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CRAFTING SUSTAINABLE WINE BUSINESSES

Concepts and Cases

Edited by

Armand Gilinsky, Jr.

Crafting Sustainable Wine Businesses

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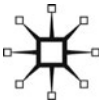

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1
Introduction

Armand Gilinsky, Jr.

Abstract: *Did you know that sustainable wine businesses are being crafted around the world? Priority number one for the wine industry is leaving the land in better shape for the next generation. Four case studies about wineries in both the Old and New Worlds reveal that while growth is a subsidiary goal to sustainability, it is tied tightly to long-term profitability. Students and practitioners will learn about why sustainability leads to success in the wine industry, how to develop and defend metrics for benchmarking wine business sustainability, to analyze and compare various wine businesses to other businesses using sustainability benchmarks, to evaluate a "sustainable" strategy in the wine industry, and develop and defend recommendations to justify new investments supporting sustainability.*

Gilinsky, Armand, Jr. (editor). *Crafting Sustainable Wine Businesses: Concepts and Cases*. New York: Palgrave Macmillan, 2015. DOI: 10.1057/9781137553089.0006.

> Today, being "natural" has become a cliché in the wine industry: I am only trying to attract consumers because they are interested in the quality of my products. First of all mine should be considered as a good wine and, second, it should be considered as a biodynamic wine…I would not say that "going green" is my strategy, unless you would define strategy as anything else than a coherent behaviour.
>
> *Stella di Campalto, owner, Stella di Campalto, Montalcino, Italy, quoted by Santini, C. et al. (2011)*

> In my vineyard, it is easy to see chickens and geese walking the vineyards that in addition to their contribution to soil organic matter are natural predators of many insects … a real respect for the environment.
>
> *Miguel Torres, Chairman and CEO of Bodegas Torres, a fourth generation Spanish wine business*

Concepts

The global wine industry, which is comprised primarily of small-medium enterprises (SMEs), has survived numerous environmental jolts during its long evolution in the Old World (Europe) and relatively shorter existence in the New World (Australia, New Zealand, South Africa, South America, and the United States). Wine businesses today confront survival threats, such as rising energy prices, water scarcity, mounting concerns about chemical exposure, and climate change, from the natural world.[1] Mitigating these threats involves many different actors and institutions in the winery owner's or manager's decision to formalize a business case for sustainability. Stakeholder pressures can drive adoption of sustainable practices, which, in turn, can result in product innovation, pollution prevention, and stewardship of natural resources.[2]

As the scope and intractability of an environmental problem increase, so do opportunities for innovation of sustainable processes and products in the pursuit of a sustainable competitive advantage.[3] Such process and product innovations may be positively related to business performance.[4] Researchers earlier have found that business age, size, and ownership (public v. private) are related to investments

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in sustainable systems, also known as environmental management systems or EMS.[5] Owing perhaps to the huge sunk cost associated with investments in EMS, incumbent businesses may resist adoption due to fears of cannibalizing existing product lines and instead elect to pursue solely those activities considered absolutely necessary for regulatory compliance.[6] Younger, entrepreneurial agricultural businesses, conversely, show a propensity to invest in innovations that supplant existing structures, some creating new standards for sustainable processes and products.[7]

Successful enterprises search for a "sweet spot" where harmful environmental and social impacts are minimized, and an adequate rate of return is realized[8]. A successful business is conscious of the social and environmental impacts of its supply chain, operations, products, and services and acts responsibly to minimize any negative impacts and remain in business (Phypher and MacLean, 2009). This can involve a range of strategies, such as reducing pollutants and waste, making processes and products more efficient, or even working to ensure the company does not deplete its own supply chain. An example of the latter is found in chapter 2 of *Green to Gold*.[9] Unilever changed its fish-buying strategy to ensure that it purchases 100% of its supply from sustainable fisheries in order to protect the supply chain and to not deplete the ocean of fish. A sustainable business must be "born green," streamlined to run lean, profitable and constantly re-defining itself as green innovation continues, but always with a profitable bottom line.

Instructors and students who read this book should be able to relate sustainability to the wine industry and recognize that for practitioners in the wine industry, priority number one is leaving the land in better shape for the next generation. For instance, most farmers want their children and grandchildren to enjoy the land rather than working the land to get the most amount of money out of it and then discarding it. The latter is definitely not sustainable business. Environmental stakeholders in the wine industry include (but are not limited to) workers in the vineyards who could be exposed to chemical fertilizers and pesticides over long periods of time, people who live down the street from a winery, and the homes that receive the water from the river where a winery releases its used water. A wine business approaches sustainability by incorporating the following "triple bottom line" strategy elements in its diagnosis of the situation at hand, the creation of company policies, and coherent actions:

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1. Social stewardship—Fostering a shift in the social attitude of the company to do what is "right" for the environment and its inhabitants.
2. Environmental stewardship—Implementing practices and policies that have a positive environmental impact (e.g. EMS, energy conservation, reduced carbon footprint).
3. Financial stewardship—Aligning the above-mentioned concepts with an overarching framework that financially capitalizes on the positive benefits realized (e.g. better margins, reduced operating costs).[10]

The learning objectives of this book are to

- broaden students' understanding of success in the wine industry to include the concept of sustainability;
- prompt students to develop and defend metrics for benchmarking wine business sustainability;
- challenge students to analyze and compare various wine businesses to other businesses using sustainability benchmarks;
- give students practice in using managerial tools (e.g. value chain, financial, PESTLE, and resources/capabilities analyses) to evaluate a "sustainable" strategy in the wine industry;
- induce students to develop and defend recommendations to justify new investments supporting sustainability.

Sustainability may be generally defined as using business practices that are environmentally friendly, socially equitable in terms of treating employee and community fairly, and economically viable. In the wine industry this means that sustainable vineyards attempt to use organic products, but if necessary will resort to agro-chemicals to protect the crop. It also includes reducing the use of water and energy in both vineyard and cellar, which can mean an upfront investment that may take years to recoup. While to date a large percentage of wine consumers do not seem to be demanding eco-labeled wines, many members of the global wine industry have decided to be proactive in pursuing sustainability strategies, anyway. Why? Some do this because of philosophical beliefs in preserving the environment and gifting the business to future generations, whereas others focus on wine quality and business benefits.

Thus, growth should be a subsidiary goal to sustainability—that is, adopted when it is necessary for survival or is tied tightly to realistic

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objectives for profitability over time. For example, growth is essential to survival when a company must achieve the minimum level of scale or scope necessary to compete effectively as an industry goes through shakeout or changes in leadership—a situation that arises only under specialized circumstances. Growth may be integral to profitability when the wine business is striving to achieve an advantaged competitive position, or when it is taking advantage of particular changes in industry structure. In each of these cases, the challenge is to link growth to the primary objectives of survival and profitability so that the executive team responsible for implementing the strategy knows how to assess accurately whether growth generates a return over time that exceeds its costs. Another aspect to this discussion involves the differences between private and public companies. Public companies appear to "demand" growth and punish non-growth, while private companies—which comprise 99% of the global wine industry—are not necessarily hamstrung by the need for or absence of growth.

Global wine industry overview

While wine is a global business, wine as a product continues to be differentiated by its origin.[11] An estimated 64% of the export market share is concentrated in the hands of "Old World" countries (e.g. Italy, France, Spain, Portugal, and Germany), while amongst the "New World" producers (e.g. Argentina, Australia, Chile, New Zealand, South Africa, and the United States), US wine businesses own an estimated 5% share of the world market.[12] Growth in global demand is mainly being driven by a shift in consumers' preferences and lifestyles in some established consumer markets, such as the United States and United Kingdom, or by new consumers in emerging markets, such as Brazil, China, India, or Russia. Consumption in traditional "Old World" wine-producing nations, such as Italy or France, has been decreasing in the first decade of the 21st century.

After a period of unprecedented and sustained growth from 2002 to 2007, many wine producers around the world sought an edge via implementation of EMS and proclamations of sustainability. These steps were taken in order to differentiate their brands and also to reduce costs in the immediate aftermath of an unprecedented industry downturn during 2008–2009.[13] Many wineries during this period contended with

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financial difficulties due to market saturation. Almost all wine producers experienced downward pressure on prices and margins. Some industry observers opined that wine producers faced a newly "hyper-competitive" trading environment, with attenuated profits.[14] The rate of new brand introductions slowed in 2009 and 2010, in a period when wine wholesalers and distributors were struggling to sell off a backlog of wine inventory and thus less receptive to taking on new wines to sell.[15] The premium wine-producing regions of the United States, Italy, and Spain, among others, were not immune to these trends.

By 2007, there were 95,000 hectares (ha) of organic vineyards around the globe, representing approximately 2.3% of all vineyards under cultivation. The vast majority of organic vineyards were in Europe: 85,000 ha of vineyards, 2.5% of all vineyards under cultivation on that continent, were organic. Outside of Europe, the United States and Chile were the only two countries that had converted a significant percentage of vineyards to sustainable farming practices—biodynamic or organic.[16]

Argentina

According to the most recent government statistics, Argentina has only 3,000 ha of organic vineyards.[17] It has been estimated that roughly US$ 1.6 million worth of this product was exported in 2008.[18] Experts argued that exports of organic product would grow by 40% from 2008 to 2009.[19] Argentina boasted 35 wineries that had been certified as organic by 2009, as well as an additional seven wineries in the process of being certified at that time. The main importers of organic wine from Argentina were the EU, Canada, and the United States, while China and Japan were becoming increasingly important markets for Argentinian organic wines.

France

The French National Agency BIO for the Development and Promotion of Biological Agriculture report (2013) indicated that in almost 20 years, from 1995 to 2013, the surface under bio vineyards in France has grown more than five times, from 4,854 ha to 29,510 ha.[20] Since 2006 the conversion of vineyards to organic or bio vineyards has been accelerating in France, and the annual rate of conversion varies between 20%

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and 25% per year.[21] This growth is even more striking in the light of the shrinking total surface of vineyards in France. Regardless of the recent growth, organic grapes represent only about 4% of all French vineyards. The major French wine-growing regions particularly involved in this process include the Mediterranean regions of Languedoc-Roussillon and Provence-Alpes-Côte d'Azur, followed by Bordeaux in the Aquitaine region (see Figure 1.1).

Many small vineyards in France, and in Bordeaux in particular, are managed with methods similar to organic techniques following local traditions and minimizing the use of chemicals. Since 1990 the term "viticulture raisonnée" or reasonable vine growing has been used more and more widely to stress vine cultivation with minimum chemical input, and only in extreme situations. The major importers of French natural wines by volume are the United States, the Scandinavian countries, and Japan.

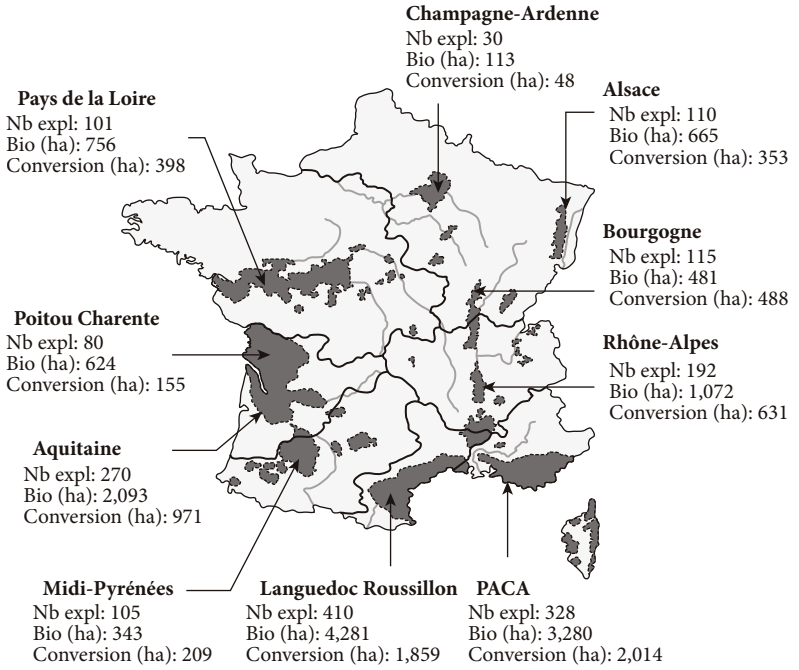

FIGURE 1.1 *The surfaces under bio wine production in France in 2012*

Source: Agence BIO (2013); Bouzdine-Chameeva, T. and Krzywoszynska, A. (2014). "Barriers and driving forces in organic winemaking in Europe: case studies in France and Italy," Working Paper, KEDGE Business School, November.

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Italy

Italy became the largest producer of organic agricultural produce in the EU-25, accounting for nearly 18% of total organic crops.[22] Well before formal organic conversion and certification in the 21st century, Italian vineyards were managed with methods similar to organic techniques. Personal health concerns figured strongly as a reason to turn to organic wine production. There were no established sales channels for organic wines at that time, and hardly any consumer demand. Producers developed their sales networks by attending organic products trade fairs in Northern Europe, where the market continues to be much more developed than that in Italy. By 2008, there were 48,480 ha under organic viticulture, of which 39,819 were winemaking vines. There has been an increase of more than 34% in the amount of land covered by organically grown vines between 2008 and 2012. Regionally, 50% of the organic vineyard surface is concentrated in the South of Italy, 34% in the Central regions, and 16% in the North (see Figure 1.2).

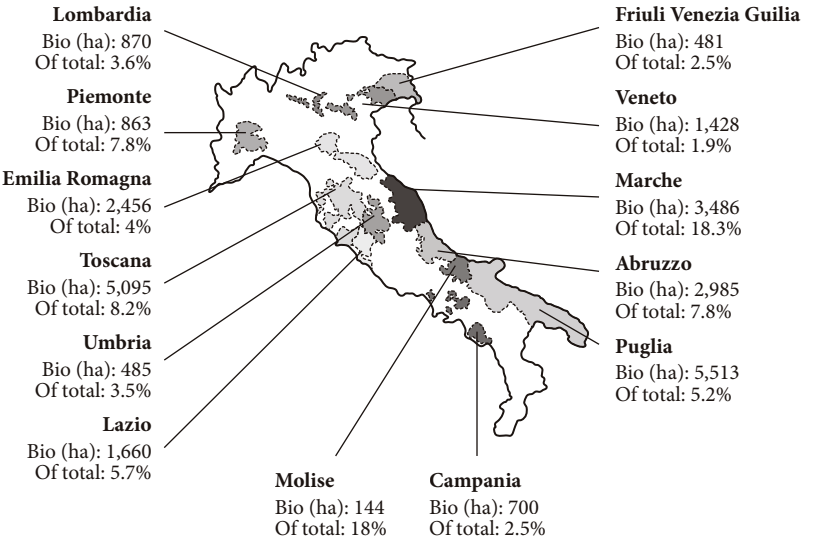

FIGURE 1.2 *The surfaces under bio wine production in the main vine-growing regions of mainland Italy in 2012*

Sources: Data SINAB (2012) and MIPAF (2012); Bouzdine-Chameeva and Krzywoszynska (2014). *Op. cit.*

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International organic trade fairs such as BioFach in Nuremberg and Millesime Bio in France continue to be some of the most important events on the organic wine calendar, allowing for the development of new market relationships both for producers and retailers.

New Zealand

The promotion of New Zealand wines reflects the importance of the natural environment to New Zealand Winegrowers and their members.[23] The New Zealand wine industry has had a significant focus on environmental sustainability in recent years, led by the New Zealand Winegrowers. Sustainable Winegrowing New Zealand (SWNZ) is a formal environmental management system (EMS) that was introduced in 1997, first to certify vineyards and more recently for winery operations. SWNZ was based on a scorecard approach, using benchmarks to continually improve the sustainability of both vineyards and wineries. The program was designed to provide quality assurance, address consumer concerns, protect New Zealand's wine export markets, and provide a best practice model for producers. Although adoption of any environmental management system is voluntary, New Zealand Winegrowers encouraged its members to adopt SWNZ or some other certified program such as ISO 14001, organic or biodynamic standards. Since 2010, participation in certain events or entry into awards has been restricted to those who have produced wines under a recognized environmental sustainability program, thus putting members under pressure to "voluntarily" adopt an EMS. This has resulted in over 90% of the national vineyard area now being produced under SWNZ certification. In addition, 7% of the total vineyard area was by 2014 classed as certified organic, and this was expected to grow to 20% by 2020.

Spain

Spain claims to be the leading country engaged in organic viticulture, owing to its 57,000 ha of land in production of organic grapes, which in turn represents 5% of the total grape production nationally. Spanish organic grape producers added 3,000 ha alone in 2010.[24] From 2007 to 2012, eco-farmed grapes have grown by 230% in volume with the region

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of Castilla-La Mancha leading the way.[25] A "green revolution in winemaking" began in the 1970s, when Josep Ma Albet Noya converted the region of Penedès (Barcelona) to sustainable farming. Alvaro Palacios, Telmo Rodriguez, Peter Sisseck, Bodegas Torres, and other distinguished wine producers later helped to promote the evolution of biodynamic farming in Spain.[26]

United States

To many players in the US wine industry, investments in sustainability could be seen as ways to reduce costs and meet the "triple bottom line."[27] As of early 2011, some 1,237 California vineyard and 329 winery owners voluntarily participated in the Sustainable Winegrowing Program (SWP), despite widespread perceptions that sustainable farming practices increased the cost of production and lowered crop yields. According to the Napa Valley Vintners Association, Napa Valley boasted 404 premium wineries in 2011, of which 60 were classified as "Green" or "Sustainable" in some fashion. Indicating the salience of disseminating best practices on sustainability and EMS to the regional wine industry, on January 15, 2014, the Sonoma County Winegrowers unveiled a three-phased plan to become the nation's first 100% sustainable wine-growing region by 2019.[28]

A review of the literature on sustainable wine businesses

A sustainable strategic position, according to Porter (1980), requires managers to choose between trade-offs.[29] The conventional wisdom, *circa* 1990, held that investments in improved environmental performance would reduce profits due to increased costs, reduced quality, or increased lead-time. Porter (1991) started a shift in producers' attitudes toward environmental responsibility, maintaining that pollution diminished value and indicated problems in production processes and products, and so, eliminating pollution waste could actually improve competitiveness.

There has been a steady movement of wine businesses toward sustainable farming and business practices, whether organic, biodynamic, or a combination; and these environmental strategies can work toward a differentiation of their brand at retail or serve to optimizing the economic

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return on investments with cost reductions.[30] Researchers have sought to empirically prove theories advanced by Porter (1980, 1985) and Barney (1997) to determine if there are linkages between perceptions of the need for sustainability strategies and a clear business case for implementation of those strategies.[31] See Table 1.1 for an abridged summary of prior research applicable to this study and the perceived benefits of a sustainability strategy.

In strategic management, according to the resource-based view (RBV) theory, sustainability practices can serve as part of a firm's capabilities that contribute to performance.[32] The RBV starts with the assumption that the desired outcome of managerial effort is the establishment of a sustainable competitive advantage. The basic elements of an effective EMS are described in ISO 14001 standards, and as such ISO 14001

TABLE 1.1 *Abridged summary of prior research into perceived benefits of a sustainability strategy*

Perceived benefits of a sustainability strategy	Author(s)
Cost reductions	Porter (1991) Barney (1997) Sroufe (2003) Orsato (2006)
Relative price: eco-efficient materials, re-use by-products, high process yields	
Relative share: radical process innovations to disrupt mature markets	
Barriers to entry: lowest price and lowest impact on environment	
Manifestations of competitive advantage	
Scale economies, learning curve, differential low-cost access, waste minimization, technological innovation, structure, employee retention, and compensation	
Differentiation	Wood (1991) Porter & Van der Linde (1995) Barney (1997) Waddock et al. (2002) Reinhardt (1998) Orsato (2006)
Consumer perception: clear benefit or environmental value	
Product/service uniqueness: difficulty of replication or imitation by rivals	
Consumer confidence: reputation, loyalty/retention, life cycle value	
Manifestations of competitive advantage	
Product features such as organic or biodynamic, clear linkages between environmental management and business functions, early entry timing, location, product mix, inter-firm linkages, improved service, image	

Source: prepared by authors for this book.

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certification can be thought of as an intangible resource that improves the quality of management in order to provide operational efficiencies.[33]

Prior studies of wine businesses and sustainability have been primarily descriptive and have focused on the internal, external, and strategic factors leading to the implementation of environmental management systems.[34] Some studies have examined eco-labeling or eco-branding product differentiation strategies to ascertain if those attributes enable a wine brand to stand out in a crowded fight for "mouth share."[35] Related research into wine businesses and sustainability has focused on the factors leading to adoption of EMS,[36] as well as impacts of country of origin on consumer perceptions, evaluation of wines, or brand image.[37]

There have been relatively few comparative global studies on sustainability strategy in the wine industry.[38] Research has yet to uncover whether or not firms' pronouncements on sustainability match their actions, and if so, to what extent country location impacts these strategic decisions.

Prior research into EMS tools, such as ISO 14001, have found that they have the ability to provide economic benefits to certified firms in terms of competitive advantage as well as improving environmental performance.[39] Direct financial benefits might include a reduction in regulatory fines and increased operational efficiencies. Certification can also indicate that the company has a sound environmental system in place to placate external stakeholders such as customers, investors, and regulatory agencies.

An expanded version of RBV theory is the natural resource based view, one that includes a firm's environmental practices. Prior studies based on the natural resource based view construct involved large US manufacturing firms. These studies link enhanced environmental practices with improved economic, operational, and environmental performance based on managerial perceptions of sustainability that can be achieved, perceptions of the advantages to be derived from implementing sustainability, and the impact of location on managerial choice.[40] We now examine each of these concepts in turn.

Perceptions of sustainability

Grimstead (2010) posited that the global wine glut leads to a focus on cost reduction and initiatives to achieve competitive advantage of

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environmentally certified wines.[41] There is evidence that capabilities for process innovation and implementation, central to deployment of EMS, are complementary assets that moderate the relationship between best practices and cost advantage, a significant factor in determining firm performance.[42] Prior to the advent of new technologies (i.e. recycling, energy efficiency and self-sufficiency, Internet), it was difficult for SMEs to pursue cost advantages. Within the past 15 years smaller companies, such as Cirque du Soleil, Trader Joe's, and [yellowtail]® wine, have introduced high quality differentiated products for lower prices through innovative use of new technologies, whilst sustaining a cost advantage over rivals.[43]

Perceived advantages of implementing sustainability

Implementing a sustainability strategy also can enable a company to create a unique or differentiated product, one which customers perceive as innovative or of higher quality in some way that is important to them, and which in turn allows the company to charge a premium price for its product or service.[44] Previous results, mostly relating to large firms, suggest that some larger firms have difficulty in obtaining competitive advantages through environmental proactivity.[45]

For the smaller, more agile firms, however, doing so can generate a set of capabilities that facilitates certain innovations in product development.[46] Proactive environmental management can provide wineries with a competitive advantage via differentiation of their products (if the company's products are produced without lasting harm or in an environmentally-friendly way) and by increasing the firm's reputation as a good corporate citizen. A consumer's trust in the winery and brand equity for the winery may increase when wineries adopt proactive environmental policies.[47] Consumers may consider as unique or innovative those products that are sustainably produced and environmentally munificent.

