction process (Bouma et al., 2010). A few scholars argue about specific marketing capabilities that lead to sustainable consumption behavior (Mariadoss et al., 2011). Anyway, other authors (Annunziata et al., 2011) highlights that the agri-food firms are increasingly responsive of the crucial importance of the sector and require the development of innovative marketing strategies, based on the sustainability orientation and characterized by a strong orientation to the society. In addition the importance of entrepreneurship and innovation to agricultural producers and policy makers is more and more rising so highlighting the importance of training in agricultural markets (Knudson et al., 2004). Correlatively, a new corporate marketing model is proposed: sustainable market orientation (SMO) taking a perspective based on three key sustainable development objectives: economic, social, and ecological sustainability (Mitchell et al., 2010). Then, the expansion of sustainability initiatives in the wine sector can provide a great opportunity for the overall sector; but confusion and the overlapping of initiatives, methodologies and results must be avoided. The key point is that a common notion of sustainability in the Italian wine sector should be promoted in combination with a broader industry-wide sustainability strategy. To meet this goal it is imperative to foster the cooperation of all the program representatives and researchers. Creating a common understanding of sustainability is crucial for producers as well as for the entire sector. This common understanding is necessary first of all for an effective and beneficial consumer communication and to reduce the uncertainty linked to the presence of a wide range of certifications and sustainability labels in the market (Corbo et al., 2014).

### **3. The case study: the Apulia wine history**

Since early times, Apulia is an important agricultural centre where wheat, olive oil and wine are produced to feed the expanding empire. Grapevine was probably present in Apulia from the 8th century B.C., before the times of Greek colonization. Several varieties, today considered autochthonous of this region, were introduced by ancient Greeks, such as Negroamaro and Uva di Troia. Greeks introduced also the typical cultivation method in Apulia region, named the “alberello”. With the advent of the ancient Romans dominion, after the victory against Pyrrho, the Apulia wine begun to be appreciated in the tables of Rome and consequently the production and trading increased. In his famous work ‘Naturalis Historia’, Pliny the Elder, in listing the varieties of Greek grapevine, mentioned Malvasia Nera of Brindisi and Lecce, Negroamaro and Uva di Troia were present in Apulia. Pliny the Elder, Livy, Martial and Tibullus wrote about Apulia wine color, aromas, quality, and taste, and techniques used for the cultivation of the grapevine and the production of wine in Apulia at the times of ancient Romans (AA.VV. 2007). Pliny the Elder defined Manduria area, the most representative territory for the production of Primitivo in Apulia, *viticulosae*, that means “full of grapevines”. With the construction of the seaport of Brindisi the trade of Apulian wine has a very flourishing period. To facilitate shipping, huge quantities of wine was keeping in specific cellars dug in the rocks along the coast. The Apulia becomes the “deposit” of quality: the Apulia wine was called “merum” and not “vinum”, which in Latin language means “pure wine” or “genuine wine”, from which derives in fact the term mjere, which in Apulian dialect means “wine”. In the 14th century, the export of wine from the region was thriving. So many wines were coming out of Apulia that it came to be known by many as "Europe's wine cellar". Then in the 1800s, many vineyards of north Italy and in Europe were devastated by grape phylloxera; the huge quantities of wine produced in Apulia was exported outside the borders

of the region, also arriving in France to satisfy local demand. When grape phylloxera arrived in Apulia, other grape varieties were introduced. The production of Apulia focused on wines destined to blending to give body and color to the production of other areas in North Italy and in Europe. After World War II, wine production concentrated their efforts in quality; anyway in the 1990s, Apulian producers became aware of the wine making potentials of the regions (Loubère, 1978). Actually, Apulia has a formidable wine area (about 100,000 hectares) it is the second Italian region after Sicily. The main grape varieties of this region are Primitivo and Negroamaro. Currently the region is experiencing a significant changes period in the wine sector; after years of wine production based on the high yields per hectare of especially cutting wines, due to their coloration and texture, it is now trying to exploit the territory reaching quality levels for some wines mainly made from native grapes.

#### 4. Methods

This paper is an exploratory research (Selltiz et al., 1976) as it seeks to provide insight in the wine sector and to explore the relationships between green marketing and competitive strategy as well as suggestions for further analysis and research. The exploratory issue requires researchers to deal with an hybrid research designs (Harrigan, 1983). The research design has been structured to track the principles by eminent scholars (Eisenhardt, 1989; Eisenhardt and Graebner, 2007). Firstly, we provided evidences and insights for defining and listing variables to investigate. After that, we built the survey, previously testing it by means a pre-validation step with 25 selected respondents. The questionnaire was structured with 36 questions, some of these were built with binary options, some others were developed to scaling responses; for these latter questions seven Likert Scales items have been adopted. We used the following Likert rating scales (Allen & Seaman, 2007):

1. strongly disagree;
2. disagree;
3. slightly disagree;
4. neither agree nor disagree;
5. agree;
6. slightly agree;
7. strongly agree.

