

# **Extrinsic wine attributes importance on Canadian consumers purchase decisions for environmentally sustainable wines**

**Paulo Lopes**

*BEM Kedge, Bordeaux business School, In Vino Veritas Wine School, Canada*  
[pdl@net.sapo.pt](mailto:pdl@net.sapo.pt)

**Richard Sagala**

*BEM Kedge, Bordeaux business School, In Vino Veritas Wine School, Canada*  
[richard.sagala@me.com](mailto:richard.sagala@me.com)

**Tim Dood**

*Texas Wine Marketing Research Institute at Texas Tech University (USA)*  
[tim.dodd@ttu.edu](mailto:tim.dodd@ttu.edu)

*Purpose: this study aims at understanding the importance of extrinsic cues for environmentally friendly wines in two Canadian markets (Ontario and Québec) by investigating the most important attributes for consumers when evaluating how friendly and enticing the wine appears to be.*

*Design/methodology/approach: the importance that is given by Québec and Ontario consumers to fourteen different extrinsic attributes in their evaluation of how environmentally friendly the wines appears to them were assessed using a seven-point Likert type scale*

*Findings: this research seems to indicate that the evaluation and purchase process of environmentally friendly wines is identical to conventional ones. The evaluation and choice of environmentally friendly wines by Canadian wine drinkers are primarily driven by the price followed by other printed script cues such as: label information, alcohol level, country of origin, grape variety, region of origin and brand name. Visual and haptic cues such as closure, eco-claims, bottle weight and shape, and label were considered least important and therefore deemed supporting, rather than dominant, product cues.*

*Practical implications: The key implications of this perceptual analysis relate to the positioning of environmental friendly wines and the way these wines can communicate their distinctiveness.*

*Keywords: environmental friendly, wines, packaging, Ontario, Québec.*

## 1. INTRODUCTION

The last two decades have witnessed a dramatic increase in environmental consciousness worldwide. Consumers are changing their behavior to integrate environmental considerations into lifestyle choices (Smith and Marsen, 2004). This change includes consumers purchasing decisions based upon how well products satisfy their needs and how these products affect the natural environment. In face of increasing consumer interest and competition, retailers and consumer goods companies are using sustainability to support their brand and develop range and price propositions that may generate a competitive advantage (Straughan and Roberts, 1999). Today's consumers know, and care more about what they buy, how it is made, what it is made from, from how far it has travels and how it is packed (Hudson et al., 2008). However, consumers' adoption of sustainable practices, attitudes, and intention to purchase environmental products remains largely unexplored, particularly in the context of wine industry.

Although sustainability in the wine industry is not new, the concept is of growing interest (Remaud et al., 2008). In recent years, more and more wine companies have claimed their organic, biodynamic and environmental friendly orientation when producing and marketing wines. According to Nowak and Washburn (2002), product differentiation, competitive advantage and increased sales could be achieved by wineries through the adoption of environmentally focused practices. However, a competitive advantage can only be gained in the market place if firms are able to communicate to consumers' about their environmental focus (Bisson et al., 2002). Marketing sustainability and promoting environmental credentials has become a challenging part of the competition between wine producers (Lockshin 2007). So far producers reacted mainly to pressure from large intermediaries such as national supermarket chains, which are motivated to improve market power against their suppliers, increase efficiency of their logistic processes and enhance a distinct environmentally friendly retailer image. This increased supply and store presence of sustainable products may increase consumer awareness and create growing consumer demand for eco-friendly food and wine (Remaud et al., 2010).