Location impacts

Distinguishing their product based on the geographic origin of the grapes provides wineries opportunities for product and quality differentiation and resulting additional revenue.[48] Researchers investigating wine

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producers from Spain who were facing survival and global competition posited that managers of wine businesses in that country should employ differentiation strategies through marketing the country origin as well as its organic production.[49]

Research relating to sustainability strategies adopted by the wine industry has shown mixed results in prior cross-country studies. Researchers in California and New Zealand found that external pressures had no impact on differences in the level of success wineries and vineyards achieve in implementing environmental practices. Researchers in Australia and France found significant differences between the two countries. Australian wineries rated themselves higher in growth strategy and perceived innovation environment than French wineries.[50] More highly successful wineries in California and New Zealand perceive internal pressures to be greater than less successful wineries in other regions.[51] Development of an EMS may be more likely to generate proactive, beyond-compliance initiatives on the part of New Zealand wineries, as opposed to reactive responses to new regulations or stronger enforcement of existing regulations.[52]

We now turn to the case studies presented in the remainder of this book.

Case studies

One mechanism to increase such awareness among winery owners across the globe is to use case studies to share the best practices of wine businesses that have adopted EMS, that is those that have a likely impact on decreasing production costs and/or increasing wine quality. Future investigations are needed to ascertain any longitudinal impacts of sharing best practices on sustainability and cost reduction and/or quality improvement. Future investigations of market sensitivity to environmental or sustainability issues and producers' attitudes and practices in other wine-growing regions in the United States, Italy, and Spain, as well as in other countries, could prove fruitful. Timing of this investigation may have distorted perceptions of the importance of investment in EMS, as the wine industry had just weathered and was emerging from a global recession during 2008–2010. Although the costs of implementing sustainability strategies may well be immediate and measurable for a winery, the benefits may be long term and thus difficult to capture using a cross-sectional methodology, so longitudinal studies are clearly needed (Stegner, 2000).

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We included four case studies in this book to provide some longitudinal evidence that there are different regional approaches to becoming a sustainable wine business, not to mention a variety of decisions that need to be made to keep the business sustainable for the next generation of owners. Let's now hear the stories from the founders of these businesses. Space limitations and unavailability of cases prevented us from including a representative case from every region of the world. We present two cases from Spain to compare an aspirational winery's approach to sustainability—"Puerta del Viento"—with a more established winery's approach—"Bodegas Pirineos."

The four cases are as follows.

Bodega Pirineos (Spain)

Jesús Cambra-Fierro, University Pablo de Olavide, jjcamfie@upo.es; Lourdes Pérez, Toulouse Business School; Rocío Ruiz-Benítez, University Pablo de Olavide

Bodega Pirineos Ltd. was founded in 1964. Its ownership was shared by Grupo Barbadillo (76%) and by the partners of the grapes cooperative (24%). The winery managers and owners were committed to promoting other objectives than profits (e.g. social responsibility, agriculture needs, environmental respect, sustainability, innovation). Efficiency increased; employees were not only more motivated, but most of them also adopted sustainable principles outside of the work environment; grape suppliers maintained their incomes; a number of international intermediaries considered Bodega Pirineos better than before; and relations with stakeholders and the rest of society also improved.

Frog's Leap Winery in 2011: the sustainability agenda + video* (California)

Armand Gilinsky, Jr., Sonoma State University, Gilinsky@sonoma.edu

From 2000 to 2010, John Williams, co-founder and winemaker of Frog's Leap Winery in Rutherford, California made investments in dry farming, organic and biodynamic agriculture, geothermal and solar power, year-round employment and benefits for immigrant workers, and the

* Frog's Leap video case is available at: https://youtu.be/auVieQ2MGGo

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industry's only LEED-certified tasting room. Wine production remained static over the decade, but cased goods inventory and company debt load increased. To generate cash flow, Frog's Leap innovated a "wine-by-the glass" program using kegs and initiated a "Fellowship of the Frog" wine club. In May 2011, Williams considered options to grow "while remaining small," become more sustainable, and assure Frog's Leap's transition to the next generation. The written case and video case were developed for use in tandem to provoke student debate over how success should be defined and measured.

Lime Rock Wines (New Zealand)

Sharon L. Forbes, Lincoln University, Sharon.Forbes@lincoln.ac.nz;
Tracy-Anne De Silva, Lincoln University

In 2000, Rosie Butler returned to New Zealand with her Australian husband Rodger Tynan. They settled on Rosie's home region of Hawkes Bay as the place for them to establish their wine business. Their aim from day one was to combine Rosie's winemaking education and experience with Rodger's Master's in Ecology to produce premium quality wines with a strong focus on sustainability. Based in the Hawkes Bay region, Lime Rock Wines was typical of most New Zealand wine businesses; it was a small, privately held company owning a vineyard of 10 ha and with annual wine sales of less than 200,000 liters. A range of varietals had been planted in the Lime Rock vineyard, primarily Pinot Noir, but also Sauvignon Blanc, Pinot Gris, Merlot, Grüner Veltliner, Cabernet Franc, and Riesling. The company's wines were sold domestically at their cellar door and website. Lime Rock also exported to the Australian, UK, US, and Asian markets. By 2014, the biggest barriers to increasing the sustainable practices included (1) cost, (2) a lack of management time, (3) the amount of paperwork associated with compliance, and (4) the lack of sustainable input products that were available.

Puerta del Viento (Spain)

Rosana Fuentes Fernández, San Jorge University, rfuentes@usj.es;
Beatriz Urbano López de Meneses, University of Valladolid

Puerta del Viento Organic Wines (PdV) had made wine since 2009. The wines were made by Jorge Vega, a wine grower from the Bierzo, who

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produced handcrafted wines using organic farming techniques. Organic wines produced from Mencía and Godello grapes created a market niche for Puerta del Viento, one of only five organic wineries in the Bierzo region. These local varieties were only grown in the Bierzo and in a smaller appellation nearby. In late 2014, Vega was concerned that gaining consumer acceptance for his unique and as-yet unknown wines was proving to be difficult.

Notes

1 Guthey, G.T. and Whiteman, G. (2009). Social and ecological transitions: winemaking in California, *Emergence: Complexity and Organization*, 11(3): 37–48; Hertsgaard, M. (2010). Grapes of wrath. *Mother Jones*, July/August, 37–39.

2 Berns, M., Townend, A., Khayat, Z., Balagopal, B., Reeves, M., Hopkins, M.S., and Krushwitz, N. (2009). Sustainability and competitive advantage. *Sloan Management Review*, 51(1): 19–26; Carrillo-Hemosilla, J., del Rio, P., and Könnölä, T. (2010). Diversity of eco-innovations: reflections from selected case studies. *Journal of Cleaner Production*, 18: 1073–1083.

3 Porter, M.E. and Van der Linde, C. (1995). Green and competitive: ending the stalemate. *Harvard Business Review*, 72(3), September–October: 97–118.

4 Nguyen, D.K. and Slater, S.F. (2010). Hitting the sustainability sweet spot: having it all. *Journal of Business Strategy*, 31(3): 5–11; York, J.G. and Venkataraman, S. (2010). The entrepreneur-environment nexus: uncertainty, innovation, and allocation. *Journal of Business Venturing*, 25(5): 449–463.

5 Elsayed, K. (2006). Re-examining the expected effect of available resources and firm size on firm environmental orientation: an empirical study of UK firms. *Journal of Business Ethics*, 65: 297–308; Melnyk, S.A., Sroufe, R.P., and Calantone, R. (2003). Assessing the impact of environmental management systems on corporate and environmental performance. *Journal of Operations Management*, 21: 329–351; York, J.G. and Venkataraman, S. (2010). *Op. cit*.

6 Gabzdylova, B., Raffensperger, J.F., and Castka, P. (2009). Sustainability in the New Zealand wine industry: drivers, stakeholders and practices. *Journal of Cleaner Production*, 17: 992–998; Hughey, K.F.D., Tait, S.V., and O'Connell, M.J. (2005). Qualitative evaluation of three environmental management systems in the New Zealand wine industry. *Journal of Cleaner Production*, 13: 1175–1187; Manktelow, D., Renton, T., and Gurnsey, S. (2002). Technical developments in sustainable winegrowing New Zealand. Proceedings of the Romeo Bragato 8th annual conference in Christchurch, NZ.

DOI: 10.1057/9781137553089.0006

7 Carrillo-Hemosilla, J., del Rio, P., and Könnölä, T. (2010). *Op. cit*. Gilinsky, A., Santini, C., Lazzerretti, L., and Eyler, R. (2008). Desperately seeking serendipity: exploring the impact of country location on innovation in the wine industry. *International Journal of Wine Business Research*, 20(4): 302–320.
8 Nguyen, D.K. and Slater, S.F. (2010). *Op. cit*.
9 Esty, D.C. and Winston, A.S. (2006). *Green to Gold*. Hoboken, NJ: John Wiley & Sons.
10 Savitz, A.W. and Weber, K. (2006), *The Triple Bottom Line: How Today's Best-Run Companies Are Achieving Economic, Social, and Environmental Success—and How You Can Too*. Hoboken, NJ: Jossey-Bass.
11 Orth, U., Lockshin, L., and d'Hauteville, F. (2007). The global wine business as a research field. *International Journal of Wine Business Research*, 19(1): 5–13.
12 USDA (2007). The U.S. and world wine situation. Accessed December 1, 2014 from: www.fas.usda.gov/htp/2007%20Wine.pdf
13 Atkin, T., Gilinsky, A., and Newton, S.K. (2012). Environmental strategy: does it lead to competitive advantage in the U.S. wine industry? *International Journal of Wine Business Research*, 24(2): 115–133.
14 McMillan, R. (2012). *State of the Wine Industry 2012–2013*, Silicon Valley Bank. April 17 . Accessed June 20, 2012 from: http://www.svb.com/2012-wine-report/
15 Penn, C. (2011). Review of the industry: outlook and trends. *Wine Business Monthly*, February 15: 70.
16 Willer, H. and Kilcher, L. (2010). The world of organic agriculture—statistics and emerging trends, 2010. Accessed December 1, 2014 from: http://www.organic-world.net/yearbook-2010.html
17 Silvia Novaes Zilber, Daniel Friel, Luis Felipe Machado do Nascimento (2010). Organic wine production: the case of Bodega Colomé in Argentina. *International Journal of Wine Business Research*, 22(2): 164 – 177.
18 PROARGEX (2009, June 24). Argentina duplicates organic wines exportation. Accessed December 1, 2014 from: http://www.proargex.gov.ar/en/index.php?option=com_content&view=article&id=62:argentina-duplica-la-exportacion-de-vinos-organicos&catid=24:novedades&itemid=33.
19 Malizia, G. (2009). Organic Wine Exports go up 40%. Winesur.com, February 2.
20 Bouzdine-Chameeva, T. and Krzywoszynska, A. (2014). Barriers and driving forces in organic winemaking in Europe: case studies in France and Italy, Working Paper, KEDGE Business School, November.
21 The organic/biodynamic conversion period takes three years.
22 This section was contributed by Bouzdine-Chameeva, T. and Krzywoszynska, A. (2014). *Op. cit*.
23 This section was contributed by Forbes, S.L. and De Silva, T-A. "The science of sustainability: lime rock wines of New Zealand", in Gilinsky, A. (ed.) (in press) *Crafting Sustainable Wine Businesses: Concepts and Cases*, Palgrave Macmillan.

DOI: 10.1057/9781137553089.0006

24 Moschitz, H. and M. Stolze (2009). Organic farming policy networks in Europe: Context, actors and variation. *Food Policy* 34(3): 258–264.

25 Cuilhé, L. and Martinez, C.V. (2013), "Vino ecológico: comercialización en España y Francia," *BoletÍnEconómico de ICE No. 3039*, pp. 45–66. Accesed 1 December 2014 from: http://www.revistasice.com/cachepdf/bice_3039___40daed268638ff903fe980993fde8cf1.pdf.

26 Martínez, C.V. (2013). Análisis del sector del vino en España. Accessed January 10, 2014 from: http://mirevistadigital.files.wordpress.com/2013/01/nc2ba21-art5.pdf.

27 The "triple bottom line" called upon producers to measure the impacts of their activities upon "people, planet, and profit," that is, creating social, environmental, and economic value. That the wine industry was greening was borne out by a report issued by the California Sustainable Winegrowing Alliance in 2009. See also Brodt and Thrupp (2009). Understanding adoption and impacts of sustainable practices in California vineyards. California Sustainable Winegrowing Alliance, July. Accessed April 12, 2011 from: http://www.sustainablewinegrowing.org, .

28 Bussewitz, C. (2014). Sonoma County Winegrowers seek 100 percent sustainability, *Press Democrat*, January 15.

29 Porter, M.E. (1980). *Competitive Strategy*: *Techniques for Analyzing Industries and Competitors*. New York: Free Press.

30 Steinthal, D. and Hinman, J. (2007). The perfect storm, revisited. *Wine Business Monthly*, December: 88–93.

31 Barney, J.B. (1997). *Gaining and Sustaining Competitive Advantage*. Reading, MA: Addison-Wesley; Porter, M.E. (1980). *Op. cit.*; Porter, M.E. (1985). *Competitive Advantage: Creating and Sustaining Superior Performance*. New York: Free Press.

32 Barney, J.B. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17: 99–120; Peteraf, M. (1993). The cornerstones of competitive advantage: a resource-based view. *Strategic Management Journal*, 14(3): 179–191; Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal*, 2: 171–180.

33 Delmas, M. (2001). Stakeholders and competitive advantage: the case of ISO 14001. *Production and Operations Management*, 10(3): 343–357.

34 Dodds, R. Graci, S., Ko, S., and Walker, L. (2013). What drives environmental sustainability in the New Zealand wine industry? An examination of driving factors and practices. *International Journal of Wine Business Research*, 25(3): 164–184; Fearne, A. (2009). Sustainable value chain analysis: a case study of South Australian wine. Accessed December 22, 2010 from: http://www.pir.sa.gov.au/wine/value_chains; Gabzdylova, B., Raffensperger, J.F., and Castka, P. (2009). *Op. cit.*; Hughey, K.F.D., Tait, S.V., and O'Connell, M.J. (2005). Qualitative evaluation of three environmental management systems

DOI: 10.1057/9781137553089.0006

in the New Zealand wine industry. *Journal of Cleaner Production*, 13: 1175–1187; Marshall, R.S., Cordano, M., and Silverman, M. (2005). Exploring individual and institutional drivers of proactive environmentalism in the US wine industry. *Business Strategy and the Environment*, 14(2): 92–109; Marshall, R.S., Akoorie, M.E.M., Hamann, R., and Sinha, P. (2010). Environmental practices in the wine industry: an empirical application of the theory of reasoned action and stakeholder theory in the United States and New Zealand. *Journal of World Business*, 45: 405–414; Raffensperger, J.F. and Castka, P. (2009). Sustainability in the New Zealand wine industry: drivers, stakeholders and practices. *Journal of Cleaner Production*, 17: 992–998.

35 Brugarolas, M., Martinez-Carrasco, L., Martinez-Poveda, A., and Rico, M. (2005). Determination of the surplus that consumers are willing to pay for an organic wine. *Spanish Journal of Agricultural Research*, 3(1): 43–51; Forbes, S.L., Cohen, D.A., Cullen, R., Wratten, S.D., and Fountain, J. (2009). Consumer attitudes regarding environmentally sustainable wine: an exploratory study of the New Zealand marketplace. *Journal of Cleaner Production*, 17: 1195–1199; Fotopoulos, C., Krystallis, A., and Ness, M. (2003). Wine produced by organic grapes in Greece: using means-end chains analysis to reveal organic buyers' purchasing motives in comparison to the non-buyers. *Food Quality and Preference*, 14(7): 549–566; Remaud, H., Mueller, S., Chvyl, P., and Lockshin, L. (2008). Do Australian wine consumers value organic wine? Proceedings of 4th International Conference of the Academy of Wine Business Research, Siena, Italy, July 17–19, 2008.

36 Atkin, T., Gilinsky, A., and Newton, S.K. (2012). *Op. cit*.

37 Chaney, I. (2002). Promoting wine by country. *International Journal of Wine Business Research*, 14(1): 34–40; Guidry, J.A., Babin, B.J., Graziano, W.G., and Schneider, W.J. (2009). Pride and prejudice in the evaluation of wine? *International Journal of Wine Business Research*, 21(4): 298–311.

38 Three to date, to be exact: Gilinsky, A., Santini, C., Lazzerretti, L., and Eyler, R. (2008). *Op. cit*.; Grimstead S. (2010). Developing a framework for examining business-driven sustainability initiatives in wine tourism clusters. *International Journal of Wine Business Research*, 23(1): 62–82; Marshall, R.S., Akoorie, M.E.M., Hamann, R., and Sinha, P. (2010). *Op. cit*.

39 Bansal, P. (1999). *Taking Stock of ISO 14001 Certifications: Final Report*. Washington D.C.: United States Environmental Protection Agency; Corbett, C.J. and Kirsch, D.A. (2001). International diffusion of ISO 14001 certification. *Production and Operations Management*, 10(3): 327–342.

40 Melnyk, S.A., Sroufe, R.P., and Calantone, R. (2003). Assessing the impact of environmental management systems on corporate and environmental performance. *Journal of Operations Management*, 21: 329–351; Rao, P. and Holt, D. (2005). Do green supply chains lead to competitiveness and economic performance? *International Journal of Production and Operations Management*,

DOI: 10.1057/9781137553089.0006

25(9): 898–916; Sroufe, R. (2003). Effects of environmental management systems on environmental management practices and operations. *Production and Operations Management*, 12(3): 416.

41 Grimstead, S. (2010). *Op. cit*.

42 Christmann, P. (2000). Effects of "best practices" of environmental management on cost advantage: the role of complementary assets. *Academy of Management Journal*, 43(4): 663–680.

43 Chan, K.W. and Mauborgne, R. (2005). Blue ocean strategy: from theory to practice. *California Management Review*, 47(3): 105–121.

44 Hill, C.W. and Jones, G.R. (2010). *Strategic Management: An Integrated Approach*. Mason, OH: South-Western Cengage Learning.

45 Russo, M.V. and Fouts, P.A. (1997). A resource-based perspective on corporate environmental performance and profitability. *Academy of Management Journal*, 4: 534–559; Sharma, S. and Vredenburg, H. (1998). Proactive corporate environmental strategy and the development of competitively valuable organizational capabilities. *Strategic Management Journal*, 19: 729–753.

46 Gilinsky, A., Lopez, R.H., Santini, C., and Eyler, R. (2010). *Op. cit*.

47 Nowak, L.I. and Washburn, J.H. (2002). Building brand equity: consumer reactions to proactive environmental policies by the winery. *International Journal of Wine Marketing*, 14(3): 5–19.

48 Thode, S. and Maskulka, J. (1998). Place-based marketing strategies, brand equity and vineyard valuation. *Journal of Product and Brand Management*, 7(5): 379–399.

49 Bernabeu, R., Brugarolas, M., Martínez-Carrasco, L., and Díaz, M. (2008). Wine origin and organic elaboration, differentiating strategies in traditional producing countries. *British Food Journal*, 110(2): 174–188.

50 Jordan, R., Zidda, P., and Lockshin, L. (2007). Behind the Australian wine industry's success: does environment matter? *International Journal of Wine Business Research*, 19(1): 14–32.

51 Marshall, R.S., Akoorie, M.E.M., Hamann, R., and Sinha, P. (2010). *Op. cit.*

52 Dodds, R., Graci, S., Ko, S., and Walker, L. (2013). What drives environmental sustainability in the New Zealand wine industry? An examination of driving factors and practices. *International Journal of Wine Business Research*, 25(3): 164–184.

Bibliography

Agence BIO (2013). Printemps Bio, 15th edition. http://www.agencebio.org/sites/default/files/upload/documents/5_Communication/Relations_Presse/dp_conferenceptpsbio280514-def.pdf, accessed 27 July 2015.

DOI: 10.1057/9781137553089.0006

Brodt, S. and Thrupp, A. (2009). Understanding adoption and impacts of sustainable practices in California vineyards. California Sustainable Winegrowing Alliance, July, www.sustainablewinegrowing.org, accessed April 12, 2011.

Gilinsky, A., Lopez, R.H., Santini, C., and Eyler, R. (2010). Big bets, small wins? Entrepreneurial behavior and ROI. *International Journal of Wine Business Research,* 22(3): 238–250.

Orsato, R.J. (2006). Competitive environmental strategies: when does it PAY to be GREEN? *California Management Review*, 48(2): 127–143.

Phypher, J-D. and MacLean, P. (2009). *Good to Green*, Mississauga, Ontario: John Wiley & Sons, chapter 5.

Porter, M.E. (1991). America's greening strategy. *Scientific American*, 264(4): 168.

Reinhardt, F. (1998). Environmental product differentiation: implications for corporate strategy. *California Management Review*, 40(4): 43–47.

Santini, C., Gilinsky, A., Cavicchi, A., and Claps, M. (2011). "Stella di Campalto: A Biodynamic 'Star' in the Italian Wine Industry?" Proceedings of the 6th International Conference of the Academy of Wine Business Research, Bordeaux, FR, June 9–10, 2011.

Stegner, U. (2000). Environmental management systems: empirical evidence and further perspectives. *European Management Journal*, 18(1): 23–37.

Waddock, S.A., Bodwell, C. and Graves, S.B. (2002). Responsibility: the new business imperative. *Academy of Management Executive*, 16(2): 132–148.

Wood, D.J. (1991). Corporate social performance revisited. *The Academy of Management Review*, 16(4), October: 691–718.

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2

Bodega Pirineos: A Sustainable and Collaborative Business Model in a Spanish Winery

Jesús Cambra-Fierro, Lourdes Pérez, and Rocío Ruiz-Benítez

Abstract: *Bodega Pirineos Ltd. was founded in 1964. Its ownership was shared by Grupo Barbadillo (76%) and by the partners of the grapes cooperative (24%). The winery managers and owners were committed to promoting other objectives than profits (e.g. social responsibility, agriculture needs, environmental respect, sustainability, innovation). Efficiency increased; employees were not only more motivated, but most of them also adopted sustainable principles outside of the work environment; grape suppliers maintained their incomes; a number of international intermediaries considered Bodega Pirineos better than before; and relations with stakeholders and the rest of society also improved.*

Gilinsky, Armand, Jr. (editor). *Crafting Sustainable Wine Businesses: Concepts and Cases*. New York: Palgrave Macmillan, 2015. DOI: 10.1057/9781137553089.0007.