By means Survey Monkey software, a web based survey (see among others, Gilinsky et al., 2008) has been submitted to a random sample of 280 wineries, extracted from the population of companies involved in 3 IPFs (Integrated Project of Food chain) in wine sector. The IPFs wineries are located in a Southern Italy region, Apulia that is a region with a very long history and tradition as a wine producer (Contò et al., 2011). Consequently, we interviewed representative wineries in order to provide suggestions and insights. The data collection was carried out during the period September - November 2013. A 'recall survey' step was performed in order to increase the number of respondents. 204 responses have been collected. Data analysis has been performed by using SPSS software.

Within this research framework, it is hypothesized that wineries with a marketing innovations approach are oriented toward sustainability. In order to investigate the research questions, we selected variables (in a dummy variable format and in a Likert Scale format) as proxies to be used to evaluate the relationship between innovative marketing choices and the propensity for sustainability. From the 36 questions, we selected 11 questions related to our 2 research areas; then, we selected the related variables that are as follows:

##### 1. Marketing innovations choices (Naidoo, 2010):

- *NewMark* = New Marketing Approach – Likert rating scale variable
- *NewTecn* = New technologies for reaching new market segments - Likert rating scale variable

- *R&D* = Research and Development Area – dummy variable
  - *WhWinTec* = White Wine Technology – dummy variable
  - *RedWinTe* = Red Wine Technology – dummy variable
2. Orientation to sustainability (Landers & Chandra, 2012);
- *EnvRes* = Environment Respect - Likert rating scale variable
  - *GreenAct* = Green Activities Promotion - Likert rating scale variable
  - *OrgCer* = Organic Certification – dummy variable
  - *SustPrac* = Sustainable Practices – dummy variable
  - *GIS\_IT* = GIS and IT – dummy variable

The selected variables are consistent with the research objectives of this study. A correlation analysis was performed in order to highlight significant relationships between the variables selected. Pearson's correlation coefficient (*r*) was calculated to measure the strength of the association between the selected variables. The correlation coefficient formula is specified as follows:

$$r = \frac{\sum XY - \frac{\sum X \sum Y}{N}}{\sqrt{(\sum X^2 - \frac{(\sum X)^2}{N})(\sum Y^2 - \frac{(\sum Y)^2}{N})}} \quad (1)$$

This study is not investigating the issue of spurious correlations as it lacks control variables.

#### 4. Findings

The correlation matrix in below table (see Table 2) shows Pearson's Correlation values among different variables. As said, the selected variables were splitted into two groups: the first group gives evidence of the firm approach to marketing innovation (in columns); the second group of selected variables represents as a proxy for a green approach of firms (in rows).

**Tab. 2 -** Pearson's Correlation values between marketing innovation variables and Orientation to sustainability variables

<b>Green Var</b>	<i>NewMark</i>	<i>NewTecn</i>	<i>R&amp;D</i>	<i>WhWinTe</i>	<i>RedWinTe</i>
<i>EnvRes</i>	+0.240 ***	+0.313 ***	+0.303 ***	- 0.221 **	-0.203 **
<i>GreenAct</i>	+0.143 **	+0.114	+0.053	+0.014	+0.043
<i>SustPrac</i>	+0.359 ***	+0.493 ***	+0.470 ***	-0.226 **	-0.211 **
<i>OrgCer</i>	-0.263	-0.289 ***	-0.308	+0.196	+0.151
<i>GIS_IT</i>	+0.119	+0.071	+0.104	-0.081	+0.005

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\*\*\* significant at 99%; \*\* significant at 95%; \*significant at 90%

As you can see, results show the most variables are significant at the 0.01 level (2-tailed) so corroborating our initial hypothesis.

#### 5. Discussion

Findings, regarding the significance of the research design, follow our hypothesis and are supported by theoretical implications. As expected, the highest correlation (0.470) can be found between the presence of the Research & Development area (*R&D*) and the adoption of



sustainable practices (*SustPrac*) in the firm strategies. Indeed, wineries with a R&D area are more conscious and skilled of new environmental challenges and issues and of trends related to consumer preferences with an increasing attention for ethically correct consumption in terms of environment respect. It may induce firms to develop process and production innovations primarily through sustainable agricultural and winemaking practices, such as efficient use of water for irrigation operations and for production processes.