Environmentally sustainable products are credence goods; consumers cannot ascertain their environmental qualities during purchase or use (Crespi and Maret, 2005). Consumers are not present during the production process of the product and therefore cannot assess the environmental friendliness of production. Therefore, extrinsic cues such as packaging has an important function of eco-labeling, being used to reduce information asymmetry between the producer of sustainable products and consumers by providing credible information related to the environmental credentials of the product (Leire and Thidell, 2005). Eco-label logos and claims are the most used extrinsic attributes to signal the environmental attributes of wines to consumers. While organic and biodynamic are the most successful eco-claim at this stage, it is by no means the only sustainable claim. Environmental responsibility made with sustainable practices, 100% eco-friendly, carbon neutral, greener planet, fish-friendly farming. This is done not only with eco label claims, but also with combination of several packaging attributes such as lightweight bottles, recycled label paper, pictures alluding to nature protection, which are used to reinforce the environmental friendliness message of the brand. However, little is known about the extrinsic packaging attributes that wine consumers use to determine how environmentally friendly a wine is. Generally, visual packaging extrinsic attributes such as bottle weight, color and shape, label type and

color are generally considered as supporting, rather than dominant wine cues such as price, brand, variety, and country/region (Batt and Dean, 2000; Mueller and Lockshin, 2008). Is it also true for eco-labelled wines? Is the bottle weight an important cue for this type of wine from a consumer perspective?

Likewise, the Liquor Control Board of Ontario (LCBO), which is the second largest wine buyer in the world, purchases wines based on their price/quality relationship, brand value, varietal, and packaging appeal. However it gives an additional consideration to wines that address environmental concerns such as wines packed in lightweight glass and sealed with screw caps (LCBO, 2010). This seems to be contradictory and results from the poor perception and knowledge of retailers and consumers about the environmental sustainable credentials of each type of closure. However, Canadians are amongst the most environment-conscious consumers in the world (Euromonitor International, 2010). When measuring the relative importance of sustainability for wine consumers amongst five countries, Canada has scored above average (Loveless et al., 2009). In addition, Canada is in the top 10 rankings by value revealing relatively high unit prices, well-branded quality wines, and wine consumption is growing six times faster than the world average (MacGregor, 2011). Among 16 million regular wine consumers in Canada, the large majority are located in Ontario (37%) and in Québec (29%) (Wine Intelligence, 2010). However, the alcoholic drinks market in Quebec and Ontario present some divergences due to social and cultural differences. Québec consumers drink significantly higher proportions of wine to spirits compared to English Canada (5:1 instead of 3:1); which translates to a notably higher rate of wine consumption per capita (21.4 l/a versus 14 l/a per person). The Québec population also has a strong tendency to buy premium wine, consume wine with meals, and become highly involved with the product (36% against 26% in other provinces), while the English-Canada consumers are price and promotion oriented and drink wine more frequently at non food occasions (Wine Intelligence, 2010). However, in both provinces, sales and distribution of alcoholic drinks are fully controlled through government-owned liquor boards, the Liquor Control Board of Ontario (LCBO) and Société des Alcools du Québec (SAQ). Although, Ontario and Québec consumers are environmentally friendly conscious, the real impetus towards sustainability comes from the monopolies, LCBO and SAQ (Loveless et al., 2009). So far wineries mainly reacted to pressure from governmental Liquor Boards and it is unclear how far these trade interests indeed reflect an increased consumer concern and sensibility.

Environmentally sustainable wines seem to have a great potential for growth, and identifying consumer wine packaging preferences is critical to this expanding market. Wine producers are facing a market where wine consumers are in need of useful and pertinent wine extrinsic cues. Before creating costly, innovative product-development schemes, wine producers need to know what are the most important wine and packaging cues that wine consumers use to determine how eco friendly a wine is. Therefore, based on the preceding discussion, this study aims to understand the importance of packaging extrinsic cues for environmentally friendly wines in two Canadian provinces by investigating which are the most important extrinsic attributes from the Ontario and Québec consumer.

## 2. METHODOLOGY

### 2.1 Design of the study

This research was based on a quantitative technique using a survey questionnaire. A survey was created as an internet based self-administered questionnaire, which was used to assess socio-demographic characteristics (e.g. age, gender, income level, education, employment status, household number and living area), consumer behavior activities (e.g. frequency of use).