This case illustrates the importance of sustainability on the management of a typical Spanish winery. We consider sustainability to be a governing principle that allows for the fulfillment of present needs without compromising the requirements of future generations. This idea can be observed in the Bodega Pirineos business philosophy. The winery also values close and collaborative relationships with its stakeholders, aiming for the alignment of business philosophies and priorities. Understanding why and how Bodega Pirineos considers sustainability and social responsibility as part of its management system will help readers to reflect on the idea that sustainability and social responsibility are compatible with profitability.[1]

The Spanish wine industry: a brief approach

In 2014, the European Union occupied a leading position in the global wine market. It represented around 45% of the wine-producing surface area of the planet, 65% of the production, 55% of the consumption, and 70% of the exports. Based on data available at www.winesfromspain.com,[2] Spain had become the leading country in cultivated vineyard area (13.5% of the world, while the United States represented around 5.4% and Australia 2.3%) and production (13%, while United States represented 8% and Australia 5%). Wine generated almost 5,500 million euros per year in Spain, but its domestic market only represented 4% of total worldwide consumption (France and the United States represented around 12% each). For quite some time, Spanish wineries had faced significant challenges such as market saturation, decreased domestic consumption, and competition from New World wines from countries such as Chile, Argentina, New Zealand, Australia, South Africa, Turkey, and China.

The Spanish wine sector had traditionally been made up of small family businesses, while a number of big wineries such as Freixenet, J. García Carrión, Codorníu, Arco Wine Invest Group, Grupo Domecq Bodegas, Grupo Miguel Torres, Félix Solís Avantis, and Grupo Faustino had more recently become prominent. The top five wineries comprised 28% of the market share. The most famous Spanish wine regions were Rioja, Penedés-Cava, Ribera del Duero, Xerez-Xerry, and La Mancha. Other areas such as Priorato and Somontano were acknowledged as high-quality wine producers.

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In 2014, the Spanish wine industry was adapting to modern times by increasing its competitiveness both within and outside of Spain. While the introduction of foreign investment was still not significant, business agreements with foreign companies were increasing. This signified an adaptation to international business processes and an enhancement of Spanish wine commercialization worldwide.

Firm background

Bodega Pirineos Ltd. produced wine within the Protected Geographical Indication (PGI) Somontano.[3] This was a wine producing region formed by 44 municipalities, located in north-eastern Spain. Its regulating authority had 30 wineries, around 400 wine-growers, and 4,400 hectares (ha) of vineyards registered. The wines of Somontano enjoyed a high level of recognition in both Spanish and international markets, such as the United Kingdom, Germany, Switzerland, the United States, and Japan. They were recognized as some of the best-known wines in Spain, along with *Rioja*, *Ribera del Duero*, *Navarra*, *Priorato,* and *La-Mancha* PGIs, among others.

In addition, the PGI Somontano was vitally important for the area's economy and society: employing a large number of the area's inhabitants, receiving subsidies for the vineyard owners to invest in new farming technology and equipment, and improving services and infrastructures to attract visitors and tourists.

Bodegas Pirineos Ltd., founded in 1964, was one of the enterprises that promoted the creation of Somontano PGI in 1984. Its ownership was shared by Grupo Barbadillo (76%) and by the partners of the grapes cooperative (24%). The winery managers and owners were committed to promoting other objectives than profits (e.g. social responsibility, agriculture needs, environmental respect, sustainability, innovation).

This company represented a significant share of the market for Somontano PDO. The winery owned 80 ha of vineyards and also relied on vineyards owned by the partners of the cooperative, who had an agreement to sell their production to the winery. In total, this firm was responsible for more than 850 ha (around 20% of the PGI total).

The company had 34 employees. In 2013 it sold almost four million bottles, which represented around 34% of the total production of approximately 11.5 million bottles of Somontano PDO wine sold that

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year (data provided by the PDO Somontano Regulating Authority and Bodega Pirineos Ltd.). Its markets were both domestic and international (Germany, the United Kingdom, the United States, and Japan mainly). For this reason, Bodega Pirineos was considered to be one of the driving forces behind the PGI Somontano regional success.

For Bodega Pirineos, innovation was a constant feature in business management and wine production. The company had carried out research projects in collaboration with leading wine industry companies from Italy, France, and the United Kingdom, as well as with prestigious Spanish public institutions, all of which were pioneers in management and quality control techniques with a high commitment to sustainability. The company's strategic plan reflected that "the belief in the future and innovation is clear… [all while] respecting the past and tradition." Initiatives included applications of the latest technologies in vine cultivation and the deployment of sustainable marketing processes and sales activities, all while respecting the natural environment and regional traditions.

Additional notes related to the management of Bodega Pirineos included:

The winery had the obligation, regulated by its own statutes, to purchase all the grapes that were grown in cooperative members' 200 individual vineyards, for a total area of 850 hectares. These wine-growers, in turn, had the obligation to sell all of their agricultural produce to the winery. Cultivated land was divided into 900 plots, spread throughout the whole region. The large geographic expanse allowed for different grape varietals to be grown, but also posed challenges such as the complexity of managing vineyards in different climactic regions, variable grape ripening patterns, and significant costs for transporting raw material (grapes) from the fields to the winery.

Long-term grape pricing agreements were established between the firm and the cooperative; however, they were subject to penalization associated with the quality of the grapes. This allowed the winery to provide a more stable economic environment for its partners because the grape prices did not usually vary significantly between one harvest and another.

The winery produced red and white wine using ten different varieties of grapes. Production was proportionally distributed as follows: Cabernet Sauvignon (25%), Merlot (25%), Tempranillo (25%), Chardonnay (10%), and other varieties such as Syrah and Gewürztraminer. The

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winery had also been focusing on the recuperation and maintenance of indigenous varieties such as Moristel, Parratela, Garnacha, and Macabeo. This illustrated the winery's interest in respecting its local environment, practices, and sustainability.

Global ideas about sustainability in Bodega Pirineos

Because Bodega Pirineos belonged to the Barbadillo Group, the Group's vision of sustainability had to be considered:

> The Barbadillo Group considers essential the conservation of the natural and social environment in which its activity takes place, as well as its advance and sustainability. [In addition,] The Barbadillo Group wishes to guarantee customer satisfaction and loyalty as imperative objectives, based on honesty and maintaining an open attitude towards institutions and society in general under a permanent open dialogue with its environment. (Translated from the company website)

One central concept of sustainability was the "triple bottom line" approach, where a minimum performance target was established in each of the environmental, economic, and social dimensions. This idea of sustainability was consistent with the three dimensions included in the corporate social responsibility concept: natural case (environmental), business case (economic), and social case (social).

As representatives of Bodega Pirineos commented, "we wish to work in the improvement and technological innovation of our installations in order to optimize consumption of natural and energetic resources and achieving high levels of profitability and competitiveness, respecting and protecting the environment. Additionally, we want to maintain a sustainable model in the use of new technologies, taking into account our workers and cooperative partners and correctly managing our residues and prioritizing 'reduction at origin' but without missing the objective of the group's benefit as guarantee of future and sustainability."

The influence of legislation and owner/manager value systems

Bodega Pirineos, like the other Barbadillo Group's companies, was "committed to comply with the actual legislation and voluntarily apply ethical and sustainability values involving all human resources of the company,

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providers, collaborators, distributors, customers, public administrations and society in general." According to the managers of Bodega Pirineos, the winery's environmental policy was "not as strict as in other sectors, although there are some minimum criteria for certain wastes generated along the production process. We have to bear in mind that a large part of our waste is organic matter and it's biodegradable . . . although a small part corresponds to auxiliary chemicals, cleaning stuff for metal tanks . . . in those cases we have to comply with some legally established standards, but it is not the main percentage of waste." For all of these reasons, the company had always complied with the required legal standards, and in some cases maintained even stricter standards. Bodega Pirineos was one of the first Spanish wine firms to develop a sustainability report. This document was public and could be downloaded via the internet. Throughout the document, Bodega Pirineos demonstrated its commitment to the sustainability of both the environment and the local population, much more so than required by law. This sustainability report provided evidence that the winery was not solely concerned with meeting regulatory requirements. The company's mission stated that "Bodega Pirineos looks for the satisfaction of all the parts: worldwide consumers, staff, shareholders' profitability and our main suppliers, grape suppliers and others, according to the principle of business excellence; and eventually, the satisfaction of the community, always with the proper ethical and social environmental behaviour." This declaration reflected the firm's value system and justified its higher level of commitment to environmental and sustainable causes.

For this reason, it was essential to analyze the potential influence of the winery management's value system: "I believe that in Bodegas Pirineos many of us think that something has to be done . . . although as a company we can't do much . . . but, what if everybody did something? Don't you think so? Surely if we all made some effort the global impact would be different." This statement suggested that the owners' and managers' value systems influenced both the corporate value systems and the firm's behavior. In the case of Bodega Pirineos, the winery's value system also had an influence on the employees' values and behavior outside of the work environment.

Employees often adopted professional value systems in the workplace, which could be different from the value systems that they adopt in other social environments. At work, individuals related with other co-workers in a way that adapted to the organization's established

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philosophy and rules for behavior. As employees spend a lot of time at work, the potential that firms have in influencing employees' behavior was understandable:

> When we adhered to ISO 14000, we realized that the system was more demanding and that we reduce the environmental impact…Even though it wasn't very harmful for the environment before, now it is even more efficient and respectful and…hey, now we have to work harder. I now appreciate more companies that also try to behave this way…If when I go shopping I hesitate when there is more than one option and there's one that shows concern for the environment. I will take that one…well, if there isn't a huge difference in the price, everything has a limit, eh? (Employees' spokesperson)

However, when the company introduced enhanced environmental and sustainability practices, there was a certain reticence among employees, who perceived that their jobs were going to be more demanding because of the changes. Measures such as educational workshops, specific bonuses given during the early stages of implementation, and employees' own observations that the new initiatives made their jobs more efficient encouraged them to adopt sustainable behaviors both at work and outside of work. This supported the theory that firms had significant moral and behavioral influence on their employees, thus the firms' responsibility went beyond a mere business context.

Sustainability in the firm's supply chain management

The importance that the company gave to the concept of sustainable supply chain management demonstrated an integrated approach to sustainable and environmental thinking. Sustainability within supply chains recognized the management of material, information, and capital flows, as well as cooperation among companies throughout the supply chain. Economic, environmental, and social goals derived from customer and stakeholder requirements were taken into account. In sustainable supply chains, environmental and social criteria needed to be fulfilled by members within the supply chain, while it was expected that competitiveness would be maintained through the fulfillment of customer needs and other related financial criteria.

In the case of Bodega Pirineos, the winery acted as focal company. Focal companies were companies that typically ruled or governed the supply chain, designed the product or service offered, and had direct

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contact with the final customer. Focal companies were asked to consider the environmental and social dilemmas present throughout the entire supply chain, and were often held responsible for the sustainability of their suppliers.

The implementation of international sustainability standards could be considered a strategic tool. ISO 14000 established, through ISO 14001, a set of international standards that could be applied by any organization wanting to set up, document, implement, maintain, and regularly improve upon an environmental management system. If a company wanted to register its system, it had to undergo a certification effort conducted by a registered third party to validate that it complied with ISO 14000 requirements. Standardization of sustainable wine production processes affected the management of Bodega Pirineos' relationships with several of its key suppliers of grapes, barrels, and corks. The winery sought a balance between quality, cost, supplier values, and supplier compatibility with supply chain sustainability principles. Developing collaborative relationships with its suppliers was generally fairly straightforward. However, relationship development with farmers could be more complex.

Both the application of new environmental practices and the registration for acquiring certification required significant resources to manage. This responsibility was given to the winery's quality manager. It was not a simple task: this person had to overcome initial reluctance from the workforce. To motivate employees, a salary system was established that included incentives for supporting environmental actions. Significant economic resources were allotted to execute the plan. In 1999, Bodega Pirineos was awarded ISO 14001 certification. ISO 14001 registration information was included on the labels of all wines produced, and the winery's certification was especially emphasized at international wine fairs and during sales meetings with distributors.

But within just a few months, winery sales managers realized that much of the wine market, with the exception of a small niche, did not have a significant appreciation for an environmentally respectful production system:

> The average consumer appreciates aspects related to the product presentation, price, organoleptic characteristics, tastings…so in the 2004 campaign we decided to continue working according to the ISO 14000 criteria but without the certification-registration, which involved two things: saving administration costs and the inspections required by the regulations; although we still work with a

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similar exigency level, without including the information in the label, which had proved to be not so important as we had expected.

However, this decision was temporary, and the winery decided to re-certify in 2007 when the Barbadillo Group took ownership. This also placated the winery's large international intermediary partners. The certification was active as of late 2014; however it was not reflected in all of Bodega Pirineos' wine labels.

Collaborative relationships with grape suppliers

As previously noted, Bodega Pirineos acted as a focal firm in sustainability. The winery was the driver for implementing sustainable practices throughout its supply chain activities. In doing so, the ways that the winery managed its relationships with grape suppliers was critical. In Bodega Pirineos' case, grapes were supplied by a large number of small suppliers who were also co-owners of the firm (24%). Their supply accounted for more than 50% of Bodega Pirineos' grape purchases. The firm had signed a contract with members of the cooperative that required the purchase of all grapes produced by the cooperative's members. This agreement helped stabilize grape prices for cooperative members; this contrasted with rapidly fluctuating grape prices that growers in other regions of the country had experienced. Overall, these agreements stabilized growers' incomes. Because of this, grape suppliers were considered the key stakeholder group for the company.

Relationships with winery suppliers (grape suppliers in particular) also had to be considered from a social point of view. Relationships were not solely based on written agreements; trust and cooperation between partners also needed to be present. Trust and collaboration increased the efficiency and strength of the relationship and raised mutual satisfaction. This was in line with many of the current managerial trends of the time, where value was created as the result of a collaborative process between suppliers and customers. Value emerged when customers intertwined their own activities and resources with those of their partners, applying the resulting outputs and learning through interaction and collaboration. Thus, firms' foci had shifted toward being collaborative in managing interactions with customers and other parties.

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In this context of interdependencies, an interesting case was posed by considering small suppliers who had both a greater need for complementary resources as well as a higher overall business risk when appropriating their own resources. These suppliers were challenged to collaborate with and learn from customers who often had more resources, power, and wider social networks. In these asymmetric relationships, small suppliers (grape suppliers in this case) needed to engage in the development of key relationships in order to drive future success. Selecting the right partners, who were often large customers (in this case, the winery), represented the first step in the process of learning to work and collaborate with them.

The firm and its grape suppliers paid attention not only to quantity but also to issues related to quality and delivery. The alignment of the firm's competitive strategies and organizational culture with the growers' objectives and values were among the most important considerations. Bodega Pirineos needed to persuade grape suppliers to meet company business and cultural standards, as well as to make efforts to improve aspects such as on-time delivery, quality, professionalism, and responsiveness to operational requirements. Grape suppliers needed to understand the winery's objectives and mission, and be enthusiastic about participating in strategy execution through relational elements such as trust, commitment, communication, and cooperation.

Based upon the specificities and the relevance of these relationships, Bodega Pirineos tried to achieve efficient supply chain management, using customized strategies to solve the problems of its key, albeit small, suppliers. The firm had developed a collaborative partnership with farmers by providing assistance with vineyard design. Strategy for new vineyard planting was determined by several factors such as market conditions, orography (geology, land), weather conditions, and historic vineyard data. Farmers also received training and sometimes economic support. One of the big grape suppliers stated that "our major concern was quantity of grapes and assuring our incomes… the quality of wine was not our business… this was the firm's task." While the managers of the firm initially found some hesitation on the part of the growers, they were finally able to convince farmers about the suitability of the new proposal related with sustainability and quality rather than with quantity. "We needed to involve farmers in our business

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philosophy . . . they are the most relevant suppliers. So we decided to explain the advantages of this new system . . . Farmers were happy with the former situation, so we had to show how they can improve results in both work schedule and incomes." According to the grape suppliers, "Because of our mentality, we do not enjoy changes. We have been working in the same way for a long time and there were so many changes in a short period of time . . ." However, because the commercial situation was complicated, they needed to change the old system. "But the managers showed us how to obtain savings in time, raw materials, recycling processes and waste management, and because the final quality of the wine is now better than before, commercial perspectives are now better than before and we are getting money and maintaining our incomes."

Winery managers influenced the grape suppliers' allegiance to the firm. "We must remember that farmers are part of the firm . . . they are also shareholders of Bodega Pirineos thus, if we get profits, they also get higher incomes . . . we develop a number of courses and workshops related with the implementation of sustainable practices in vineyards as well as with the commercial potentialities of sustainability."

Finally, both grape suppliers and managers had become satisfied with the new situation: "We are now maintaining our incomes, which is positive . . . and we are helping to improve the firm's competitiveness." "We have our sales of grapes guaranteed by contract but, if the firm does not sell the wine, we will not be able to maintain the situation in the long term. Therefore, we need to follow the firm's recommendations about sustainability. Its business is our business."

According to information provided by the company, "in the sixth year after implanting this new management system, the productivity per hectare had doubled, the average price of the grapes had tripled and the winery's billing had increased significantly."

Data suggested that introducing sustainable principles to the relationships that the firm maintained with its grape suppliers had not only contributed to the improvement of quality but also to mutual satisfaction and profitability.

What about the market?

Sustainability initiatives were transforming markets and distribution channels. Green marketing could be described as the integration of

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environmental considerations into strategic marketing processes. Green marketing allowed firms to satisfy environmentally concerned consumers with green products. It modified the marketing mix to include references to a product's environmental efficiencies and allowed firms to achieve competitive advantage by adopting green values and benefits. Competitive advantage was a byproduct of understanding the market, managing the demand for sustainable products, and adopting processes that address environmental priorities.

In this way, as the commercial managers of the company perceived a growing interest in the market for environmentally respectful products, they looked for a credible way of communicating such a message: "We were more exigent with ourselves, but we were not able to transmit it to our distributors and customers…we needed some kind of specific sign or emblem which was credible for the market, something that made us different…we were doing fine but needed that guarantee…that's why we considered the option of implementing an environmental management system based on ISO 14000 norms." However, as already discussed, this effort was not consistently effective in the marketplace. Because more recent trends suggested the commercial benefits of product sustainability guarantees, Bodega Pirineos decided to re-certify. "It was not a big effort for the company since we were still working on this norm but without the official certification. Once we decided on the ISO 14001 certification it was relatively easy to obtain since we already had the experience."

The company began producing two types of ecological wine: "Young Ecological Montesierra, elaborated with Tempranillo and Merlot from ecological farming, and Rocal 2004 in collaboration with Riet-Vell and SEO/Bird Life, both aimed at a very specific niche market that appreciates the concept of ecology and environmental responsibility." The target market for this product line was Switzerland, a country that placed a high value on sustainability in winemaking. However, unfavorable distributor pricing requirements and the small target consumer segment size hindered the profitability of this product line.

Therefore, it could be implied that Bodega Pirineos' interest in sustainability was not strictly dependent upon commercial success, even while the company's desire to maintain relationships with some of the big international intermediaries continued: "The real benefit associated with sustainability comes from improvement in production processes that become more efficient in the long term, more motivation of our employees, identification of farmers with our company, good relationship with the

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public administration and the strengthening of our brand image for big international intermediaries."

As an addition to environmental certification, the company offered its customers the maximum food safety and health guarantee. In 2008, the company obtained the certification with the most stringent requirements: British Retail Consortium (BRC) and International Food Standard (IFS). These certifications would continue to be maintained.

Some conclusions

Bodega Pirineos assumed the principles of sustainability and environmental protection as management tools, but from a profitability perspective. This philosophy perfectly aligned with the triple bottom line approach that represented the equilibrium between the environmental, social, and economic dimensions of business.

Theory suggested that external pressures had a huge impact on the implementation of sustainability in business. Operating the supply chain was only justified if the products were accepted by final customers and therefore customer preferences for sustainable products were of great relevance. Legal demands, regulations, reputation and brand reinforcement, response to stakeholders, and social pressure groups reinforced the consideration of sustainability as a core business strategy. However, in the case of Bodega Pirineos, internal drivers seemed to be of greater importance.

For instance, the winery demonstrated a preference for taking advantage of efficiency improvements due to sustainability-based management. Instead of looking at profitability as based solely upon market criteria, the winery considered the benefits of sustainable practices, such as lower production costs, improved staff motivation, and better relationships with public administration, to be of higher value. Therefore, the main driver for sustainability at Bodega Pirineos was based more heavily upon satisfying company values than on market criteria.

It was relevant that Bodega Pirineos was a pure focal firm and therefore it needed to pressure its suppliers to guarantee the sustainability of their part of the supply chain. Quite often, the winery had to take into account a longer portion of the supply chain than normally necessary, as in the example of grape suppliers. This situation reinforced the relevance

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of cooperation with suppliers, mutual trust development, and transfer of values.

The modern purchasing function emphasized strategic purchasing and the alignment of both parties' aptitudes, approaches, shared values, and business philosophies. These criteria were essential for consideration by managers when identifying which firms they could work with. As discussed in the Introduction, firms sometimes adopted a strategic purchasing orientation which required closer relationships with key suppliers, deeper long-term planning in supply chain management, and more proactive behavior. The firm had to develop relationships with suppliers based not only on cost reduction but also on factors such as trust, commitment, shared values on operational tactics, and on compatibility with sustainable principles.

Sustainability initiatives initially required additional effort on Bodega Pirineos' part. Challenges included structural and operative costs, coordination and communication efforts along the entire supply chain, and the enactment of specific training and empathy programs. Despite this, indications suggested that voluntarily adopting a sustainable business point of view was a successful decision. Efficiency had increased; employees were not only more motivated, but most of them had also adopted sustainable principles outside of work. Other benefits included the improved stability of supplier incomes, improved public relations with international partners, and better relations with stakeholders and society in general.

Finally, thanks to Bodegas Pirineos' sustainable business philosophy, the company was granted several awards related to environmental management and respect. These awards included the *European Environmental Award 2004* for Management and Communication in Sustainable Development, awarded by the European Commission and the Spanish Ministry of Science and Technology. The *Validation of Sustainability Report*, awarded by AENOR in 2003, recognized Bodega Pirineos; this was the first agroalimentary company in Spain to obtain such an award. The experts' impressions of Bodega Pirineos' wine quality were a reflection of the quality of its raw material. Quality was achieved not solely from the excellent soil and virtues of the Somontano climate but was also due to the efforts and motivation of farmers and employees who identified themselves with the sustainability values established long ago in Bodega Pirineos' business management model.