The positive correlation between the following variables;

1. “NewMark” and “EnvRes” (0.240);
2. “NewMark” and “GreenAct” (0.143);
3. “NewTecn” and “EnvRes” (0.313)

highlights how orientation to sustainability is taking a central and crucial role in the operational and strategic choices of wineries, in public opinion and in consumers perception.

The environment respect can be interpreted as a driver of change in the way firms connect strategies to market: it becomes an economic need for the wineries as well as a moral obligation, because this approach allows to optimize operating costs and to increase the company's reputation. In this sense, environmental respect can be understood as a factor affecting the innovative marketing approach. The promotion of green activities within the company raises awareness in the importance of adopting an innovative approach (environment friendly) by using a marketing approach aimed to environmental protection and food safety of the consumer. Consistent with the first two correlations, the adoption of sustainable agricultural and industrial technologies and practices can take the role of real distinctive communication lever towards the final consumer, useful to penetrate in different market segments (especially upper segments). The application of new technologies in order to reach new market segments, is related to an environmentally friendly approach as reflected in the high level of significance and the positive correlation between the variables “NewTecn”, “SustPrac”, and “EnvRes”. Sustainable Agriculture Promotion, Green Action Promotion and Environmental Respect are becoming marketing innovation tools that in turn enables firms to penetrate new market segments in order to sustain their competitiveness for SMEs in the wine sector. A negative correlation between the employment of new technologies and “Organic Certification” adoption was found, probably due to the use of traditional and conservative agricultural practices of Italian firms that resist the adoption of new technologies. So, we can say that orientation to sustainability is shifting manufacturers to a strategy which remains rooted to the old farmer traditions (negative correlation with organic) and leads to more technology-based sustainable innovation. The use of GIS and IT technologies can be functional in order to monitor the production cycle, energy efficiency, quality certification of products and cycles, and the land protection. The innovative techniques for obtaining white wines are particularly powerful as shows the negative correlation between the variables “EnvRes” and “WhWinTe”; wine-making with the reduction of oxygen, selective cryoextraction and the relative stabilization are in fact techniques that require high energy levels. The same considerations can be made assessing the results obtained from the correlation between “EnvRes” and “RedWinTe”: for the health of the grape, the optimization of grapes processing, it is necessary monitoring and checking the cleaning and sanitizing process.

## **6. Limitation**

The limitations of the paper relate to its exploratory nature. Further empirical research is needed to test and validate the essentially preliminary framework developed and the assumptions made for the purpose of the paper. Some limitations can be highlighted; firstly the relative small sample constrained the application of some statistical procedures (like a PCA procedure). Secondly, the variables selected are not exhaustive and represent only a

proxy that was necessary for the study purposes; Finally, the number of selected variables does not provide a sum total of marketing innovation approaches and of the green orientation of the firms participating in the wine sector. Furthermore, the selected wineries firms affiliated the IPFs. Considering the nature and characteristics of some of these projects, the participating firms might have developed innovative and green approach that is not successfully implemented.

### **7. Further steps**

This research is ongoing and as said exploratory and its findings are far from final. The current study rather can represent a starting point. Further research and analysis in order to corroborate our hypothesis is necessary. The sample of companies could be expanded numerically, but also geographically (e.g., to include firms from other regions of Southern Italy) or could be expanded to include firms and wineries not participating in IPFs. Other variables must be taken into account regarding the analysis of marketing innovation approach and green orientation. Specifically, secondary data by previous research and official statistics can be included in order to assure the research triangulation.

### **8. Management implication**

Nurturing sustainability of the wine sector with new technologies combined with innovations in the products marketing can be considered as effective strategy to meet concerns and needs of base consumer and to penetrate new market segments in order to refine product and brand image, to develop and keep firm's competitive abilities and, as indicated elsewhere (Noonan 2013), to incorporate these strategies with sustainable and 'green' practices. As some scholars suggested (Mishra and Sharma 2012), the "green marketing concept" aims at sustainable marketing and socially responsible products (non-toxic and environmentally friendly); it has becoming an important driver for management and for matching profitability and sustainability issues. Overall, the environmentally efficient technologies have an influence on innovative marketing choices because of the increasing importance of concerns regarding the environment and the efficient use of natural renewable resources in public opinion and in consumers perception. A critical success factor for the wineries becomes the ability to communicate, to their target market, their degree of environmental respect. Further research is clearly necessary to test and refine these findings.

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