Psychographic information such as attitudes and knowledge of respondents toward a variety of topics related with environmentally friendly wines and packaging were assessed by 14 statements developed from the work of Dodd et al. (2005), Barber *et al.* (2009) and Lockshin (personal communication). The most important statements were: “I have a strong interest in wine”; “I would describe myself as very knowledgeable about wine”, “I know more about wine than many other people”; “I have a strong interest in environmentally sustainable wines”; “I understand and distinguish the concepts behind the different environmental sustainable claims” and “When purchasing a bottle of wine, the environmental sustainable claims are important to me”. “When selecting a bottle of wine, the closure is important to me” and “I would describe myself as knowledgeable about green credentials of different wine closures”. This psychographic information was assessed using closed-ended and seven-point Likert type scale questions anchored by 1=strongly disagree, 4=neutral, 7=strongly agree.

The research question aimed to determine “the relative importance of different extrinsic attributes in the consumer evaluation of how environmentally friendly the wine is”. Based on the studies of Rocchi and Stefani (2005) and Mueller and Lockshin (2008) in retail stores, 14 extrinsic wine attributes were selected: brand name, price, country of origin, region of origin, grape variety, alcohol level, type of closure, capsule material, label information, label material, label pictures, eco-label logos, bottle weight, and bottle shape. Respondents were asked to state for each wine attribute its level of importance in their evaluation on how environmentally friendly the wine is in a specific scenario, e.g. in a retail store during a purchase of an environmentally sustainable labeled wine to drink by themselves or with other people at home. This scenario was chosen as it represents the most frequent buying occasion in Canada, 72% of wine being purchased off-trade and informal drinking occasions accounting for a little over 70% of the wine consumed off-premise for all Canadian regular wine drinkers (Wine Intelligence, 2010; Euromonitor International, 2010). The level of importance of each wine attribute was assessed in a seven-point Likert type scale with 1=unimportant, 4=neutral, 7=very important. The 14 attributes were assigned as 14 statement set and their presentation order were randomized across the respondents.

## **2.2 Consumer sample and on-line survey**

Data collection for this study was conducted in English Canada (Ontario) and French Canada (Québec) since Canadians are amongst the most environmentally-conscious consumers. In order to qualify for the study, respondents were not allowed to work in marketing, market research and in the wine industry, were required to have purchased or drunk wine in the last three months and be above the legal drinking age (L.A.) according to the province legislation (18 and 19 years old in Québec and Ontario, respectively). By extending the period of wine purchase, it was aimed to include more occasional/light wine buyers. 300 respondents were recruited in each province; however, after editing and cleaning the dataset, only 298 and 299 questionnaires in Ontario and Québec were considered valid, respectively.

The questionnaire was conducted (third week of May 2011) on the web using people recruited by a web-panel provider (GMI - Global Market insight Inc., Paris, France). The respondents took, as planned, between 12 and 15 minutes to answer the questionnaire. The survey had a response rate of around 40%, which was within the incidence rate contracted with the on-line panel provider.

## **2.3 Data analysis**

The data were analyzed using statistical procedures such as descriptive statistics, cross tabulations, T-tests, analysis of variance and logistic regressions with XLSAT 2011.2.08 software (Addsinsoft, Paris, France). The descriptive statistics provided an overview of the respondents to the survey. *T*-tests and Analysis of Variance (ANOVA) were used to assess the relative importance and the statistical differences of the extrinsic attributes that consumers consider important on their evaluation of how environmental friendly the wine is.