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Notes

1 All data were supplied by case authors via company interviews except as noted.
2 Last accessed November 20, 2014.
3 Last updated November 18, 2014. Based on data supplied by the winery as well as the PGI Regulator Board.

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3

Frog's Leap Winery in 2011—The Sustainability Agenda [Case + Video]

Armand Gilinsky, Jr.

Abstract: *From 2000 to 2010, John Williams, co-founder and winemaker of Frog's Leap Winery in Rutherford, California made investments in dry farming, organic and biodynamic agriculture, geothermal and solar power, year-round employment and benefits for immigrant workers, and the industry's only LEED-certified tasting room. Wine production remained static over the decade, but cased goods inventory and company debt load increased. To generate cash flow, Frog's Leap innovated a "wine-by-the glass" program using kegs and initiated a "Fellowship of the Frog" wine club. In May 2011, Williams considered options to grow "while remaining small," become more sustainable, and assure Frog's Leap's transition to the next generation. The written case and video case (https://www.youtube.com/watch?v=auVieQ2MGGo&feature=youtu.be) were developed for use in tandem to provoke student debate over how success should be defined and measured.*

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> There's an old saying in the wine industry that goes, "In order to make a small fortune you need to start out with a large one." Unfortunately, I'd never heard of that "rule" before I started out. I came here to the Napa Valley 27 years ago with $40 in my pocket, sold my motorcycle for $5,000 to start a winery, and now I owe $22 million to the bank. And I still haven't been able to buy back my motorcycle, because the current loan covenants with the bank do not permit me to ride, so I'm not sure that I am a success story, really.
>
> *John Williams, founder & CEO, Frog's Leap Winery.*[1]

From the autumn of 1999 to late spring 2011, most Napa Valley premium wineries were embracing modernity—launching websites, using viral marketing, developing wine clubs, and shifting distribution channels from on-premises accounts to direct sales. John Williams, the co-founder, owner, and CEO/winemaker of Frog's Leap Winery in Rutherford, California, had followed suit by making modest investments in these marketing programs. Williams nevertheless remained skeptical that these changes would dictate *his* winery's future. In May 2011, Williams reflected upon his heritage as the son of upstate New York dairy farmers and his 35 years of working in the wine industry, since graduation from Cornell University. Williams not only displayed his normally irreverent humor, but also acknowledged that he had quietly developed the industry's most sophisticated environmental management system (EMS).[2] Environmental management systems had risen in importance for wine businesses, as they confronted survival threats from the natural world, such as rising energy prices, water scarcity, mounting concerns about chemical exposure, and climate change.[3] Yet Williams wondered aloud: "How could Frog's Leap, which has grabbed the 'low-hanging fruit' of environmental management, become even more sustainable?" See Exhibit 3.1 for a timeline of events in Frog's Leap's evolution.

Napa Valley and the premium wine industry

Napa Valley was a prominent American Viticultural Area (AVA) in California's North Coast wine-producing region, which encompassed Lake, Napa, Mendocino, and Sonoma counties. (See "Glossary of common wine industry terminology" at the end of this section.) Since 1999, the number of premium wineries in the North Coast had grown

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from 329 to 1,250.[4] Of that number, nearly 92% could be classified as small or "boutique" wineries; that is, those producing fewer than 50,000 cases per year. The number of boutique wineries increased dramatically during the 12-year period, from 249 to 1,133. By contrast, midsized wineries (those producing between 50,000 and 499,999 cases per year) and large wineries (those producing more than 499,999 cases per year) grew more modestly in number during the same period, from 80 to 117.

After the height of the global economic downturn during 2008–2009, in the following year the premium wine industry witnessed a small but significant rebound in growth. Mid-priced and high-priced wines led that growth. See Table 3.1 for data comprising the US premium wine industry's percentage sales growth, margins, and pretax profits from 2002 to 2010. See Table 3.2 showing volume and value changes for various price points of wines in 2010.

TABLE 3.1 *US premium wine industry—key financial data, 2002–2010 (in %)*

	12–31–02	12–31–03	12–31–04	12–31–05	12–31–06	12–31–07	12–31–08	12–31–09	12–31–10
Sales Growth (yr. on yr.)	5.2	17.6	25.5	19.4	21.2	22.3	2.0	−3.8	10.8
Gross Margin	51.5	50.2	51.5	52.8	54.5	57.1	55.3	52.4	53.7
Pretax Profit	3.2	6.3	7.6	12.6	11.3	16.3	9.5	2.2	6.7

Source: Silicon Valley Bank, *2011–2012 State of the Wine Industry*, April 2011, p. 11.

TABLE 3.2 *US wine industry—price segment data, December 31, 2009–December 31, 2010*

Last 52 wks		Value % change		Volume % change	
$ share	Price segment	Last 52 wks	Last 26 wks	Last 52 wks	Last 26 wks
100.00%	Total table wine	4.50%	4.80%	3.20%	3.50%
8.4	$0–$2.99	−1.3	−2.5	−2.4	−2.6
29.3	$3–$5.99	4.4	4.2	4.8	4.9
20.2	$6–$8.99	−3.4	−3.3	−1	−0.9
20.8	$9–$11.99	10	10.5	12.4	12.5
10	$12–$14.99	7.8	8.1	10.3	10.2
6.2	$15–$19.99	7	9.4	7.7	10.3
5	>$20	11.4	11.8	9.2	11

Note: shaded areas indicate double-digit growth.
Source: The Nielsen Companies, in Silicon Valley Bank, *2011–2012 State of the Wine Industry*, April 2011, p. 4.

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Consumer segments for premium wines

The United States surpassed both France and Italy in 2008 as the world's largest consumer of wine by dollar value. In 2010, US wine consumption in terms of volume reached an all-time peak of 2.54 gallons per resident over 21. In that same year, 25–44 year-olds emerged as the largest segment of wine consumers, supplanting the "Baby-Boom" generation that had led much of the industry's growth during the prior 30 years. See Table 3.3 for 2010 data on consumer demographics of the US wine industry.

Trends in consumer health awareness also had a considerable impact on US wine consumption. The "Baby-Boomers" increasingly desired to stave off aging and infirmity by incorporating better nutrition and wellness into their lives. The postulated positive health aspects of drinking red wine in moderation contributed to increasing wine sales across all age groups.

So-called green consumers comprised an emerging demographic segment called LOHAS (Lifestyles of Health and Sustainability). This segment sought a better world for themselves and their children. LOHAS consumers were savvy, sophisticated, ecologically and economically

TABLE 3.3 *US wine industry—2010 consumer demographics data*

	Unemployment rate	% of population	% of wine drinking population
Race/ethnicity			
White	8.50	68.90	78.50
Hispanic	13.00	13.40	8.90
African-American	15.80	10.80	7.30
Age			
21–24	15.30	7.40	4.00
25–34	10.10	18.70	13.60
35–44	7.80	19.60	16.30
45–54	7.50	20.60	22.00
55+	6.90	33.70	44.10
Education			
High school diploma	15.30	19.20	10.20
Some college	10.60	28.40	20.20
College grad.	4.90	24.30	39.90

Source: The Nielsen Companies, in Silicon Valley Bank, *2011–2012 State of the Wine Industry*, April 2011, p. 13.

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aware and believed that society had reached a watershed moment in history because of increasing public scrutiny of corporations' environmental and ethical practices.[5] The LOHAS consumers focused on health and fitness, the environment, personal development, sustainable living, and social justice.

The segment was estimated at about 38 million people, or 17% of the US adult population, with spending power of $209 billion annually.[6] Among all ages of consumers, younger consumers, aged 14–24, were reported to be most concerned about issues such as climate change and environmental protection and were the major drivers of growth in the LOHAS segment. See Table 3.4 for demographic data on "green" consumers vs. all consumers.

Yet considerable confusion remained among wine consumers of all ages regarding organic wine vs. wine made from organically grown grapes. Organic wine was fermented and aged without sulfites, regardless of how the grapes were grown. Wine made from organically grown grapes might or might not have sulfites added to preserve shelf life. The two products were considerably different in origin, composition, and potential shelf lives.[7] Furthermore, wines labeled as organic or biodynamic were typically placed in a separate section away from other mainstream brands in supermarkets and specialist shops. Nevertheless, US sales of certified organic wine and those made with organic grapes reached $80 million in 2006, and rose to nearly $130 million in 2008, an increase of 28% over 2004, according to the Organic Trade Association.[8]

TABLE 3.4 *The green consumer*

	All consumers	"Green" consumers
Average age	44	–
Gender		
Female	51%	54%
Male	49%	46%
Ethnicity		
Caucasian/other	75%	62%
Hispanic	13%	21%
African-American	11%	16%
College educated	25%	31%
Median household income	$58,700	$65,700

Source: Brooks, S. (2009). The green consumer, *Restaurant Business*, September, pp. 20–21.

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Sustaining the California wine industry

After a period of unprecedented and sustained growth from 2002 to 2007, wine producers sought an edge to differentiate their brands and also to reduce costs during the 2008–2009 industry downturn. Many wineries faced financial difficulties due to market saturation. Almost all 6,785 wineries across the United States (of which 3,306 were in California) faced downward pressure on prices and margins. Some industry observers opined that wine producers faced a newly "hyper-competitive" trading environment: the rate of new brand introductions slowed in 2009 and 2010, in a period when wholesalers and distributors of wine were struggling to sell off a backlog of wine inventory and thus less receptive to taking on new wines to sell.[9]

Barbara Banke was co-proprietor of Jackson Family Wines in Santa Rosa, California (Sonoma County), a wine business known for its Kendall-Jackson, Hartford Family, Matanzas Creek, and Cardinale brands. Banke listed sustainability as one of the greatest challenges the wine industry faced in 2011:

> We've had a reduction in the workforce last year, and we focused on controlling our costs and not investing so much capital. We have a constant battle to get the recognition we deserve with all the work we've done on sustainability. The industry is very green—and yet that's something that's not widely known. The California wine industry should work on enhancing its reputation for sustainability.[10]

To many in the wine industry sustainability was defined as the "triple bottom line," meaning that producers needed to measure the impacts of their activities upon "people, planet, and profit," that is, creating social, environmental, and economic value. That the wine industry was greening was borne out by a report issued by the California Sustainable Winegrowing Alliance in 2009.[11] Some 1,237 California vineyard and 329 winery owners voluntarily participated in the Sustainable Winegrowing Program (SWP), despite widespread perceptions that sustainable farming practices increased the cost of production and lowered crop yields. Information about the SWP is shown in Exhibit 3.2. According to the Napa Valley Vintners Association, Napa Valley boasted 404 premium wineries, of which 60 were classified as "Green" or "Sustainable" in some fashion. See Exhibit 3.3 for more information on the 60 "Green" wineries in Napa in 2011.

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Frog's Leap had hosted a Sustainable Wine Growers conference each year since 2006. The purpose of these conferences was to share information and best practices. Attendance had grown from ten to over 250 California wineries (out of 329 members of the California Sustainable Winegrowing Alliance) in just five years. At the 2010 conference, Ted Hall, owner of Long Meadow Ranch, an organic Napa vineyard located in the Mayacamas Mountains above the valley, said:

> There is only one reason we farm organically, and that's because it results in higher quality and lower costs. Organic growing could double the life of a vineyard, perhaps to 40 years. That should be considered in calculating its costs. The fundamental objective of organic farming is to create a healthy plant. We're trying to create a plant that is balanced and appropriate for its site, slope and conditions. A healthy plant can produce fantastic flavors at full physiological ripeness without practices like water stress and long hang-time that can weaken the plant. You have to take a systems approach to organic growing. You can't just substitute organic pesticides or fertilizers for conventional chemicals. As much as we like to believe when we tell the rest of the world about the value of the Napa Valley appellation, not every piece of [Napa vineyard] property is suitable for growing quality grapes [organically] at a reasonable cost.[12]

A 2011 survey of 98 US wine producers found that wineries appeared highly aware of sustainability issues and recognized the importance of caring for the environment.[13] Notably, about one-third of the respondents had increased investment in EMS during the recent recession. However, although many reportedly had adopted some sustainable practices such as organic and biodynamic cultivation, energy efficient production, and dry farming, the *perceived* benefits of going beyond those practices to the adoption of a formal EMS program remained unclear. There was a perception of a cost advantage benefit to a formal EMS program, but not necessarily a differentiation benefit, with the possible exception of an increased ability to enter new market segments.

Frog's Leap in 2011

Frog's Leap commenced production with 653 cases of Sauvignon Blanc in 1981. By 2010 the winery produced 62,000 cases of predominantly red wines. Varietal brands included white wines made from Sauvignon Blanc ($18 retail) and Chardonnay grapes ($26), and red wines

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from Zinfandel ($27), Merlot ($34), two wines made from Cabernet Sauvignon ($42 and $70), and Petite Sirah ($35). Frog's Leap also sold the amusingly named Frogenbeerenauslese ($25), a 100% Riesling, and La Grenouille Rouganté ($14), a rosé blend made from Gamay and a touch of Riesling. In addition, the winery produced its own olive oil and honey.[14]

Staff headcount at Frog's Leap grew 100% over 12 years, from 25 to 50 personnel. Most of the new hires were fieldworkers. Other employees included those in its tasting room, such as Shannon Oren, Tasting Room Assistant. In 2011, three managers reported to John Williams. Paula Moschetti, after five years of service as enologist for the firm, was promoted to Assistant Winemaker. Jonah Beer, former director of sales for Stag's Leap Wine Cellars, was hired as Director of Sales, Marketing, and Public Relations in August 2003, and soon after became the winery's first General Manager. Upon the retirement of Gary Gates, Frog's Leap's longtime financial consultant, the firm hired Doug DeMerritt as its Chief Financial Officer. DeMerritt had served in a similar capacity at another Napa winery, Duckhorn Vineyards, from 2002 until that company's acquisition by a private equity firm in August 2007.

From 1999 to 2010, Frog's Leap purchased 100 acres of vineyards in the surrounding Rutherford area in Napa Valley, effectively doubling its acreage under production in an area where land for vineyards was valuable and seldom available for purchase. Wine case production grew comparatively more modestly, from 59,000 cases to 62,000 cases. Williams commented,

> The true growth of Frog's Leap over the last ten years has been the acquisition and planting of vineyards which has reduced our income, increased our debt and added significantly to our operating costs in the short term BUT has guaranteed a high quality source of grapes for the future—a future which seems to be heading in the direction of grape supply shortage and rising prices.

Company net sales grew from $7 million in 1999 to $12 million in 2010. Frog's Leap's portfolio of premium wines was sold primarily via what was called the "Three-tier distribution" chain in the alcoholic beverages industry. Resellers included wine specialists and selected supermarkets (off-premises accounts) or restaurants and hotels (on-premises accounts). Approximately 80% of 2010 company net

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sales in the United States were to resellers. Exports, primarily to Japan, accounted for about 7 to 8% of company net sales. The remainder was sold to consumers from Frog's Leap's tasting room and hospitality center, opened in 2006, and its "Fellowship of the Frog" wine club, created in 2009. Direct sales to consumers, where permitted by state laws regarding the sale of alcohol, had become increasingly important to wineries during the 2008–2010 recession to reduce backlogged inventories of wine. Direct sales to consumers also generated higher gross profit margins for wineries than sales to resellers, as wineries could charge consumers full retail prices (or provide a slight discount for wine club members), whereas wines to resellers typically sold at 50% off the retail price, in order to provide markup incentives for moving products along the chain.

Although Frog's Leap's reputation in the wine industry had begun with a 1982 review by Terry Robards in the *New York Times* ("Frog's Leap: A Prince of A Wine"), Williams subsequently paid little attention to ratings of his wines by popular wine critics. While many winemakers and winery owners depended on high ratings by wine critics to drive consumer demand, Williams commented on the fact that only two of his wines had ever been reviewed:

> …we built our brand on Frog's Leap and fun. We started developing a loyal following that reduced our reliance on establishing our brand through traditional channels. I've made wine for 27 years, and I think [that] only two of our wines have ever been reviewed by Robert Parker [editor of *Wine Advocate*]. That's just fine with me. I don't have to worry about reviews that fail to recognize the brilliance of our wines, because our customers will go out and buy the wine because they love it no matter what other people say. The love of our brand evolved out of our approach, and it has allowed me to be freer as a winemaker, and more edgy in my winemaking.[15]

A philosophy of sustainability

Frog's Leap adhered to pre-1970s Napa Valley winemaking traditions, such as dry farming. Dry farming involved growing grape vines without using drip irrigation systems. Growing grapes without drip irrigation resulted in minimal water use and a more European style and wine flavor profile, with far lower alcohol content and fruitiness than the wines that had been produced by other Napa Valley wineries since 1970.

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Other EMS practices adopted by Frog's Leap over the years included organic and biodynamic growing techniques. According to Williams, both techniques primarily involved building soil health through the use of cover crops and compost. Healthy, living soils produced healthy, living plants that naturally resisted disease. Natural-based soil fertility worked to regulate the vigor of the grapevine and naturally conferred its health and balance to the fruit, and thus to the fermenting wine, thereby avoiding many of the problems he would otherwise have had to confront in the wine cellar at a later stage of the production process.

Creating its own source of compost was another money saver for Frog's Leap. Field workers gathered the major byproducts of winemaking (such as stems and pomace, or grape skins), added in all the coffee grounds, garden waste, and vegetable or fruit scraps from the kitchen, covered the pile, and let it turn into compost. Temperature readings indicated when and how often the compost pile needed to be turned. Frog's Leap saved money by not paying someone to haul the waste away, which was in keeping with the tenets of sustainable farming.

Why did Frog's Leap convert its grape production to organic and biodynamic and develop an EMS? According to Paula Moschetti, Assistant Winemaker,

> It's what we believe. We know that it not only produces better quality wine, but it just makes sense for the quality of life for the employees; it makes sense for giving back to society; it makes sense for the environment. Like everybody says, "Respect where the grapes are grown." We try to optimize that, but also to not take wine too seriously. We want to make great, world-class wine, but with a sense of humor, a tongue-in-cheek attitude. And I think people really respond to that.[16]

Meanwhile, Frog's Leap moved toward energy self-sufficiency via investments in geothermal and solar power. Williams would not disclose the cost of the geothermal system, but it was known to be one of the relatively few such systems in California. Cost of the solar power system, installed in February 2005, was $1.2 million, offset by a $600,000 cash rebate from the local power utility company. That system generated sufficient electricity to power 150 homes, and any excess power generated was sold back to the public utility. Jonah Beer, General Manager, described some of the cost advantages provided by Frog's Leap's energy systems:

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> There is virtually no cost to operate the geothermal heating and cooling system…and the cost payback is only about six years. It comes with a 30-year warranty for the pumps, and the wells have a lifetime warranty. The exchanger itself is 70 percent more efficient at its job because it only has to do one thing. Plus, our pumps use the electricity from our own solar power. The savings from solar is very obvious; what's amazing is that everyone *isn't* doing it. While the up-front cost estimate was $1.2 million, Pacific Gas & Electric (PG&E) gave [us] a $600,000 cash rebate up front, and [our] bank gave [us] a loan on the rest. As far as payback goes, we're actually paying less on the loan per month than we were paying on our electric bill. We're cash flow positive, and we'll be paid back in seven years. The system has a 25-year warranty. So we get 18 years of free electricity. Even if you don't care about green at all, it's kind of silly not to do it. [Our] system produces 450,000 KW-hours of electricity, which will save CO_2 emissions equal to not driving four million miles.[17]

In 2006 Frog's Leap opened the industry's first LEED-certified wine tasting and office facility, primarily from recycled building materials. LEED was an acronym for Leadership in Energy and Environmental Design. Buildings attained LEED certification from the US Green Business Council. Lower operation costs were typically associated with a LEED building: approximately 30 to 40% less energy use and 40% less water. Application for LEED certification of an existing property could cost upwards of $10,000, depending upon the size of the building, the number of rooms, and the level of certification sought.[18]

Frog's Leap provided full-time, year-round employment and benefits for winery personnel, who were mostly immigrant laborers. According to Williams:

> The Mexican workforce has been wonderful for us, and we try to return that favor. The workers don't have to be laid off after pruning in January until tying canes in May, or from leafing until harvest. In between, our workers can prune trees, turn compost, bottle Sauvignon Blanc, harvest broccoli, rack and wash barrels, thin pears and apples, bottle Merlot, etc. They work full time—and get paid, three-week vacations, 401(k) plans and health benefits. We also have fewer safety issues, because they're well-trained and experienced. They're an engaged and highly motivated workforce. Are there higher overall labor costs? How can you really measure your labor costs? The workers get stable wages, they don't have to worry about housing and healthcare and where their kids go to school. They're a community of workers. There are fewer problems with documentation, better health, less crime and use of the community's safety net.[19]

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While other winery operators remained dubious about the cost/benefit tradeoff of investing in EMS and providing full-time employment to immigrant workers, Frog's Leap remained mostly profitable during the 2009–2010 recession.[20] To generate incremental cash flows, Frog's Leap augmented its sales via conventional distribution channels by an innovative "wine-by-the glass" program using kegs (instead of bottles) of wine, and by initiating direct-to-consumer programs, including a tasting room, and "Fellowship of the Frog" wine club. See Exhibit 3.4 for the disguised income statements provided by Frog's Leap for fiscal years 2000–2001 and 2009–2010. See Exhibit 3.5 for the disguised balance sheets for fiscal years 2000–2001 and 2009–2010. Williams commented:

> Over the long term, we have seen that our methods are viable. This is not just an experiment. We are a thriving business with above average margins and below average operating expenses. Our cost here for making a bottle of wine is equal to or less than the industry average.[21]

For purposes of comparison, see Exhibit 3.6 for 2000–2001 and 2009–2010 financial ratios compiled by Silicon Valley Bank, based on actual data from several anonymous wineries similar in size to Frog's Leap.

A reporter for the *San Francisco Chronicle* opined, "Frog's Leap could be the poster child for a new generation of Napa wineries: beautifully appointed, genteel, terroir-oriented and dedicated to a green agenda."[22]

Open Other End

Early in Frog's Leap's history, John Williams had managed to persuade the US Alcohol Tobacco Tax and Trade Bureau (known in the industry as the TTB) that has to approve all bottle labeling that it was not frivolous to mark the bottom of his wine bottles with a sage precaution: "Open Other End." The word "Ribbit" was printed on the cork of every bottle of Frog' Leap wine.

Humorous presentations aside, Williams remained serious about sustaining growth of his business while remaining at the same level of production output. "How can we continue to grow sales and profits while remaining a small winery production-wise? I know that some business people are trained to think outside of the box, but first I want to know *where* the box is and what is *in* the box before I think about what's outside," he quipped in May 2011.