## **3. RESULTS**

### **3.1 Attitudes and knowledge toward environmental friendly wines**

As presented in table 1, Québec respondents stated a relatively high interest in wine, mean of 5.1 on a 7-point Likert-type scale, which was significantly higher than scores obtained in Ontario, 4.6 ( $p = 0.003$ ). Moreover, Québec respondents seem to be less impulsive in their wine choice than their Ontario counterparts as they scored significantly higher on the statement “I like to take my time when purchasing wine” ( $p = 0.017$ ). Likewise, Québec respondents also scored significantly higher (mean = 5.6) regarding “drinking wine gives pleasure” than the Ontario respondents (mean = 5.3) ( $p = 0.016$ ). The level of wine knowledge displayed by the respondents seems to be similar in both provinces at  $p = 0.05$ . Regarding wine choice, Québec and Ontario respondents seem to have similar adventurous portraits with their wine choices. These results seem to be consistent with those reported by Wine Intelligence (2010) showing that Québec respondents are more involved and more experimental with wine than English speaking Canadians. Wine seems to be very important to Québec respondent’s lifestyle and they have a strong interest in wine. Deciding what wines to purchase is an important decision for them (Wine Intelligence, 2010). The level of knowledge and wine choice were independent of the geographical location of respondents.

**Table 1. Knowledge and attitudes of Québec and Ontario respondents towards environmentally sustainable wines.**

	Québec (n=299)	Ontario (n=298)
<b>Wine</b>		
I have a strong interest in wine	5.0 (1.5) <sup>a</sup>	4.6 (1.3) <sup>b</sup>
I like to take my time when purchasing wine	5.1 (1.4) <sup>a</sup>	4.8 (1.4) <sup>b</sup>
Drinking wine gives pleasure	5.6 (1.5) <sup>a</sup>	5.3 (1.3) <sup>b</sup>
I know more about wine than many other people	3.5 (1.6)	3.5 (1.6)
I would describe myself as very knowledgeable about wine	3.5 (1.6)	3.4 (1.6)
I am cautious in trying new/different wines	4.2 (1.6)	4.0 (1.5)
I would rather stick with a wine I usually buy than try something I am not very sure of	3.9 (1.7)	4.0 (1.6)
I always look out for new and interesting wines to buy	4.5 (1.6)	4.3 (1.5)
I enjoy taking chances in buying unfamiliar wines just to get some variety in my purchases	4.4 (1.6)	4.3 (1.5)
<b>Environmentally sustainable wines</b>		
I have a strong interest in environmentally sustainable wines	3.8 (1.5)	3.8 (1.6)
I understand and distinguish the concepts behind the different environmental sustainable claims	3.9 (1.6)	3.7 (1.6)
When purchasing a bottle of wine, environmental sustainable claims are important to me	3.6 (1.5)	3.5 (1.7)

Values represent mean values and respective standard deviations (within parenthesis) obtained from responses based upon a 7 Likert point scale with 7=strongly agree, 4=neutral, 1=strongly disagree.

Values with different subscript letter in each row are significant different at 95% confidence level.

Attitudes and knowledge of respondents towards environmentally sustainable wines, which is the key component investigated in this study was also assessed. As presented in table 1, respondents displayed a relatively neutral interest in environmentally sustainable wines (3.8 on a 7-point Likert-type scale) in both Québec and Ontario. These results showed that respondents' interest in environmentally sustainable wines were significantly lower than those obtained for wines in general ( $p = 0.0001$ ). In addition, respondents' scores decreased to 3.6 and 3.5 for Québec and Ontario, respectively when they were asked if environmentally sustainable claims were important to them when they buying a bottle of wine.

Moreover, data can be represented as a percentage of the respondents that agree or strongly agree, consider neutral, and disagrees (based upon a 7 Likert point scale) for each statement. This data representation showed that 28% and 29% of Ontario and Québec respondents, respectively, agree that when they purchase a bottle of wine, the environment sustainability claims are important.

Wine consumers, even well informed ones, are generally confused by the multitude of environmentally sustainable claims available in the market and their respective concepts (Lockshin, 2007). In this research, the stated knowledge of Québec and Ontario respondents about the different sustainability claims were on average 3.9 and 3.6 (4 = neutral) for Québec and Ontario, respectively; however, these differences were not statistically significant ( $p = 0.101$ ). Nevertheless, 44% and 51% of Ontario and Québec respondents agreed that they understand different concepts behind environmentally sustainable claims.