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One option for sustaining Frog's Leap's growth was to pursue other EMS projects. Williams maintained that Frog's Leap still had a long way to go to become a truly sustainable winery:

> We're not 100 percent there. We're not even close. But we've done a lot of interesting things, and a lot of the big projects are behind us. Now we're into some of the more fun and challenging ideas that will help us take our philosophy further: Healthier field workers; healthier, longer living vineyards; enriched soil fertility; less erosion; lessened environmental contamination; greater trust with our consumers; and even considerably higher wine quality, converting farm equipment to biodiesel and reducing employee car use by commuting. Start-ups are going to be more expensive. There's no getting around it. However, if you take the long view of it, once you get past 10 years, the costs are less, and you've got a vineyard that will outlast everyone else's.[23] Over time, it has developed that every decision at Frog's Leap is weighed at least in some measure by its social and ecological costs and benefits. We believe that these are the kinds of questions all businesses will have to ask and answer if we wish [to have] a sustainable future . . . .[24]

Williams felt that pursuing any new sustainability projects in the near-to-medium term would have highly uncertain associated costs and benefits. Building out the direct-to-consumer sales channels (tasting room and wine club) was another option under consideration, but might come at the expense of taking attention away from distributors. A longer-term question about sustainability was also nagging at him: Frog's Leap's debt load. Williams and his former wife, Julie (who now owned another winery, Trés Sabores), had three sons who would presumably take over the business someday:

> Right now my kids think my legacy is $22 million of debt (laughs). You know I don't really think about my legacy too often. I'm happy about growing grapes and making wine and having fun doing it. But I believe our winery has changed the dialogue about the healthy growing of grapes, conservation of soil and natural resources. I hope to be remembered for that.[25]

Williams' eldest son was working for another winery, his middle child was starting business school in Fall 2011, and his youngest was preparing to start law school. Now entering his mid-50s, Williams wondered aloud how to "position the business to be successful for the next 10–20 years, after which time the transition to that next generation would *inevitably* begin."

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Glossary of common wine industry terminology

American Viticultural Area (AVA)—A designated "viticultural area" (e.g. Napa Valley, Sonoma, Central Coast) that must produce 85% of the grapes processed for bottling and sale. For a specified vineyard name, a particular vineyard must grow 95% of the grapes and all grapes used must be from the AVA.

Appellation—Similar to an AVA, the term "appellation" is used by other wine-producing nations to demarcate a legally defined and specific region where wine grapes are grown. A wine claiming to be sourced from a named boundary (e.g. Côtes du Rhône in France, Chianti in Italy, or Rioja in Spain) must comprise of at least 75% of the grapes grown within that boundary.

Biodynamics—Biodynamics, a growing agricultural movement both in the United States and internationally, is based on a series of lectures given in the 1920s by Austrian philosopher Rudolf Steiner. The movement views the vineyard (or farm) as an ecological whole—not just the vines, but also the soil, insects, and other local flora and fauna. Like organic farmers, biodynamic growers are interested in naturally healthy plants, and in enriching their soil without artificial fertilizers or pesticides. Where biodynamics differs from classic organics, however, is in the belief that agriculture can be aligned to the spiritual forces of the cosmos. This may mean harvesting grapes when the moon is passing in front of a certain constellation, or sometimes by creating a homeopathic mixture that, when sprayed on the vines, will—in theory—help the grapes ripen and improve their flavors.

Brand—The name of the product. This can be a made-up name, the name of the actual producer, a virtual winery, or it could be a restaurant or grocery store chain that contracts with a winery for a "special label" purchase.

Chai—A barrel *chai* is a wine shed, or other storage place above ground, used for storing casks, common in Bordeaux. Usually different types of wine are kept in separate sheds. The New World counterpart to the *chai* may be called the barrel hall. In Bordeaux, the person in charge of vinification and ageing of all wine made at an estate, or the *chais* of a *négociant*, is titled a *Maître de Chai*.

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Dry farming—For most of the history of agriculture, grape growers dry-farmed their lands, and they still do in many wineries in Europe. Then, in the 1970s, drip irrigation conquered the world. A farming practice as old as agriculture itself fell to the wayside as wells were drilled, streams tapped, and pipes and hoses were run through thousands of acres of vineyards and orchards. By no coincidence, water supplies have now entered an era of decline in California, where land is subsiding in many regions as the aquifers below are emptied. Above ground, many small streams have drained into the earth; they may still flow—just underground. Dry-farmed wines, many sources say, are better, as grapevines, working under stressed conditions, produce smaller grapes than watered vines. The result is a greater quantity of tannin-rich skins and seeds to volume of juice, which can render denser, richer wines. For a dry farmer, the challenge is to lock the winter and spring rainfall in the soil for the duration of the dry season.

Economy wine—Regardless of where they are produced, table wines that retail for less than $3 per 750ml bottle are deemed to be in the generic, economy, or "jug" wine category.

Organic grapes—Organically grown grapes follow a broad definition of organic farming issued by the US Department of Agriculture: "Organic farming is a production system which avoids or largely excludes the use of synthetically compounded fertilizers, pesticides, growth regulators, and livestock feed additives. To the maximum extent feasible, organic farming systems rely on crop rotations, crop residues, animal manures, legumes, green manures, off farm organic wastes, and aspects of biological pest control to maintain soil productivity and tilth, to supply plant nutrients and to control insects, weeds, and other pests . . . The concept of soil as a 'living system' is central to this definition." Wines made from organically grown grapes must be referred to as "wines made from organic grapes" (or organically grown grapes), as they are allowed to contain up to 100 ppm of added sulfites.

Organic wine—Organic wine is defined by the US Department of Agriculture as "a wine made from organically grown grapes *and* without any added sulfites."

Premium wine—Wines selling for more than $3 per bottle are considered to be in the premium wine category. Most bottled wines in the premium category show a vintage date on their labels, that is, the product is made

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with at least 95% of grapes harvested, crushed, and fermented in the calendar year shown on the label and also uses grapes from an appellation of origin (i.e. Napa Valley, Central Coast, Willamette Valley). Several market segments within the premium category are based on retail price points, typically double the wholesale value of a bottle or case of wine. *Impact Databank, Review & Forecast of the Wine Industry* classifies wines "Sub-Premium" as those that retail for $3.00 to $6.00 per bottle; the "Premium" category retail for $7.00 to $9.99; the "Super-Premium" category retail for $10.00 to $13.99 per bottle, while the "Deluxe" segment are wines commanding a retail price above $14.00. Motto Kryla Fisher, a Napa Valley wine consulting firm, further refines the "Deluxe" segment into sub-segments: "Ultra-Premium" wines, priced from $14.00 to $29.99, and "Luxury" wines, that retail in excess of $30.00 per bottle.

Three-tier distribution—A myriad of state laws and regulations restricting the sale of alcoholic beverages generally require wineries to use a "three-tier" distribution system (winery to distributor to retailer to consumer). However, distributor consolidation (through termination or acquisition) increased substantially since the May 16, 2005 *Granholm v. Heald* US Supreme Court decision, prohibiting discrimination between in-state products and products from out-of-state, and that subsequently served to increase liberalization of shipping wine across some state lines, direct from producers to consumers.

Varietal—A type of grape (Merlot, Cabernet Sauvignon, Zinfandel, Chardonnay, etc.). To declare a "varietal" on the label, at least 75% of the wine must consist of that variety of grape. Some wineries use almost 100% of the same varietal. Some blend a principal varietal (the one named on the label) with wines made from other varieties of the same color for better flavor balance. Others blend in "filler" varieties, which usually go unlisted, to get the most out of their supply of then-popular varieties, which are the ones touted on the label. If the label mentions a varietal, it will always be in conjunction with an appellation to inform consumers of the source of the varietal grape.

Vintage—The year in which the harvest of the wine grapes occurs. By law, grapes grown in a declared vintage year (harvest year) must account for 95% of the wine if the label declares a vintage year.

Sources: Casewriters' research; MDM Distribution.

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Appendix

Exhibit 3.1—Evolution of Frog's Leap Winery

Year	Major events
1884	Welcoming building built as the Adamson Winery
1972	As undergraduate at Cornell, John Williams obtains internship at Taylor Wine Company, falls in love with wine as a result
1975	While touring Napa Valley with a friend, John meets Larry Turley at Larry's newly bought farmstead; returns in summer to begin graduate work in enology at UC Davis; starts working part-time at Stag's Leap Wine Cellars (under Warren Winiarski); makes (and consumes) with Turley the first unofficial Frog's Leap vintage, a fizzy Chardonnay
1980	John returns to Napa Valley to become head winemaker at Spring Mountain, marries Julie Johnson; first Frog's Leap vintage, a Cabernet Sauvignon, is (somewhat unofficially) crushed
1981	John Williams forms Frog's Leap Winery in Napa with Larry Turley; winery is bonded; winery makes its first Sauvignon Blanc and Zinfandel
1984	Julie Williams becomes Frog's Leap's first employee
1985	John leaves Spring Mountain to work full-time at Frog's Leap
1989	Frog's Leap certifies its first organic vineyard
1992	First Frog's Leap Merlot (1990) is released
1993	Larry and John agree to create separate wineries; John and Julie buy Frog's Leap from Larry and begin to look for new home for winery; Larry starts Turley Wine Cellars on original Frog's Leap site (the Frog Farm)
1994–1995	John and Julie purchase defunct Adamson Winery from Freemark Abbey and re-start Frog's Leap at the "Red Barn" ranch in Rutherford
1999	First appearance of winery's Rutherford label (1996 vintage); underground barrel *chai* (barrel hall) next to the Red Barn completed; John and Julie are divorced; Julie starts her own winery, Trés Sabores
2002	At urging of John, Rutherford Dust Society begins Napa River Restoration project; debut of winery's Syrah and La Grenouille Rouganté, a dry rosé
2005	Photovoltaic system goes live after installation of 1,020 panels at the Red Barn vineyard; original green mailbox at winery entrance is removed and road signage to winery added
2006	Frog's Leap completes ten-year plan for winery and opens new LEED-certified hospitality and administrative offices; Red Barn rebuilt
2009	Frog's Leap creates wine club, "Fellowship of the Frog" and begins developing "wine–by-the glass program" by packaging wines for delivery to restaurants in half kegs

Sources: Casewriters' research; Beer, J. (2007), *Organically Sublime, Sustainably Ridiculous: The First Quarter Century of Frog's Leap*, Kennett Square, PA: Union Street Press.

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Exhibit 3.2—About the California Sustainable Winegrowing Program

Wine Institute and the California Association of Wine Growers (CAWG) partnered to design and launch the Sustainable Winegrowing Program (SWP) in 2002. The California Sustainable Winegrowing Alliance (CSWA) was incorporated a year later to continue implementing this program.

Mission

The long-term mission for the SWP includes:

- Establishing voluntary high standards of sustainable practices to be followed and maintained by the entire California wine community;
- Enhancing grower-to-grower and vintner-to-vintner education on the importance of sustainable practices and how self-governance improves the economic viability and future of the wine community; and
- Demonstrating how working closely with neighbors, communities, and other stakeholders to maintain an open dialogue addresses concerns, enhances mutual respect, and accelerates positive results.

Vision

The vision of the SWP is the sustainability of the California wine community for future generations. In the context of winegrowing, the program defines sustainability as wine grape growing and winemaking practices that are sensitive to the environment (Environmentally Sound), responsive to the needs and interest of society at-large (Socially Equitable), and economically feasible to implement and maintain (Economically Feasible). The combination of these three principles is often referred to as the three E's of sustainability. These important principles are translated into information and education about specific practices that are documented in the program's comprehensive Code workbook and are conveyed during the program's targeted education events that are aimed to encourage the adoption of improvements over time.

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SWP Voluntary Participation data (as of July, 2009)

Vineyard data comparison	**2004**	**2009**	
Number of distinct vineyard organizations	813	1,237	
Total vineyard acres farmed by the 1,237 organizations	2,23,971	3,58,121	*(68.1% of 526,000 total statewide acres)*
Number of vineyard acres assessed by the 1,237 organizations	1,37,859	2,41,325	*(45.9% of 526,000 total statewide acres)*
Number of vineyard organizations that submitted assessment results	614	868	*(70.2% of 1,237 total organizations)*
Total vineyard acres from 868 organizations assessed and submitted	1,24,576	2,06,899	*(39.3% of 526,000 total statewide acres)*
Winery data comparison	**2004**	**2009**	
Number of distinct winery organizations	128	329	
Total winery cases produced by 329 organizations	145.6M	150M	*(62.5% of 240 million total statewide cases)*
Number of winery cases assessed by 329 organizations	126.6M	141.5M	*(59% of 240 million total statewide cases)*
Number of winery organizations that submitted assessment results	86	173	*(52.6% of 329 total organizations)*
Total winery cases from 173 organizations assessed and submitted	96.8M	134.6M	*(56.1% of 240 million total statewide cases)*

Sources: California wine community, Sustainability Report 2009, pp. 6–7; Brodt, S. & Thrupp, A. (2009, July), "Understanding adoption and impacts of sustainable practices in California vineyards," California Sustainable Winegrowing Alliance, pp. 5–8, www.sustainablewinegrowing.org.

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Exhibit 3.3—"Green" wineries in Napa Valley as of 2011

	Winery name	Annual case production (est.)	Certified Napa Green *Land* (1)	Certified Napa Green *Winery* (2)	Sustainable practices (3)
1	Araujo Estate Wines	5,000–49,999	X	X	X
2	Artesa	50,000–499,999	X		X
3	Beaulieu Vineyard	500,000+	X		X
4	Beringer Vineyards	500,000+	X	X	X
5	Boeschen Vineyards	<1,000		X	X
6	Bouchaine Vineyards	5,000–49,999	X		X
7	CADE Winery	5,000–49,999		X	X
8	Cain Vineyard & Winery	5,000–49,999	X		X
9	Cakebread Cellars	50,000–499,999	X	X	X
10	Chateau Boswell Winery	1,000–4,999	X	X	X
11	Chateau Montelena	5,000–49,999		X	X
12	Clark-Claudon Vineyards	1,000–4,999	X		X
13	Clos Du Val	50,000–499,999	X	X	X
14	Clos Pegase	5,000–49,999	X		X
15	CONSTANT	1,000–4,999		X	X
16	Cuvaison Estate Wines	50,000–499,999	X	X	X
17	Duckhorn Vineyards	50,000–499,999	X		X
18	Etude	5,000–49,999	X	X	X
19	Franciscan Estate	50,000–499,999	X	X	
20	Frog's Leap	50,000–499,999	X	X	X
21	Gargiulo Vineyards	1,000–4,999	X		
22	HALL	5,000–49,999	X		X
23	HdV Wines—Hyde de Villaine	1,000–4,999	X		X
24	Heitz Wine Cellars	5,000–49,999	X		X
25	Hess Collection Winery, The	500,000+	X	X	X
26	Honig Vineyard & Winery	5,000–49,999	X		X
27	Jericho Canyon Vineyard	1,000–4,999	X	X	X
28	Joseph Phelps Vineyards	50,000–499,999	X		X
29	Judd's Hill	1,000–4,999		X	X
30	Krupp Brothers	5,000–49,999	X		X
31	Ladera Vineyards	5,000–49,999	X		X
32	Larkmead Vineyards	5,000–49,999		X	X
33	Long Meadow Ranch Winery	5,000–49,999	X		X
34	Markham Vineyards	50,000–499,999	X		
35	Merryvale Vineyards	50,000–499,999	X	X	X
36	Mumm Napa	50,000–499,999		X	X
37	Opus One	5,000–49,999	X	X	X
38	Ovid Napa Valley	<1,000		X	X
39	Parry Cellars	5,000–49,999	X		X
40	Peju	<1,000	X		X
41	Quintessa	5,000–49,999	X		X
42	Robert Craig Winery	5,000–49,999		X	X
43	Robert Mondavi Winery	50,000–499,999	X		X
44	Saintsbury	50,000–499,999	X		X
45	Salvestrin	1,000–4,999	X		X
46	Schramsberg Vineyards	50,000–499,999	X	X	
47	Silver Oak Cellars	5,000–49,999	X		

Continued

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	Winery name	Annual case production (est.)	Certified Napa Green Land (1)	Certified Napa Green Winery (2)	Sustainable practices (3)
48	Silverado Vineyards	50,000–499,999	X		X
49	Spottswoode Estate Vineyard & Winery	1,000–4,999	X	X	X
50	St. Supéry Estate	50,000–499,999	X		X
51	Stag's Leap Wine Cellars (4)	50,000–499,999	X	X	X
52	Stags' Leap Winery (5)	50,000–499,999	X		
53	Sterling Vineyards	50,000–499,999	X	X	X
54	Stony Hill Vineyard	5,000–49,999	X		X
55	Trefethen Family Vineyards	50,000–499,999	X	X	X
56	Trinchero Napa Valley	500,000+	X		X
57	V. Sattui Winery	50,000–499,999	X		X
58	Volker Eisele Family Estate	50,000–499,999	X		
59	White Rock Vineyards	1,000–4,999	X		X
60	William Hill Estate Winery	50,000–499,999	X		X

Notes: (1) The Certified Napa Green *Land* program was a third-party certified, voluntary program for Napa vintners and grape growers. The program sought to restore, protect and enhance the regional watershed and included restoration of wildlife habitat, healthy riparian environments, and sustainable agricultural practices. As of 2011, approximately 45,000 acres were enrolled in this program and more than 19,000 acres were certified.

(2) Founded in 2007, the **Certified Napa Green *Winery*** designation was developed by the Napa Valley Vintners Association in coordination with the County's Department of Environmental Management (DEM) and was based on the Association of Bay Area Government's (ABAG) Green Business Program. ABAG's winery-specific checklist included water conservation, energy conservation, pollution prevention, and solid waste reduction.

(3) The Napa Valley Vintners Association defined **Sustainable practices** as environmentally sound, economically viable, and socially responsible winegrowing methods. Examples of sustainable practices that pertained to resource conservation and/or effective vineyard management included:

- cover crops,
- reduced tillage,
- reduced-risk pesticides,
- use only organic inputs,
- erosion control measures,
- hedgerows/habitat management,
- installing bird boxes,
- integrated pest management (monitoring of pests & beneficial plants, reduced-risk materials, leaf-pulling),
- energy conservation,
- weather station,
- renewable energy (solar, biofuels),
- creek and river restoration.

(4) Founder Warren Winiarski sold Stag's Leap Winery in 2007 to a joint venture between Chateau Ste. Michelle (Washington state) and Marchesi Antinori (Italy). Notably, Stag's Leap's Cabernet Sauvignon won a gold medal in the famous Paris wine tasting in 1978, an event that suddenly put Napa on the map as a global wine producer. Warren Winiarski was John Williams' first employer in the Napa wine industry.

(5) Often misspelled and confused with Stag's Leap Winery, Stags' Leap was purchased by Beringer Wine Estates in 1999, and is currently owned by Treasury Wine Estates, a recent spinoff of Foster's Group (Australia).

Sources: Napa Valley Vintners Association Green Wineries Program, http://www.napavintners.com/wineries/napa_green_wineries.asp, accessed May 23, 2011, company websites, *Wines and Vines.*

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Exhibit 3.4—Frog's Leap Winery statements of income, 2000–2001 and 2009–2010

All dollar amounts are in $000	FY 2000	*% of Sales*	FY 2001	*% of Sales*	FY 2009	*% of Sales*	FY 2010	*% of Sales*
Cases sold	61,000		54,000		53,000		62,000	
Sales	$9,638	*100%*	$9,180	*100%*	$10,017	*100%*	$12,152	*100%*
Cost of goods sold	4,514	*46.80%*	4,050	*44.10%*	4,346	*43.40%*	4,960	*40.80%*
Gross profit	5,124	*53.20%*	5,130	*55.90%*	5,671	*56.60%*	7,192	*59.20%*
Operating expenses:								
Sales & marketing	1,580	*16.40%*	1,615	*17.60%*	2,853	*28.50%*	3,337	*27.50%*
General & administrative	1,200	*12.50%*	1,300	*14.20%*	1,678	*16.80%*	1,483	*12.20%*
Total operating expenses	2,780	*28.80%*	2,915	*31.80%*	4,531	*45.20%*	4,820	*39.70%*
Operating income	2,344	*24.30%*	2,215	*24.10%*	1,140	*11.40%*	2,372	*19.50%*
Interest expense	450	*4.70%*	875	*9.50%*	1,420	*14.20%*	1,420	*11.70%*
Earnings bef. Tax	$1,894	*19.70%*	$1,340	*14.60%*	($280)	*–2.80%*	$952	*7.80%*
Depreciation & amortization	675	*7.00%*	900	*9.80%*	1,250	*12.50%*	1,100	*9.10%*

Source: Frog's Leap Winery. Some data have been disguised by the company, but the relationships are accurate.

Exhibit 3.5—Frog's Leap Winery balance sheets, 2000–2001 and 2009–2010 (FYE 12/31)

All amounts are in $000	FY 2000	*% of total assets*	FY 2001	*% of total assets*	FY 2009	*% of total assets*	FY 2010	*% of total assets*
ASSETS								
Current assets								
Cash	$130	*0.70%*	$80	*0.40%*	$10	*0.00%*	$20	*0.10%*
Accounts receivable	400	*2.10%*	550	*2.60%*	1,650	*4.10%*	1,950	*5.00%*
Inventory	6,500	*33.50%*	7,560	*35.50%*	12,010	*30.10%*	11,550	*29.50%*
Prepaid and other expenses	125	*0.60%*	250	*1.20%*	320	*0.80%*	325	*0.80%*
Total current assets	7,155	*36.90%*	8,440	*39.60%*	13,990	*35.00%*	13,845	*35.40%*
Property, plant and equipment	15,250	*78.60%*	16,150	*75.80%*	36,750	*92.10%*	37,100	*94.90%*
Less: accumulated depreciation & amort.	3,150	*16.20%*	3,450	*16.20%*	10,925	*27.40%*	11,950	*30.60%*
Net property, plant and equipment	12,100	*62.40%*	12,700	*59.60%*	25,825	*64.70%*	25,150	*64.30%*
Other assets	150	*0.80%*	175	*0.80%*	100	*0.30%*	110	*0.30%*
Total assets	$19,405	*100.00%*	$21,315	*100.00%*	$39,915	*100.00%*	$39,105	*100.00%*
LIABILITIES & CAPITAL								
Current liabilities								
Notes payable	$3,150	*16.20%*	$4,370	*20.50%*	$2,450	*6.10%*	$2,425	*6.20%*
Accounts payable and accruals	2,610	*13.50%*	1,470	*6.90%*	2,325	*5.80%*	2,150	*5.50%*
Current portion of LTD	540	*2.80%*	960	*4.50%*	890	*2.20%*	950	*2.40%*
Total current liabilities	6,300	*32.50%*	6,800	*31.90%*	5,665	*14.20%*	5,525	*14.10%*
Long-term debt	5,030	*25.90%*	7,040	*33.00%*	20,400	*51.10%*	19,500	*49.90%*
Total liabilities	11,330	*58.40%*	13,840	*64.90%*	26,065	*65.30%*	25,025	*64.00%*
Shareholder equity	8,075	*41.60%*	7,475	*35.10%*	13,850	*34.70%*	14,080	*36.00%*
Total liabilities and equity	$19,405	*100.00%*	$21,315	*100.00%*	$39,915	*100.00%*	$39,105	*100.00%*

Source: Frog's Leap Winery. Some data have been disguised by the company, but the relationships are accurate.

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Exhibit 3.6—Financial ratios for similar-sized wineries, 2000–2001 and 2009–2010

	FY 2000	FY 2001	FY 2009	FY 2010
Growth rate, cased goods revenue		−14.10%		2.90%
Current ratio (x)	2.11x	1.76x	1.91x	2.29x
Quick ratio (x)	0.49x	0.30x	0.22x	0.08x
Working capital ($000)	$4,203	$3,941	$6,063	$8,518
Cased goods revenues/net working capital (x)	1.67x	1.53x	1.84x	1.35x
Account receivable days (365)	95.3	91.1	39.8	14.8
Inventory days	575	805	1,118	1,533
Tangible net worth (TNW, $000)	$4,499	$4,361	$12,863	$13,597
Total liabilities to TNW (x)	0.9x	1.3x	1.6x	1.7x
Senior liabilities/TNW + subordinate debt (x)	0.9x	1.3x	1.4x	1.4x
Gross profit margin (%)	45.70%	45.30%	67.20%	70.00%
Sales & marketing expenses/sales (% of sales)	9.50%	12.20%	10.90%	9.80%
Net margin (return on sales, %)	14.70%	5.70%	9.10%	9.70%
EBITDA ($000)	$1,528	$799	$3,964	$4,269
EBITDA, less distributions or dividends ($000)	$218	$325	$3,502	$4,062
Debt service coverage (x)	6.4x	3.9x	2.0x	2.4x
Total interest/total senior debt (%)	7.50%	4.90%	6.80%	6.00%
Conventional ROE (%)	22.70%	7.80%	7.90%	8.20%
Operating return on assets (%)	11.90%	3.50%	3.00%	3.10%

Sources: Casewriters' research, based on data provided by Silicon Valley Bank that were compiled from anonymous wineries similar in size to Frog's Leap. For more highly aggregated financial data, see Jordan, D.J., Aguilar, D., & Gilinsky, A. (2010), "Benchmarking Northern California Wineries," *Wine Business Monthly,* October, 60–67.

Video supplement

After reading the written case, use these questions to guide you in tandem with the video case segments or chapters. **Click on the links below to access the video case segments, Or visit https://www.youtube.com/watch?v=auVieQ2MGGo&feature=youtu.be**.

Case intro: [running time = 0:55] Video case Introduction

1 What's going on at Frog's Leap Winery? Have its efforts to become sustainable been thus far successful? [running time = 1:49] Video segment 1

2 How would you go about measuring Frog's Leap's efforts to become sustainable? [running time = 3:26] Video segment 2

3 Is Frog's Leap a socially responsible business? How does it stack up against its wine industry peers? Benchmark Frog's Leap against any winery that you have heard of or another business (if you are under 21). You may need to do some outside research. [running time = 5:14] Video segment 3

4 Evaluate Frog's Leap's strategy. Use financial ratio and VRIO analyses to support your evaluation. What is working well, and what could be improved? [running time = 4:18] Video segment 4

5 What should Frog's Leap sustainability action plan for the next 10–20 years contain? Consider actions that are short- vs. medium- vs. long-term in nature. [running time = 3:52] Video segment 5

To see the video in its entirety [running time = 20:08], click below:
Entire video.

Notes

1 Originally quoted in Rainsford, P. (1999) "Frog's Leap Winery" (video case presented to the North American Case Research Association conference in Santa Rosa, California). Williams updated this quotation during interviews at Frog's Leap Winery in May and September 2011; Jonah Beer, Doug DeMerritt, and Shannon Oren also agreed to be interviewed on camera for the video case.

2 Intardonato, J. (2007, June 15) "Frog's Leap pursues their green vision," *Wine Business Monthly Online*, http://www.winebusiness.com/wbm/?go=getArticle&dataId=48589, accessed April 10, 2011.

DOI: 10.1057/9781137553089.0008

3 Hertsgaard, M. (2010) "Grapes of wrath," *Mother Jones*, July/August, pp. 37–39.
4 Wines and Vines (1999, 2004, 2009) *Wines and Vines Annual Directory*, San Francisco, CA.
5 Ekberg, P. (2006) The keyword is LOHAS," *Japan Spotlight*, Japan Economic Foundation (JEF), March 1, p. 146.
6 As cited by Brooks, S. (2009) "The green consumer," *Restaurant Business*, September, pp. 20–21.
7 Delmas, M.A. and Grant, L.E. (2008, March) "Eco-labeling strategies: the eco-premium puzzle in the wine industry," *AAWE Working Paper* no. 13; Guthey, G.T. and Whiteman, G. (2009) "Social and ecological transitions: winemaking in California," *Emergence: Complexity and Organization*, Vol. 11, No. 3, pp. 37–48.
8 Delmas, M.A. and Grant, L.E., *op. cit*.
9 Penn, C. (2011, February 15) "Review of the industry: outlook and trends," *Wine Business Monthly*, p. 70.
10 *Ibid.*
11 Brodt, S. & Thrupp, A. (2009, July) "Understanding adoption and impacts of sustainable practices in California vineyards," California Sustainable Winegrowing Alliance, www.sustainable winegrowing.org, accessed April 12, 2011.
12 Franson, P. (2010) "Organic grapegrowing for less," *Wines & Vines*, July 28, http://www.winesandvines.com/template.cfm?section=news&content=76728, accessed April 10, 2011.
13 Atkin, T., Gilinsky, A., & Newton, S.K. (2011) "Sustainability in the wine industry: altering the competitive landscape?" Paper presented to the 6th Academy of Wine Business Research conference, June 9–11, Bordeaux, FR.
14 Saekel, K. (2009, May 13) "Napa Frog's Leap comes with a bit of whimsy," *San Francisco Chronicle*, http://www.seattlepi.com/default/article/Napa-winery-Frog-s-Leap-comes-with-a-bit-of-whimsy-1303945.php, accessed April 10, 2011.
15 As quoted in Cutler, L. (2008, February 15) "Industry roundtable: humor in the wine trade," *Wine Business Monthly Online*, http://www.winebusiness.com/wbm/?go=getArticle&dataId=54456, accessed April 10, 2011.
16 Brenner, D. (2006) "Paula Moschetti," *Women of the Vine*, Hoboken, NJ: John Wiley & Sons, p. 168.
17 Intardonato, J., *op. cit*.
18 For more on LEED certified buildings in Northern California, see http://www.mlandman.com/gbuildinginfo/leedbuildings.shtml (updated every 8 weeks, accessed May 25, 2011).
19 Franson, P. (2010) "Winegrowers cash in on other crops," *Wines & Vines*, May 25, http://www.winesandvines.com/template.cfm?section=news&content=74538&htitle=Winegrowers%20Cash%20in%20on%20Other%20Crops, accessed April 10, 2011.

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20 Hertsgaard, M. *op. cit.*; Guthey, G.T. and Whiteman, G. *op. cit*.
21 Intardonato, J., *op. cit*.
22 Saekel, K., *op. cit.*
23 As quoted by Saekel, K., *op. cit.*
24 As quoted by Daniel, L. (2011, November 1) "Grapegrower interview: John Williams: winegrowing from the roots up," http://www.allbusiness.com/agriculture-forestry/agriculture-animal-farming/16738095–1.html#ixzz1kPJtKSHF, accessed January 26, 2012.
25 Walters, C. (2010, May 3) "How organic and biodynamic viticulture will change the way you think: an interview with Frog's Leap Owner and Winemaker John Williams," *Indigo Wine Blog*, http://indigowinepress.com/2010/05/how-organic-and-biodynamic-viticulture-will-change-the-way-you-think-an-interview-with-frogs-leap-owner-and-winemaker-john-williams/, accessed January 29, 2011.

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4

The Science of Sustainability: Lime Rock Wines of New Zealand

Sharon L. Forbes and Tracy-Anne De Silva

Abstract: *In 2000, Rosie Butler returned to New Zealand with her Australian husband Rodger Tynan. They settled on Rosie's home region of Hawkes Bay to establish their wine business. Their aim from day one was to combine Rosie's winemaking education and experience with Rodger's Master's in Ecology to produce premium quality wines with a strong focus on sustainability. Based in the Hawkes Bay region, Lime Rock Wines was typical of most New Zealand wine businesses; it was a small, privately held company owning a vineyard of ten ha and with annual wine sales of less than 200,000 liters. A range of varietals had been planted in the Lime Rock vineyard, primarily Pinot Noir, but also Sauvignon Blanc, Pinot Gris, Merlot, Grüner Veltliner, Cabernet Franc, and Riesling. The company's wines were sold domestically at their cellar door and website. Lime Rock also exported into the Australian, UK, US, and Asian markets. By 2014, the biggest barriers to increasing the sustainable practices included (1) cost, (2) a lack of management time, (3) the amount of paperwork associated with compliance, and (4) the lack of sustainable input products that were available.*

Gilinsky, Armand, Jr. (editor). *Crafting Sustainable Wine Businesses: Concepts and Cases*. New York: Palgrave Macmillan, 2015. DOI: 10.1057/9781137553089.0009.

Introduction

The purpose of this case study is to examine the establishment of a single, small wine company and to detail the steps and decisions that were taken along the way to build a successful company based upon a scientific and sustainable philosophy. The case study attempts to provide a link between how this company was established, its ongoing management, and the success that it enjoyed as a producer of award-winning, premium quality wines. The practices in the vineyard were linked to business success because of the relationship between vineyard health (i.e. soil and plants), grape quality, and final wine quality.

This case study provides information about the sustainability beliefs, drivers, practices, and barriers at Lime Rock Wines, and begins with introductory information about the New Zealand wine industry and the Hawkes Bay wine region. The Lime Rock Wines story, as documented in this case study, is one that has been based on science and sustainability from the beginning. Lime Rock Wines was a small wine company located in the Hawkes Bay region of New Zealand. As a small producer, this company was very representative of wineries within the New Zealand wine industry. Lime Rock Wines was an excellent example of a company that had a long-term focus on the three pillars of sustainability: environmental, economic, and social. The company's environmental practices were based upon the science of ecology. The practices that had been implemented began at the time of site selection and establishment and continued through to the ongoing management of the vineyard and winery. Indeed, the Lime Rock website included the statement that "our goal is to maintain essential ecological processes, in the soil and at the surface." As a small company, it was necessary for Lime Rock Wines to operate with economic viability at the core of all their strategies.

Overview of the New Zealand wine industry

As of 2014 there were almost 700 wineries located in New Zealand, with the largest proportion (145 wineries or approximately 20%) located in the Marlborough region. Other wine regions include Hawkes Bay, Wairarapa, Gisborne, and Auckland in the North Island and Central Otago, Nelson, and Waipara in the South Island. At that time, the New Zealand wine industry was dominated by a large number of small businesses, as shown

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by the fact that in 2012 around 600 of the almost 700 total wineries had annual wine sales of less than 200,000 liters, while only 15 wineries had annual sales of more than four million liters. The industry was characterized by small, often boutique, businesses that lacked economies of scale.

While New Zealand was a very small wine-producing nation (accounting for less than 1% of total global wine production at that time), the industry had expanded rapidly over recent decades. During the period between 2000 and 2011, the total producing area increased by 329% to 33,400 hectares (ha) and total wine production increased by 412% to 328,000 liters. Over the same period, export sales increased by 806% to 154.7 million liters and the value of exports increased by 294% so that in 2010 they exceeded NZ$1 billion. The top three export destinations for New Zealand wine were the United Kingdom, Australia, and the United States. In fact, at that time, New Zealand wines had the largest share of imports into Australia and had one of the fastest growing market shares in both the UK and US markets. New Zealand was best known internationally for Sauvignon Blanc from the Marlborough region. Other important varietals included Pinot Noir, Chardonnay, Riesling, Pinot Gris, Syrah, and Merlot.

Despite the strong growth, challenging issues existed within the New Zealand wine industry and these especially affected the economic viability of small wine businesses. First, grape production costs were considerably higher in New Zealand than in most other producing nations. At that time, costs in New Zealand were twice the average global production costs, and nearly three and a half times higher than those in South Africa. These high production costs were primarily the result of high land and labor costs in New Zealand. This meant that there was a higher break-even point for New Zealand wine producers, and that they needed to have a strong focus on economic sustainability. More recently the industry had also faced issues with downward pricing pressure, in part caused by the global wine glut and also by the high value of the New Zealand dollar. This pressure had significantly reduced profit margins for New Zealand wine producers. Despite this trend, New Zealand wine producers did achieve a price premium versus competing wines in a majority of international markets.

Grape growers and wineries were together represented by an industry organization called New Zealand Winegrowers. This organization was formed in 2002 and by 2014, its members included 700 wineries and around 850 independent grape growers. New Zealand Winegrowers

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performed a number of tasks on behalf of their members, including the provision of a global marketing platform for New Zealand wine, facilitation of pertinent research activities, and organization of industry events such as conferences, seminars, and wine award programs. Funding for New Zealand Winegrowers was provided through a levy on the sale of both grapes and wine. Branding communication for New Zealand wine included the tagline "every glass is a world of pure discovery." This superseded earlier branding campaigns that also linked to New Zealand's beautiful natural environment, including the slogan "the riches from a clean, green land." The promotion of New Zealand wines on the basis of the clean and green image of the nation itself provided a basis for the importance of the natural environment to New Zealand Winegrowers and their members.

In recent years the New Zealand wine industry, led by the New Zealand Winegrowers organization, had maintained a significant focus on environmental sustainability. The Sustainable Winegrowing New Zealand (SWNZ) program was a formal environmental management system that was introduced in 1997, initially to certify vineyards and more recently for winery operations. The SWNZ program was based on a scorecard approach, using benchmarks to continually improve the sustainability of both vineyards and wineries. The program was designed to provide quality assurance, address consumer concerns, protect New Zealand's wine export markets, and provide a best practice model for producers. Whilst membership of any environmental management system (EMS) had to date been voluntary, New Zealand Winegrowers encouraged its members to adopt SWNZ or some other certified program such as ISO 14001, organic or biodynamic standards. Since 2010, participation in certain events or entry into awards had been restricted to those who had produced wines under a recognized environmental sustainability program, thus putting members under pressure to "voluntarily" adopt an EMS. By 2014, this had resulted in over 90% of the national vineyard area being produced under SWNZ certification. In addition, 7% of the total vineyard area was certified organic, and this was expected to grow to 20% by 2020.

The New Zealand wine industry was not alone in its focus on sustainability. The South African wine industry had similarly developed a national voluntary environmental management system, entitled the Integrated Production of Wine scheme. Other EMSs had been developed and promoted at a regional level, including the California

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Code of Sustainable Winegrowing Practices and the Regional Environmental Best Practice for Viticulture project in the Victoria region of Australia.

The Hawkes Bay wine region

The Hawkes Bay wine region is located on the east coast of New Zealand's North Island. This region has produced wine since 1851 and by 2014 was New Zealand's second largest wine-producing area by both vineyard area and wine volume. At this time, approximately 80 wineries and 100 independent grape growers were located in the region. Vineyards were planted in coastal areas, on hillsides, and on alluvial plains.

The region contained approximately 5,093 ha of vines, producing 38,829 tonnes of grapes in 2013. At that time, the Hawkes Bay region accounted for 11% of New Zealand's total wine production and was therefore considered an important wine region.

The Hawkes Bay region was best known for its Bordeaux-style red wines, with almost 1,500 ha planted to varietals such as Merlot, Malbec, and Pinot Noir. Sauvignon Blanc accounted for over 1,000 ha of the Hawkes Bay vineyard area, followed closely by Chardonnay (995 ha), Pinot Gris (500 ha), and Syrah (300 ha). The region was characterized by a sunny, maritime climate, similar to Bordeaux, with 2,188 annual average sunshine hours and 803 mm annual average rainfall.

Lime Rock Wines

In 2000, Rosie Butler returned to New Zealand with her Australian husband, Rodger Tynan. They settled on Rosie's home region of Hawkes Bay to establish their wine business. Their aim from day one was to combine Rosie's winemaking education and experience with Rodger's Master's in Ecology to produce premium quality wines with a strong focus on sustainability. Lime Rock Wines was typical of most New Zealand wine businesses; it was a small, privately held company owning a vineyard of ten ha and had annual wine sales of less than 200,000 liters. A range of varietals had been planted in the Lime Rock vineyard, primarily Pinot Noir, but also Sauvignon Blanc, Pinot Gris, Merlot, Grüner Veltliner, Cabernet Franc, and Riesling. The company sold its wines domestically through the cellar door and website. Lime Rock wines were also exported into the Australian, UK, US, and Asian markets.

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The vineyard and winery were located on the steep slope of limestone hills (230–270m in altitude), in a rural location just west of Waipawa. The underlying limestone was derived from an old seabed and was thus embedded with crustacean shells, as illustrated in the company's logo (see Figure 4.1). The vineyard slopes and the distant Ruahine Ranges were also depicted in the logo. The brand name and the logo clearly reflected the surroundings in which the vineyard and winery were located and helped to convey the philosophies that Rodger and Rosie had toward the natural environment.

The concept of sustainability at Lime Rock Wines

Rodger's understanding of the term "sustainability" linked to his previous work as an ecologist. He described sustainability as the maintenance of ecological processes in a way that is economically feasible, socially acceptable, and rewarding for stakeholders. This definition incorporated the idea of sustainability's triple bottom line, as it clearly viewed

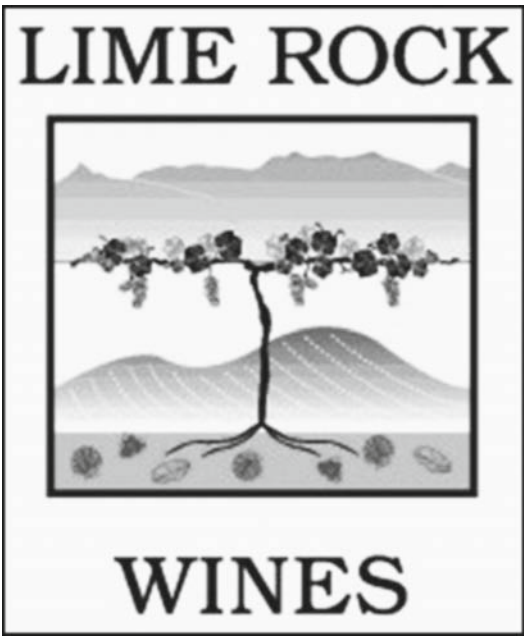

FIGURE 4.1 *Lime Rock Wines logo*

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the concept as including economic, environmental, and social aspects. Rodger also explained that:

> Sustainability is your passing on something for the benefit of the next generation—improving what you have got, leaving it better than what it was when you started.

Rodger noted, however, that while beliefs are all well and good, it is about the implementation of the beliefs and having the money required to do so. He also stated that "a lot of people haven't a clue what it [sustainability] means and it's a bit confusing," especially to consumers. In fact, he was quite critical of how sustainability is often associated with peripheral issues, rather than dealing with real issues based on an understanding of ecology. For instance, copper and lime sulphur sprays were permitted in organic vineyards, and many in both the industry and marketplace would describe their application as being sustainable practices. However, Rodger noted that copper and lime sulphur are not sustainable ecologically, and can be quite harmful to the natural environment.

The drivers of sustainability at Lime Rock Wines

Sustainability had been a focus for the company since its inception. To a large extent, this related to Rodger's expertise in the field of ecology and to the personal philosophies that he and Rosie shared. Many of the decisions that the company had taken, beginning with site selection and vineyard establishment, had been made with ecology at their heart; Rodger noted that he had never heard the word ecology mentioned in terms of sustainability, but he saw it as the basis of the concept. Indeed, rather than calling himself a viticulturist, he coined the word "vit-ecologist" to describe his role.

Rodger and Rosie wanted their wines to express the environment in which the grapes were grown, and this was another driver of the sustainable practices that they implemented within the Lime Rock vineyard. They spoke of their place, or "turangawaewae," as being a unique area of limestone, altitude, and north-facing slopes that was reflected in their wines. Turangawaewae, a Māori expression, has some similarity with the French wine industry's concept of terroir; the characteristics of a place's geography, geology, and climate that are expressed in its agricultural products. Rodger's challenge was to produce flavorful grapes that expressed the turangawaewae, and Rosie's challenge was to capture and retain these flavors during the winemaking process; the health of the

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vines and the physical environment was thus of utmost importance to them. The company website stated that:

> Lime Rock is our place where our vines are influenced by the mountains, the north facing hills, the limestone rock base (from the sea and shellfish that once covered the land over three million years ago), the loess (sediment blown in from the plains) and the volcanic ash blown over from gigantic eruptions. Also defining our inland space is the climate, the altitude, the vines, grasses and plants and the animals and insects whether it be the harrier hawks and magpies, the lady birds and spiders or the precious native wasps that predate on caterpillars.

Whilst ecology was at the forefront of their decision-making from the very beginning, so too was economic sustainability. The company was not a hobby; they realized the importance of being profitable, especially given the money that they had invested and the fact that it had taken them nearly ten years to become profitable. Whilst science may have been the basis for the company's decisions at the time of vineyard establishment as well as the foundation for its ongoing management strategies, there was little doubt that economic sustainability had also been a critical factor. As Rodger noted, "you have got to make a profit at the end of the day, otherwise you are not here." For small companies in particular, it is important that there is a focus on reducing input costs as much as possible in order to be profitable. Rodger noted that sustainability was not only incorporated within the company's business plan, but that it dominated the whole document.