### **3.2 Importance of different extrinsic wine attributes on consumer evaluation of environmentally sustainable wines**

According to table 2, price was clearly the most important attribute for Canadian respondents' (mean of 5.5 and 5.1 in Québec and Ontario, respectively) evaluation of how environmentally friendly the wine is. Other verbal extrinsic attributes such as label information, alcohol level, country of origin, grape variety, region of origin and brand name were also considered important by the respondents displaying scores between 4.2 to 4.7 on a 7-point Likert-type scale.

The statistical analysis indicates that these 6 attributes had a statistically similar importance for respondents, although Québec respondents considered that label information was significantly more important than the other five attributes. In contrast, visual attributes such as bottle shape, label material, label pictures, capsule material and even haptic attributes such as bottle weight were considered least important displaying scores on average as equal or below 3.5 on a 7-point Likert-type scale. Other visual attributes such as closure (mean = 3.8) and eco-labeled logo (mean = 3.8) were significantly more important than the previous attributes, but at a relatively neutral level on a 7-point Likert scale.

**Table 2. Importance of specific wine packaging attributes used by Ontario and Québec respondents in their evaluation of how environmentally sustainable the wine is.**

Attribute	Québec					Ontario				
	(n=299)	groups				(n=298)	groups			
Price	5.5 (1.5)	■	■	■	■	5.2 (1.8)	■	■	■	■
Label information	4.7 (1.7)	■	■	■	■	4.4 (1.6)	■	■	■	■
Alcohol level	4.4 (1.7)	■	■	■	■	4.3 (1.7)	■	■	■	■
Country of origin	4.2 (1.8)	■	■	■	■	4.5 (1.7)	■	■	■	■
Grape variety	4.3 (1.8)	■	■	■	■	4.4 (1.8)	■	■	■	■
Region of origin	4.3 (1.8)	■	■	■	■	4.3 (1.7)	■	■	■	■
Brand name	4.2 (2.0)	■	■	■	■	4.3 (1.8)	■	■	■	■
Type of closure	3.8 (1.8)	■	■	■	■	3.8 (1.7)	■	■	■	■
Eco-label logo	3.8 (1.8)	■	■	■	■	3.7 (1.8)	■	■	■	■
Capsule material	3.5 (1.9)	■	■	■	■	3.5 (1.6)	■	■	■	■
Label pictures	3.5 (1.8)	■	■	■	■	3.3 (1.6)	■	■	■	■
Bottle weight	3.4 (2.0)	■	■	■	■	3.3 (1.7)	■	■	■	■
Label material	3.2 (1.8)	■	■	■	■	3.4 (1.7)	■	■	■	■
Bottle shape	3.3 (1.8)	■	■	■	■	3.1 (1.7)	■	■	■	■

Values represent mean values and respective standard deviations (within parenthesis) obtained from responses based upon 7 Likert point scale with 7 = very important, 4 = neutral and 1 = unimportant.

Values with different subscript letter in each row are significantly different at 95% confidence level.

The same color within the each column indicates homogenous statistical groups at 95% confidence level.

The relative importance of each extrinsic attribute, that respondents stated to use on their evaluation of how environmentally friendly the wine is, is not differentiated by respondents geographical origin. Québec and Ontario respondents expressed similar views about the importance of each extrinsic attribute used to evaluate how environmentally friendly is the wine. These results seems to be consistent with the studies of Goodman et al. (2007) who suggested that consumer's segmentation should rather be done within/across countries than by country. Wine Intelligence (2010) showed that regular drinker's consumer's segments were formed across the Canadian provinces.



#### **4. DISCUSSION AND MANAGERIAL IMPLICATIONS**

The results of this study provide theoretical and practical contributions to the understanding of the interest of Ontario and Québec consumers in environmental friendly/eco-labeled wines and determines what are the packaging attributes that they use when they purchase such a bottle of wine.

This study suggests that Canadian respondents interpreted the research question more as the relative importance of the different extrinsic attributes when they purchase environment friendly wine in retail. Visual attributes such as bottle shape, label material, label pictures, capsule material and bottle weight were found to be least important for the sample of Ontario and Québec respondents. Surprisingly, respondents didn't consider bottle weight an important attribute in their assessment and choice of environment friendly wines. However, lightweight glass bottles have been the focus of attention for retailers. For example, the Ontario Liquor Board decided that from 1 January 2013, wines with a retail price of CAN\$15 or below should be packed into 750 ml bottles with a weight less than 420 g (LCBO, 2010). Results suggest that these decisions from the Liquor Boards aimed to foster its environmental friendly image rather than reflect increased consumer concerns for environmental friendly packaging.

Although both closure and eco-logo were considered significantly more important than other visual attributes mentioned above, yet, they were considered relatively neutral (4 points in a Likert scale). 30% of Ontario and Québec respondents expressed to give some importance to sustainable claims when they purchase a bottle of wine. In addition, 42% and 49% of Québec and Ontario respondents considered closure important when they purchase a bottle of wine.

The evaluation or choice of environment friendly wines seems to be primarily driven by price followed by other script cues such as label information, alcohol level, country of origin, grape variety, region of origin and brand name. These results agree with other studies (Goodman et al., 2007; Mueller and Lockshin, 2008; Mueller and Szolnoki, 2010) who showed that verbal attributes such as brand, price, and region to be significantly more important than visual attributes (bottle and label) on consumers' purchase decision of a bottle of wine. However, the study of Mueller and Lockshin (2008) suggested that the importance of visual wine packaging were more reliably captured using visual methods than with direct verbal methods. These authors also showed that there are different segments of consumers who use different decision rules in choosing wine. There were also segments of consumers that use more visual cues such as label style than printed (brand, price) cues when making their wine choice decision.

The focus of this research was to test the relative importance of different extrinsic attributes the Ontario and Québec wine consumers use in assessing how eco-friendly a wine is. The results have shown that at an aggregated level of Québec and Ontario respondents expressed similar views about the importance of each extrinsic attribute. These results seem to be consistent with the studies of Goodman et al. (2007) who suggested that consumer's segmentation should rather be done within/across countries than by country. Wine Intelligence (2010) suggested that regular drinker's consumer's segments were formed across the Canadian provinces.

## 5. CONCLUSIONS AND MANAGERIAL IMPLICATIONS

Canadians are amongst the most environmentally conscious people in the world; however, those who are wine drinkers have a low to neutral interest in environmentally friendly/eco-labeled wines. Around 30% of Québec and Ontario respondents agreed that environmental sustainability is an important claim when they purchase a bottle of wine.

The evaluation and choice of environmental friendly wines seems to be similar to conventional wines, being primarily driven by price followed by other verbal cues such as label information, alcohol level, country of origin, grape variety, region of origin and brand name. Although both closure and eco-logo were considered more important than other attributes such as bottle shape, label material, label pictures, capsule material and bottle weight on the respondents assessment of how environmentally friendly a wine is, all these visual and haptic attributes can be considered supporting, rather than dominant, product cues even for environment friendly wines.

The findings obtained in this research have significant managerial relevance. The key implications of this perceptual analysis relate to the positioning of eco-friendly wines and the way these wines can communicate their distinctiveness. At first glance the wine industry would not significantly gain to promote its wines by adding eco-claims to the bottles as Ontario and Québec respondents displayed a relatively low interest in environment friendly wines and marginally valued it. However, the real sustainability driver comes from the monopolies, LCBO and SAQ, who have their own sustainability and social responsibility agenda (Loveless *et al.*, 2009). Given that the only way to sell wine in Québec and Ontario is through the State Liquor Control Boards, following their example and complying with their requirements in terms of wine packaging such as lightweight bottles or wine properties (lower alcohol level) could increase the probabilities to be listed in such important added-value markets. Moreover, it is expected that the increasing supply and store presence of sustainable products will increase consumer awareness and will create in the future a growing consumer demand for eco-friendly products and wine (Remaud *et al.*, 2010).

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