Whilst some researchers spoke about the influence of the marketplace on the adoption of sustainable practices, Rodger said that Lime Rock has felt little pressure from the people who purchase their wines. In fact, the influence had been the other way around; Lime Rock had tried to influence others to buy their wines because of the philosophies that they had followed in producing those wines. At that time, consumer-driven demand for sustainable products was growing, although wine producers were not necessarily seeing this reflected in the prices paid for wine. However, Rodger and Rosie did believe that their focus on environmental sustainability was fundamental to producing premium quality wine and thus was related to wine pricing. They saw that being a small, family-owned company with a focus on looking after the land in an ecological way and harvesting and processing the grapes by hand is a story that goes hand-in-hand with quality wines. They measured the quality of the fruit at harvest time to ensure that it was at its optimal

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condition; fruit quality reflected how the ecological practices that they had in place in the vineyard influenced soil and vine health. The relationships between vineyard health, resultant grape quality, and the final quality of the wine produced were well known in the wine industry. It was these relationships that were the basis for the success the company had achieved.

To gauge whether their sustainable practices were successful or not, they turned to industry experts, such as sommeliers, for feedback on their wines. Lime Rock Pinot Noir was listed in Jancis Robinson's influential "Top 100 Red Wines" list for 2012. This was a very high accolade for any winery to achieve, and indicated the success of their practices, from the vineyard to the winery. They also won trophies and medals at several wine shows, mostly in Australia. The success that Lime Rock enjoyed confirmed their ability to produce premium and award-winning wines and suggested that their focus on sustainability was delivering added value to the company.

The company implemented a number of sustainable practices, and the biggest drivers of these activities were clearly the views and personal values of Rodger and Rosie, as well as their desire to produce wines of outstanding quality that truly reflected their turangawaewae.

Sustainability in practice at Lime Rock Wines

Sustainable actions at Lime Rock Wines began with site selection. The first criterion was to find a sloping site on limestone. The elevation of the site encouraged cool air to drain downwards and thus prevented frosts. This removed the need for frost protection, an expensive input cost for many vineyards, and improved economic sustainability. In addition, the selected site was based on limestone overlaid with wind deposited loess. This silty layer was good at holding water (in times of excess water, it freely drained to the underlying limestone layer), and thus the vineyard seldom needed to be irrigated. The top layer also provided a natural fertility and thus it had only been necessary to apply a few fertilizers to nourish the vines. Together, the water holding properties and fertility of the soil reduced financial costs for the company and thus improved both economic and environmental sustainability.

This focus on sustainability at Lime Rock extended from site selection into vineyard establishment. When the vineyard was first

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established, steel posts were used in the trellising rather than the more common (in New Zealand) wooden posts. The problem with wooden posts was that they were treated to prevent rotting, and the chemicals with which they were treated could leach through the soil. By using steel posts, Lime Rock prevented any risk of chemical leaching in their vineyard.

Minimal soil disturbance had been another policy at Lime Rock since the vineyard was established. The vines were originally planted using a water jet, rather than ripping into the soil structure. The company did not use under vine cultivation in the vineyard. This allowed the physical soil structure to be stable and strong; especially important on a sloping site. It also helped to ensure that natural biological processes and complexity were maintained in the soils of the vineyard, including for instance, earthworm and mycorrhizae populations. Cultivation would increase the loss of the top layer of soil through wind and rain erosion. Maintenance of the soil was paramount as it was the basis of an ecologically sustainable production system.

Sustainable and ecological practices were also at the core of the ongoing management of the Lime Rock vineyard. A particular focus had been placed on providing an attractive habitat for beneficial insects. There was minimal weed spraying at Lime Rock, and this provided a habitat for beneficial insects such as wasps and hoverflies in the vineyard. These beneficial insects helped to control the population of unwanted caterpillars; in other words, the "good" insects helped to control the "bad" insects. Rodger described this more scientifically as:

> Chaos in the plant under-story encourages a diverse habitat that allows predatory insects to thrive in suitable niches and provides a base for them to prey on other insects that can cause problems for grape production.

The activities of the beneficial insects reduced the need to spray insecticides on the vines and thus had a positive environmental impact on the vineyard. This also provided an economic benefit to the company, as Lime Rock was able to attain lower than normal chemical costs (both herbicides and insecticides). The company provided a home to these beneficial insects during the winter too; native and perennial plants were planted around the cellar door and these provided an over-wintering habitat, shelter, food, and breeding ground for the beneficial insects. Corridors of flowering plants crept along the driveway and up the slope to the vines, thus providing a route for the beneficial insects to migrate

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back into the vineyard each spring. Rodger believed that the very worst thing that any grower could do was to create a mono-culture. The Lime Rock vineyard was a home to many different species of both plants and insects, and thus was healthy from an ecological point of view. In other words, chaos was good.

This use of beneficial insects was similar to the practices adopted by grape growers in the Waipara wine region of the South Island, under the direction of renowned ecologist Professor Steve Wratten of Lincoln University. In this region, many of the vineyards used specific under vine plantings that had been found to best attract the beneficial insects that were able to control pest populations (particularly leafrollers) and thus reduce the use of agri-chemicals. This work had been based on the concept of utilizing nature's services to biologically control pests; this was also the concept that Rodger had employed when providing a habitat at Lime Rock for beneficial insects. And the best thing about using nature's services was that they were typically extremely low in cost and therefore economically sustainable!

Rodger did not spray either lime sulphur or copper on the Lime Rock vineyard. Whilst both of these were permitted under organic regulations, Rodger deplored the use of these "natural" sprays. Lime sulphur is particularly deadly on insects, and if sprayed it can destroy the populations of beneficial insects that live in the vineyard and provide a means to control pest species. Rodger viewed the use of lime sulphur as an "ecological disaster." His objection to the use of copper was because it is a heavy metal that remains in the soil environment and has a negative impact on earthworm populations.

The company implemented many other practices in the vineyard and winery that could be thought of as providing environmental benefits, sometimes accompanied by reduced financial costs. For instance, Lime Rock had implemented practices to conserve water through maintaining a ground cover of prostrate, shallow-rooted plants that provide a mulching layer when they die off. Lightweight wine bottles were used to reduce the cost and environmental footprint of transporting the wine to distant export markets. The company also recycled or reused wastes whenever possible and had a policy focused on the reduction of packaging. Rodger and Rosie regarded themselves as "Environmental Managers" at Lime Rock. They had a written environmental policy, they did business with suppliers who were also environmentally focused, they performed environmental auditing of their company, and they

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formally allocated funds in their annual budget for the implementation of sustainable practices.

The Lime Rock vineyard became SWNZ certified in 2004. Many of the scientifically based practices that were documented in the SWNZ program were things that Rosie and Rodger had implemented at Lime Rock many years earlier. For instance, the company used steel posts when the vineyard was established, but the requirement for steel posts in new vineyards had only been added into SWNZ recently. Rodger felt that the SWNZ program needed to give more focus toward the science of ecology and the treatment of vineyards as ecosystems (although each individual vineyard would require different management inputs based on past land use and practices). He admitted that joining SWNZ allowed him to put the logo on his wine bottles, so it gave Lime Rock an internationally recognized environmental credential associated with their company; something they could not have achieved on their own, even though they had implemented many additional and scientifically based environmental practices. Joining SWNZ also provided Lime Rock with a "bigger voice" and allowed Rodger and Rosie to access information and ideas through New Zealand Winegrowers. The SWNZ program included an audit function through an independent assessor, and thus provided third-party evidence and an accreditation system to back up sustainability claims.

While the company was primarily focused on environmental and economic sustainability, they also had a clear focus on social sustainability. From an employee perspective, the company provided flexible working options, on the job training and staff development, and a documented health and safety policy. While there were not many chemicals used at Lime Rock, if they were required, Rodger did all the spraying himself so that staff did not come into contact with sprays. The company mostly employed staff on a casual basis. The people they hired were often backpackers who were travelling around New Zealand; Rodger and Rosie made sure to tell them about any hazards in the vineyard or winery. In addition, they showed new staff what they were doing in the vineyard in terms of environmental sustainability, and just as importantly, explained to them why they were doing it. Rodger and Rosie actively monitored for job satisfaction, and they considered diversity when making staffing decisions.

In terms of the wider community, Lime Rock engaged in several charitable activities. These included the sponsorship of local events and

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taking part in volunteer programs to assist specific causes or organizations. Rodger and Rosie also tried to purchase from local suppliers whenever possible.

The company communicated to other stakeholders about their sustainability credentials. Rodger stated that "our label is trying to tell people about our philosophy." While they could not get the full details of their scientific and sustainable practices on to the bottle labels, they sought to provide links to the Lime Rock website where customers could read more information. They also had brochures that they could hand out to stakeholders and they incorporated their sustainable story into their cellar door operations and their participation in events.

Barriers to sustainability at Lime Rock

Rodger and Rosie were always open to implementing additional sustainable practices at Lime Rock. They actively searched for the latest sustainability information from websites, journals, and by talking to other people. Workshops facilitated by SWNZ on organic practices, biodynamics, and other methods helped to draw attention to the management of ecological processes and improve understanding of cause and effect relating to various management strategies. However, some practices, such as spraying lime sulphur or copper and using cultivation to control weeds, may have been acceptable in organic regulations, but were not necessarily ecologically sustainable. Certainly there had been a vast improvement over the past ten years in developing "softer" sprays that targeted the control of specific issues; however, controlling one problem could provide a niche in which another problem might develop.

Rodger felt that SWNZ, through New Zealand Winegrowers, should invest more resources into collating relevant information on the impact of various sprays on beneficial insects and soil ecological processes, perhaps even adopting the term "vit-ecology" as a better description of sustainable wine-growing than the term "viticulture." This would provide a unifying concept for wine producers, irrespective of whether they followed organic, biodynamic, or other methods, all of which had their own pros and cons. Targeted research should provide wine producers with information to decide on the most ecologically suitable management strategies for their own particular situation.

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A lack of interest, or of knowledge and skills, did not prevent the implementation of any additional practices at Lime Rock. The biggest barriers to increasing the sustainable practices they already had in place were (1) the costs often associated with implementation, (2) a lack of management time, (3) the amount of paperwork associated with compliance, and (4) the lack of sustainable input products that were available to them. These barriers, especially those associated with cost and time, have been widely noted in other research as being impactful to the adoption of sustainable practices in both the wine industry and other agricultural sectors.

Summary

There is little doubt that sustainability, as a concept, is an important one in the global wine industry. Various wine-producing nations and regions have developed policies or programs focused on improving environmental management, but the focus of these sustainability programs often varies. There is even variation in terms of the way in which sustainability is defined. This case study provides an example of a small wine company that was established and managed based on an understanding of the dynamic ecosystems that exist above and below the soil surface; these ecological relationships were not necessarily well understood or represented in the various sustainability programs that had been developed. As noted throughout this case study, the environmental practices implemented at Lime Rock Wines were based on the science of ecology.

The success of Lime Rock Wines, as measured by wine quality and ongoing financial viability, can be seen to link to the practices that were implemented right from when the vineyard was first established. In particular, the health of the vineyard itself was reflected in the quality of the grapes produced and the resulting quality of the final wines. Some of these practices resulted in lower input costs, and these, along with the higher price typically paid for premium quality wine, provided the company with benefits in terms of economic sustainability. A cost-and-pricing strategy such as this can be especially important for the survival of the small businesses, such as those predominant in the New Zealand wine industry.

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Bibliography

Forbes, S. L. & De Silva, T-A. (2012). Analysis of environmental management systems in New Zealand wineries. *International Journal of Wine Business Research, 24*(2), 98–114.

Forbes, S. L., Cohen, D. A., Cullen, R., Wratten, S. D. & Fountain, J. (2009). Consumer attitudes regarding environmentally sustainable wine: an exploratory study of the New Zealand marketplace. *Journal of Cleaner Production, 17*(13), 1195–1199.

Gabzdylova, B., Raffensperger, J. F. & Castka, P. (2009). Sustainability in the New Zealand wine industry: drivers, stakeholders and practices. *Journal of Cleaner Production, 17*(11), 992–998.

Hughey, K. F. D., Tait, S. V. & O'Connell, M. J. (2005). Qualitative evaluation of three environmental management systems in the New Zealand wine industry. *Journal of Cleaner Production, 13*, 1175–1187.

New Zealand Winegrowers SWNZ programme. Retrieved 1 December 2014 from http://www.nzwine.com/sustainability/sustainable-winegrowing-new-zealand/

Renton, T., Manktelow, D. & Kingston, C. (September 2002). Sustainable winegrowing: New Zealand's place in the world. *Proceedings of the Romeo Bragato Conference*, Christchurch, New Zealand Winegrowers.

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5

An Integral Sustainable Innovation and Communication Strategy: First Non-sulfited "Bierzo" Wine "Puerta del Viento" Case Study

Rosana Fuentes Fernández and Beatriz Urbano López de Meneses

Abstract: Puerta del Viento *(PdV) Organic Wines has been making wine since 2009. The wines were made by Jorge Vega, a wine-grower from the Bierzo, who produced handcrafted wines using organic farming techniques. Organic wines produced from Mencía and Godello grapes created a market niche for Puerta del Viento, one of only five organic wineries in the Bierzo region. These local varieties were only grown in the Bierzo and in a smaller appellation nearby. In late 2014, Vega was concerned that gaining consumer acceptance for his unique and as-yet unknown wines was proving to be difficult.*

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Background: Bierzo region—a heritage to preserve and sustain

The Bierzo was a region in the province of León, located in the northwest of Spain. Containing 2,954.28 square kilometers, it covered 18% of the provincial area. Geographically, it bordered the provinces of Orense, Lugo, and Asturias (www.crdobierzo.es). Puerta del Viento Organic Wines, the focus of this case study, was located in this region.

Bierzo region natural heritage

The Bierzo region was protected by mountains, preserving a rich natural landscape that contained valleys, rivers, and mountains. The region's climate generated special conditions for growing top quality fruit, grapes, and vegetables. The low altitude discouraged late frosts, and harvest was typically earlier than at higher elevations. The average annual temperature was around 12°C, with a winter lows of 3.5°C and summer highs of 24°C. The average annual rainfall was over 700 mm (www.crdobierzo.es). The soils in the mountains consisted of a mixture of fine elements, quartz, and slate. The soil's acidity ranged from a pH of 4 to a pH of 8.5, with values of over 6 in the valleys. Lime content was low, and typically less than 3,000 kg/ha. The carbon/nitrogen ratio was 11.9 in the valleys and 11 on the plains (www.crdobierzo.es).

Some spectacular attractions in the Bierzo region included *Las Médulas,* a Roman goldmine and UNESCO World Heritage Site since 1997, the *Valle del Silencio*, marked by nature's color contrast, *San Genadio*'s cave, and the lookout of *Orellán* where one could appreciate the beauty of the mountains and chestnut trees. This wonderful location was covered by forests, backwaters, and blossoming vineyards, and took visitors to a peaceful bastion of nature (www.cellartours.com).

The Bierzo vineyards were one of the most beautiful scenes in Spain. They were planted in well-established terraces along the slopes of the Sil River valley. Some vineyards were so steep that mules were needed for the grape harvest (www.cellartours.com). The vineyards were planted up to an altitude of 1,000 meters and received about 2,200 hours of sunshine per year, with moderate rainfall and a relatively mild climate thanks to the mountains that protected them. The vineyards were planted primarily on moist, dark soil, which was slightly acidic and low in carbonates (www.crdobierzo.es).

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Bierzo region's historical, social, and cultural heritage

The first written reference to the Bierzo region, whose name was derived from the pre-Roman city of Bergidum, was from Pliny the Elder. The Bierzo region was part of the Roman Empire, conquered by Emperor Augustus (29–19 BC). The area became the Empire's largest mining center, where gold and other metals and minerals were extracted. The most spectacular historical mining site was *Las Médulas*, a UNESCO World Heritage Site since 1997 (www.cellartours.com). Consequently, the Bierzo became a strategic location for metals transportation and an important node of communication in the Iberian Peninsula, from where *Puerta de Viento* took its name.

The presence of the *Camino de Santiago* (St. James Way, the Pilgrimage that took place every year and culminated in Santiago de Compostela) made the Bierzo a natural place for the foundation of medieval monasteries and convents, such as the *Monasterio de Santa Maria de Carracedo*, a 10th-century monastery. Templar castles were erected, and still existed in the towns of *Ponferrada* and *Villafranca del Bierzo*.

Wine tradition could still be observed in the traditional winemaking villages of *San Roman Bembibre*, *Arganza,* and *Corullón* and through commercial activity in the bustling market town of *Cacabelos*, which organized a traditional market typical of northern Spain.

The Bierzo gastronomy was a consequence of cold winters and hot summers, the habitat of the animals, and the local economy. The most famous food product from Bierzo was the *Botillo*: pig meat smoked in cow's stomach. Reineta apples, chestnuts, and Conference pears were delicious—fresh or cooked. In addition, roasted peppers, figs in syrup, and cherries were well-known, homemade products unique to Bierzo.

Tourism, agriculture (fruit and wine), wind-energy generation, and slate mining were the foundation of the Bierzo economy. Recent increases in regional tourism could be attributed to factors such as the increasing popularity of the *Camino de Santiago*, the designation in 1997 of *Las Médulas* as a UNESCO World Heritage Site, and the development of rural tourism accommodation and wineries in the area.

Past and present of the wine sector in Bierzo

The Romans were the first to establish vineyards in Bierzo (29–19 BC). However, the most important viticultural development in the Bierzo region could be linked to the monasteries, especially the Cistercian order

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in the Middle Ages. Wine production expanded in the region until the spread of *Phylloxera* at the end of the 19th century, which destroyed the majority of the vineyards. Vineyards were slowly reestablished through the use of rootstocks from the New World, allowing wine production to once again play a significant economic role in Bierzo. The local wine industry received its greatest honor in 1989 when Bierzo wine received its Designation of Origin (DO) (www.crdobierzo.es).

In the Bierzo region 66% of the vineyards were planted with the indigenous *Mencía* grape (ORDEN 11/1989). Mencía grapes revealed notes of fresh fruit, smooth tannins, and a unique reflection of the minerality of the region's soils (www.crdobierzo.es). Although Bierzo wine was typically considered to be fruity and best consumed young (www.crdobierzo.es), with the right balance of oak, it could also age well.

Around 15 million kilograms of grapes were harvested in Bierzo from the 3,045 hectares (ha) of regional vineyards. The 2,634 vine growers had been decreasing in recent years due to aging farmers and dwindling interest from their children in pursuing agricultural careers. Nevertheless, the Designation of Origin Board declared that the annual number of bottles produced had stayed consistent, at around seven million bottles per year (Table 5.1).

No sulfite added wines and sustainability

The antioxidant sulphur dioxide (SO_2) or E-220 was the most widely used additive in winemaking. Nevertheless, the World Health Organization (WHO) recommended restricting the use of SO_2 in food production processes on account of health (Yang and Purchase, 1985), organoleptic (López et al., 2001), and environmental reasons. The use of SO_2 could lead to undesirable health effects, such as allergies. People with asthma

TABLE 5.1 *Number of wine-growers, hectares of vineyards, production (10^6 kg) and Designation of Origin labels (given in 10^6 bottles) in the Bierzo region (2007–2012)*

	2007	2008	2009	2010	2011	2012
10^6 kg grapes	15,38	13,74	15,62	13,10	17,54	13,07
Vineyard (ha)	3.900	3.900	3.900	3.600	3.045	3.045
Vine growers	4.210	4.210	4.210	2.634	2.634	2.634
10^6 DO Labels	7,81	7,32	7,14	7,47	7,0	7,27

Source: Urbano and Caballero, 2013 from data given by the Origin Denomination Bierzo Wine Board.

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were advised to avoid sulfites. Sulfite allergies were rare; however, people with other allergies tended to be sensitive to sulfites. Reactions could range from difficulty in breathing, flushing, fast heartbeat, hives, wheezing, dizziness, stomach upset, diarrhea, collapse, tingling or difficulty in swallowing, sneezing and swelling of the throat (Costanigro et al., 2014).

High SO_2 concentrations in grapes at harvest or within grape juice could induce undesirable organoleptic changes to the wine, creating pungent odors and/or strange flavors. Furthermore, high doses of SO_2 could postpone or even inhibit the fermentation process and block the aromas (García-Ruiz et al., 2012).

Sulphur and its compounds were widespread in the environment. Sulphur dioxide emissions were released into the atmosphere from vehicle combustion and industrial practices, contributing to the greenhouse effect. They could react with rain water in the atmosphere, creating sulphuric acid, which fell to the earth as acid rain. Acid rain caused forests to die, the death of aquatic life in freshwater lakes and streams, and the deterioration of buildings and monuments (Urbano, 2013).

Puerta del Viento Organic Wines' case study

Puerta del Viento (PdV) Organic Wines has been producing wine since 2009. The wine was made by Jorge Vega, a wine-grower from the Bierzo, who produced handcrafted wines using organic farming. In an interview for this case study, Vega confirmed that he used organic agriculture because he did not like the use of industrially synthesized products such as fertilizers, pesticides, or fungicides for treatments of vines and soils, as his aim was to minimize the impact of winegrowing on nature. Vega believed "that a great wine should be a natural wine made with natural yeasts, without lactic bacteria, enzymes and sulfites added, but without contaminants and refermentations."

This observation was the basis of PdV's philosophy. The winery supported the preservation of the environment, which provided the necessary substances to defend grapevines against pests and chemical fertilizers. PdV's cultural practices followed the secular heritage of the Bierzo region's ancestors; this legacy deserved to be respected and followed. The usage of centuries-old farming techniques persisted in the Bierzo, and Puerta del Viento Organic Wines used them to honor their ancestors.

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Puerta del Viento made wine in accordance with its ancestral wisdom, sharing it with winery stakeholders. Its employees were proud of living in such a fertile and friendly land as the Bierzo. Puerta del Viento's wine-grower was an artisan who controlled all of the winemaking production processes, but above all worked in the vineyard. Before obtaining any official academic qualifications, all members of Puerta del Viento had already worked in the vineyards and produced wine. "This career started without any qualification, but with equal or greater satisfactions," confirmed the members of PdV.

Puerta del Viento's wine-growers produced wine in different parts of the region, conducted detailed analysis of plots of land, and dealt with many challenging issues during their tenure. The journey had clearly paid off. Puerta del Viento Organic Wines' philosophy clearly stated the company's values: "Respect for the environment and preserving (continuing) the Bierzo's ancestral traditions."

Organic vineyard

In organic viticulture, vineyard cultivation was carried out without herbicides. PdV did this with mechanical tillage, which was difficult in the Bierzo region because of the 1.5 x 1.5 meter framework of traditional bush vineyards. During winter a vegetative cover crop was planted between the vines in order to stimulate greater distribution of soil nutrients and reduce excessive growth. Natural compost, manure, or crushed branches were used to amend the soil. Pests and diseases were prevented and treated using traditional cultural methods or biological methods (sexual confusion), and vine cultivars were treated only with natural minerals.

There were some Spanish wines with no sulfites added, and they were generally consumed young. Customers believed that every organic wine was made without sulfites, but this was a mistake. In Europe, organic practices allowed for a low dose of sulphur dioxide. "In general, people do not know what sulfites are and why they are used in winemaking," Jorge Vega affirmed.

The Puerta del Viento winemaker was not sure whether Bierzo wines were truly well-known internationally. "On my last trip to the United Kingdom last summer, I talked to wine lovers and wine shop staff about Bierzo wines and they didn't know the Bierzo and their special varieties such as Mencía and Godello, however their wine managers from Holland,

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Germany, Japan, etc. visit the Bierzo in order to find wines every year." For these reasons, Vega believed that Bierzo wines were well-known by sales managers and less so by consumers.

Mencía was one of the oldest grape varieties grown on the Iberian Peninsula. For centuries, this grape had adapted to the soils and climate of the region. Mencía's loose, medium-sized clusters had a purplish blue color, thick skins, and soft pulp. High concentrations of polyphenols associated with Mencía's blue color and thick skin were characteristic of the variety. These substances were responsible for the protection of grapes against high temperatures, ultraviolet radiation, and pathogens. The wines were fresh, acidic, and very fruity. Iberian Mencía had unique features—such as a distinctive concentration of fruit that was the result of being cultivated in a mineral-based soil—that could not be found anywhere else in the world.

Godello was one of the oldest varieties grown on the Iberian Peninsula. It originated on the banks of the Sil River and its tributaries in the regions of the Bierzo and Valdeorras. Godello vineyards required gentle slopes, southern orientation, and well-drained soils. Godello had a characteristic oval-shaped berry, small-sized clusters, and low-yielding vines; for this reason Godello nearly became extinct at one point. The typical alcoholic strength of wine made from Godello was medium-high, usually with pronounced acidity. The wines were straw yellow. The aromas were reminiscent of apples, with floral, herbaceous, aniseed, and fennel notes.

Limited product range: 2012 PdV "without added sulfites" and 2010 Súper 4

Puerta del Viento was a full member of the Sociedad Española de AgriculturaEcológia (SEAE) (http://www.agroecologia.net/). This platform contributed to the continuous improvement of sustainability, production efficiency, and research aimed at the development of technologies and innovations that provided solutions for improving agro-ecological food production systems.

Puerta del Viento Organic Wines produced several different types of wines (see Table 5.2). As of 2014, there were two types of PdV wine on the market, both of them made from the Mencía variety: the 2012 Puerta del Viento "without added sulfites" and the 2010 Súper-4. In 2015, the winery planned to release the 2014 Puerta del Viento "without added

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TABLE 5.2 *PdV product range*

Product range/ year	Wine	Variety	Year	Sulfites
2014	Súper-4	Mencía	2010	Sulfites added
	PdV Organic	Mencía	2012	Non-sulfites added
2015	Súper-4	Mencía	2013	Sulfites added
	PdV Organic	Mencía	2014	Non-sulfites added
	Ro	Godello	2014	Sulfites added
	Ro Organic	Godello	2014	Non-sulfites added

Source: prepared by authors.

sulfites," the 2013 Súper-4, and the 2014 Ro de Godello. The 2014 Puerta del Viento "without added sulfites" would have the organic label.

Stakeholders

The classic definition of a stakeholder was "any group or individual who can affect or is affected by the achievement of the organization's objectives" (Freeman, 1984: 46). According to Freeman, the concept "Stakeholder Management" referred to an organization's need to manage relations with its specific stakeholder groups in an action-oriented way (52). Puerta del Viento Organic Wines employed Rosana Fuentes as its Public Relations expert. She directed communication campaigns aimed toward the company's stakeholders. She researched where consumers went for information and which media tools they preferred, which in this case was Facebook. This approach was helpful in allowing enterprises to create maximum consumer impressions through their communication efforts (Arruda, 2013).

Consumers and legal entities that had or could have had an interest or relationship with PdV products or the company in the future were considered as targets in the broadest sense of the term. PdV's target audience included current, final, and future consumers, subscribers, opinion leaders (Jesús Flores Téllez, Facebook, September 15, 2013), winemakers and sommeliers, distributors (Generoso Gourmet, SL (Barcelona), https://www.facebook.com/pages/Generoso-Gourmet/495675863784652?sk=timeline and Tiendas el Tendero, SL. (Madrid) http://tiendas-el-tendero.pymes.com/), media, journalists and bloggers, wine agencies, events (GP Castilla la Mancha, July 7, 2012), institutions, municipalities, consortia of economic promotion, wine museums, professional and industry

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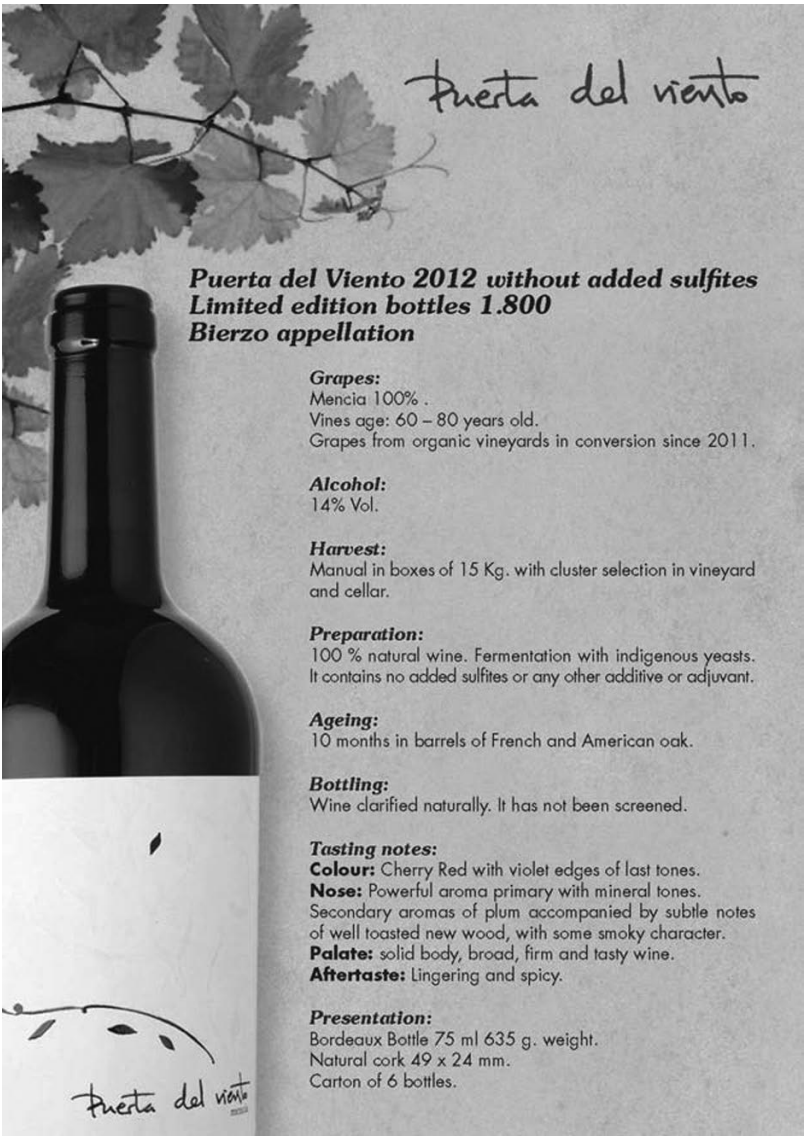

FIGURE 5.1 *Tasting non-sulfites, 2012*

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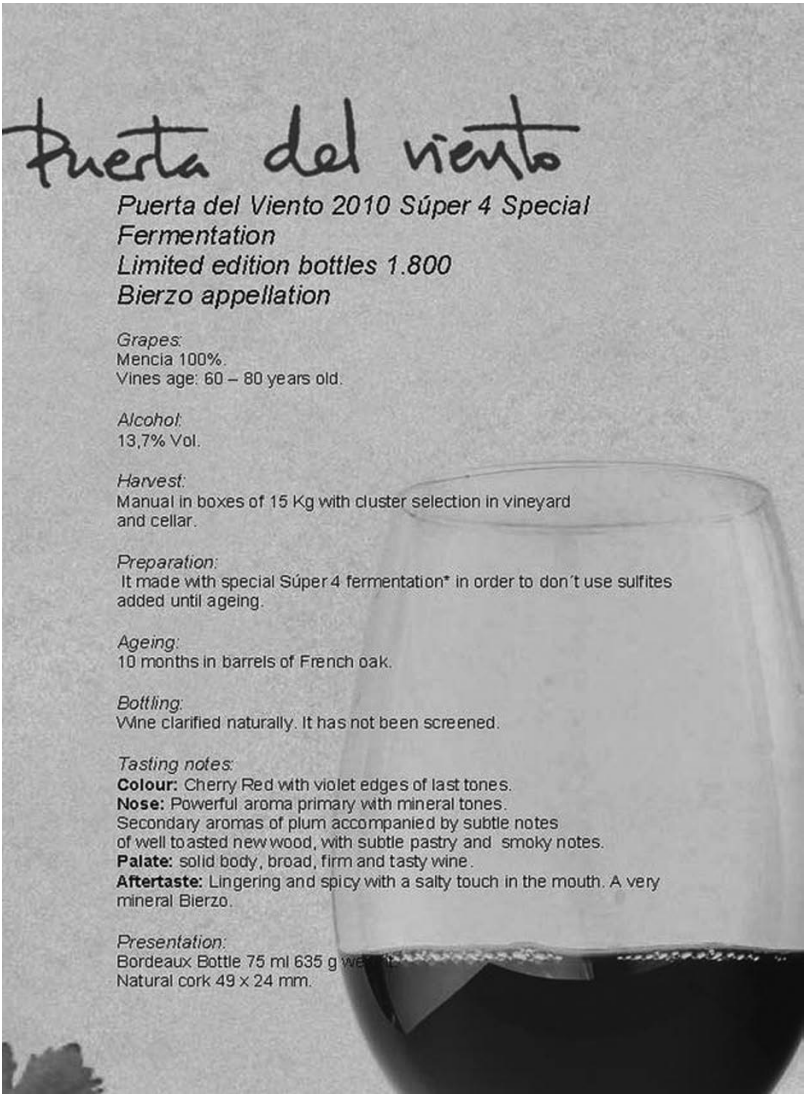

FIGURE 5.2 *Tasting Súper 4, 2012*

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associations, fair organizers, private companies and foundations, and employees and collaborators.

Competition

Organic wines produced from Mencía and Godello grapes created a market niche for Puerta del Viento, one of only five organic wineries in the Bierzo region. These local varieties were only grown in the Bierzo and in a smaller appellation nearby.

Jorge Vega did not know of other winemakers in the region following this same system. "It is quite risky making age-worthy wines without sulfites. In our appellation there are few organic vineyards because organic viticulture is very labor-intensive and hence expensive. The main reasons are because our vines are really old, about 60–80 years old with a small vine spacing (1.50 x 1.50 m) and goblet training system stand out."

At Puerta del Viento, wine was made only with wild natural yeasts in order to obtain special flavors and aromas, and no lactic bacteria or enzymes were added. Furthermore, "we make wine with a special fermentation called Súper 4 fermentation, which is a quality wine making procedure that consists of using a percentage of the wine which has finished alcoholic fermentation in order to prevent microbiological contamination," explained its winemaker.

Jorge Vega thought that Bierzo wines were very different from wines produced in the rest of the world for many reasons "such as history, microclimate, soils, varieties" and most importantly, in his opinion, "the old Mencía vines. These conditions were extremely difficult to get elsewhere in the world."

The Bierzo appellation contained 3,000 ha of planted vineyards. Puerta del Viento's wine-grower supposed that there were 2,000 ha with old vines; in contrast, as of the 1980s, the Bierzo appellation had approximately 7,000 ha. "The price of grapes was very low. The old vineyards were very labor-intensive and hence expensive and the Bierzo wineries were not able to sell the small grape production. I think the Bierzo appellation needs a change in order to preserve the old vineyards," he added.

Communication

In developed countries, concern over the environment had increased over past decades. One of the most important sectors of public interest

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was the support of organic farming. Santiago Mínguez, one of the Spanish members in the Expert Groups of the International Organization of Wine (OIV), talked about an initiative to create eco wineries, called Eco Winery Project of the European Union. This mission involved several organizations carrying out wine research and training. He described measures to save and reuse water in a winery, how to not waste electricity, all while focusing on the need to reduce the carbon footprint in order to become more eco-efficient, preventing the greenhouse effect. He was in favor of specific quality systems intended for eco-efficient wineries that were being implemented in California, Australia, New Zealand, South Africa, and occasionally in Europe.

These initiatives were linked to mass media messages, which dedicated more focus to environmental preservation causes and to the facilitation of changing public perceptions on the consumption and utilization of natural resources. The arguments that were initiated decades before by the hippy community and environmental scientists had finally become a concern to the general public (see Cunnigham, 2010). Moreover, enterprises now needed to adapt to sustainability challenges by carrying out Social Responsibility (SR) practices and by maintaining respectful relationships with local communities. At this time, more than ever, respect for the environment was beneficial for branding. Environmental partnerships that fit the organizational identity of the brand could be effective, especially if they were directly related to specific brand attributes (Aaker, 1996: 86).

The consumption of brands and products that demonstrated respect for the environment provided the customer with an emotional benefit from participating in a positive environmental cause during the purchase. Customers could also appreciate economic benefits and those associated with self-expression when they used products as vehicles for demonstrating ecological awareness (Fuentes & Carcavilla, 2014: 258).

The importance of pro-environmental values was reflected in a new ranking of Best Global Green Brands (Interbrandhttp://bestglobalbrands.com/2014/ranking/). It highlighted the 50 best corporate sustainability programs that focused part of their strategic efforts on improving the environment. The list for 2014 included an alcohol brand at 34th place (Budweiser, Alcohol, 13,024 $m, +3%), however there was no wine brand in the top 100. For this reason, the Communication Department of Puerta del Viento thought that winery marketing managers needed to improve their communication strategies in order to promote wine

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business sustainability and the benefits of wine consumption in moderate quantities.

Public communication was performed at PdV through a combination of personal selling, Public Relations, and sponsorship. In all cases, detailed information on the environmental benefits of the product from the point of view of the consumer was used to provide a convincing ecological argument. Puerta del Viento's proposal was an integral model for sustainability communication, operating in two interrelated domains: socio-environmental sustainability and emotional sustainability.

Puerta del Viento's Public Relations platform highlighted the environmental benefits of the wines, provided definitions for technical terminology, and explained why the ecological attributes of the product were being promoted. Public Relations campaigns carried out by PdV were intended to promote environmental awareness and to create a positive image for the company. Because Puerta del Viento was an eco-winery, this public image would be maintained over time.

Promotional wine communication in Spain could be rather contradictory, because while Spain had the largest area of vineyards in the world and was one of the largest wine-producing countries, traditional Spanish wine culture still only existed in winemaking regions. Jorge Vega thinks that the marketing communications intended to promote Spanish wine were misdirected because the message came across as: "wine is only for rich people." Puerta del Viento's communications department believed that communication should be accessible to everyone who loved wine.

Both the Communications & PR Manager and the winemaker of Puerta del Viento agreed on the need to promote the wines of the Bierzo DO. In order to achieve this, communication about the winery combined four important concepts. First, Puerta del Viento sourced its fruit from old vineyards, based upon the belief that the older the vines, the less yield and the better the grape quality. Second, Mencía was a unique variety that only grew in the Bierzo, which was home to many old Mencía vineyards. Third, the history and landscapes of *el Bierzo: Camino de Santiago, Médulas,* and *Valle del Silencio* were unique and had significant vegetal biodiversity. Finally, the winery and the region supported sustainable agricultural practices.

Website and social media

Rosana Fuentes, Communications & PR Manager of PdV, described the company's intentions for developing website and social media content,

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stating "The information provided should be clear, real and practical; it should draw the client's attention to issues related to the activity of the company and its relationship with the environment so as to demonstrate consistency with its performance."

Puerta del Viento Organic Wines maintained interactive communication channels, such as Facebook and Twitter, to establish relationships with customers, to increase the effectiveness of future performance, and to enhance the winery's reputation.

The identities of PdV wine consumers were well-known, and this helped Public Relations to make better use of online communication resources and to create more relevant digital discussions on wine-related subjects. According to Hornikx and O'Keefe, these social media channels could be used to influence audiences' attitudes, behaviors, and awareness of wine issues by crafting persuasive messages to address audience values (2009).

The company opened its website with the URL http://www.puerta-delvientowines.com/ on May 15, 2011. The winery's Public Relations staff included news related to the brand, as well as international wine reviews on eco-wines. The website used WordPress SEO and promoted its positioning through the regular updating of contents. The company opened a Twitter account on January 1, 2013 with @_jorgevega, but the greatest social media effort was associated with Facebook, because it was the digital outlet most followed by winery stakeholders. In fact, PdV fans could see Twitter updates on the winery's Facebook page, however Twitter provided much less information than PdV could include on its Facebook page.

The eco-label as an instrument of marketing communication

Value creation had replaced the concept of demand. New wineries such as Puerta del Viento, which appeared in 2009, needed to measure their benefit in terms of value to the consumer, not only in terms of economic profit. Consequently, each unique wine element needed to be identified in order to effectively communicate the brand message. Luis Gutierrez[1] said: "The wine must be represented in its label: the year and its place" (Radio 3, October 11, 2014).

Rosana Fuentes understood that while quality wine should excite the senses, it should also convey both logical and emotional messages related to the wine's eco identity through the packaging. One of the most important goals for PdV was to obtain the certified organic label, which

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wineries received after working for three years with organic systems, a process that is regulated by European law.

Fuente knew that this could create challenges for Public Relations. According to Dinamarca (2011), "Communications and SR strategically intersect with each other as the emerging triad operates as follows: [a] communication [in] transparency [consistency between saying and doing, is a condition of] sustainability of companies."

Events as instruments of eco marketing

Puerta del Viento was positioned as a brand with values that included concern for environmental health and ecology, innovation, sustainability, and quality. Its communications offered unique proposals for family or group activities that revolved around nature, ecology, and health. Such activities included wine tastings and winery visits (http://www.puertadelvientowines.com/info/9-enoturismo).

Puerta del Viento educated its customers about environmental issues in an effort to stimulate the socially responsible behavior of its stakeholders. This messaging worked in a two-way exchange with the public, improving the winery's acceptability and credibility.

The events (wine tastings and winery visits) promoted by PdV involved themes associated with ecological awareness, the promotion of environmental issues, and information about ecological services.

Conclusions

Puerta del Viento and the Bierzo region had great potential to be well-known internationally because of the high quality of regional products as well as the area's perfect location and climate. However, a problem was that there were a large number of competing wine brands also on the Spanish market. Furthermore, when people thought of Spanish wines, they tended to think of the Rioja wine region, which was the country's most famous vineyard area.

However, Puerta del Viento had an artisan tradition and experience and its winemaker made organic wine, which was in high demand. Moreover, its brand image had recently been updated, as can be seen in the SWOT analysis in Table 5.3.

The emphasis on pro-environmental values that were supported in modern society favored wineries such as Puerta del Viento. There

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TABLE 5.3 *SWOT*

Strengths	**Weaknesses**
Artisan tradition/ experience	Ambiguous positioning
Organic wines	Little promotion
Price/ quality ratio	Low penetration network
Brand image	Little known
Threats	**Opportunities**
Decrease in consumption	New targets
A lot of competition	Online sales channels
Wine imports	Wine tourism
Reduced margins	Natural wines

Source: prepared by the authors.

were some significant threats to the Spanish wine industry, such as the possibility of decreased wine consumption and reduced profit margins. Despite these threats, a strong communication strategy and sustainable innovation efforts had helped Puerta del Viento and other sustainable Bierzo wineries to promote their products. These enterprises planned to continue to aim for inclusion within the highest quality wine market niche, ensuring Bierzo wines a well-deserved, prominent position within the global marketplace.

Note

1 Luis Gutierrez is the taster from The Wine Advocate in Spain, Chile and Argentina: https://www.erobertparker.com/info/lgutierrez.asp.

Bibliography

Aaker, D. (1996). *Construir Marcas Poderosas*, Barcelona, Gestión 2000.

Arruda, W. (2013). Three Elements of an Effective Social Media Strategy. Forbes. http://www.forbes.com/sites/williamarruda/2013/08/27/three-elements-of-an-effective-social-media-strategy/

Cellar Tours—*Private Luxury Food & Wine Tours Company*. www.cellartours.com.

Costanigro, M., Appleby, C. & Menke, S. D. (2014). The wine headache: consumer perceptions of sulfites and willingness to pay for non-sulfited wines. *Food Quality and Preference* 31, 81–89.

DOI: 10.1057/9781137553089.0010

Cunningham, William (2009). *Environmental Science: A Global Concern*. New York: Granite Hill Publishers.

Designation of Origin Bierzo Wine Regulator Board.www.crdobierzo.es.

Dinamarca, Hernán (2011). Challenge for Public Relations management: a comprehensive, en *Revista Internacional de Relaciones Públicas, 2*(1): 79–106.

Freeman, R. Edward (2010). *Strategic Management: A Stakeholder Approach*. Cambridge: Cambridge University Press.

Fuentes, R. & Carcavilla, F. (2014). Nuevas formas de expresar la marca: planteamientos emergentes en la identidad corporative. in Catalá, M. & Díaz, O. (eds.), *Publicidad 360º*. Zaragoza, Spain: Ediciones Universidad San Jorge. ISBN 978–84–941198–1–1.

García-Ruiz, A., Cueva, C., González-Rompinelli, E. M., Yuste, M., Torres, M., Martin-Álvarez, P. J., et al. (2012). Antimicrobial phenolic extracts able to inhibit lactic acid bacteria growth and wine malolactic fermentation. *Food Control, 28*(2): 212–219.

Hornikx, O'Keefe (2009). Adapting consumer advertising appeals to cultural values. *Communication Yearbook*, 33: 39–71.

López, S., Castro, R., García, E., Pazo, J. A. S. & Barroso, C. G. (2001). The use of activated charcoal in combination with other fining agents and its influence on the organoleptic properties of sherry wine. *European Food Research and Technology*, *212*: 671–675.

ORDEN de 11 de noviembre de 1989 por la que se aprueba el Reglamento de la Denominación de Origen "Bierzo" y su Consejo Regulador.

Urbano, B. & Caballero, R. (2013). Análisis del sector vitivinícola de las DO de Castilla y León .Campaña 2012.

Urbano López de Meneses, B. (2013). Urban Greening a coping mechanism. Revista Chapingo Serie Forestales y del Medio Ambiente.

Yang, W. H. & Purchase, E. C. R. (1985). Adverse reactions to sulfites. *Canadian Medical Association Journal, 133*(9): 865–873.

DOI: 10.1057/9781137553089.0010

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