Sales impact of regional and environmental retail promotions

Former title:

Understanding consumer perceptions of trust mark claims for Australian wine and subsequent purchase behaviour in multiple countries





Final Report **to**

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Research Organisation: **University of South Australia**

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Final report to Grape and Wine Research & Development Corporation

Sales impact of regional and environmental retail promotions

Original project title:

Understanding consumer perceptions of trust mark claims for Australian wine and subsequent purchase behaviour in multiple countries

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1. ABSTRACT

The project objectives were to measure the importance of wine quality, wine style, sustainability, traceability, and quality control for Australia and key competing wine producing countries; and to assess the impact of regional and environmental communications in wine retail stores on sales of premium Australian wines.

Australia has a strong reputation as a clean environment for producing wine. Quality control has some importance, with environment and traceability unimportant. The sales effects of regional and environmental promotions were only moderate compared to discounts. Regional communications had a larger sales impact than environmental promotion. An online choice experiment showing the same promotion material was able to predict the in-store sales impact.

2. EXECUTIVE SUMMARY

The project consisted of two partially related subprojects, one overseas and one domestic. The aim of the first overseas part was to test associations consumers in different target markets have with Australian wines compared to wines from key competing origins. The image of Australian wines was very positive regarding value for money, quality, drinkability, and environment. A few limitations were observed regarding a high carbon footprint and a limited perceived suitability for special occasions. The importance of potential trust mark claims for quality control, environmental sustainability and traceability were measured in key export markets. Across all markets quality control had some importance, but environment and traceability are largely unimportant to consumers.

These results suggest that promoting wine with a trust mark based quality control, environmental sustainability and traceability would only have a marginal impact on consumer choice. At the same time a strategy change at Wine Australia shifted the focus more towards the domestic market and strategies to position and market premium Australian wines at higher price points. It was therefore decided for the second phase to focus on testing regional and environmental non-price promotions in Australia.

A specific promotional message and two presentation formats (verbal claims and visual logos) were selected for the regional and environmental promotion after consultation with an industry advisory group and from a comprehensive consumer test. The effects of eight treatments with non-price promotions were tested in Vintage Store Cellar stores across three states: New South Wales, Victoria and Queensland. Sixteen premium priced wines in the range of $12-$40 were selected for promotion and shelf talkers placed on the shelf below the wines. In some treatments banners were shown at the entrance to the store, where it was expected that they would increase the effectiveness of the shelf talkers. The promotion material was shown in 40 stores over 4 weeks in September and October 2011. Research assistants checked all stores at the start and the end of the experiment to ensure that the shelf talkers and banners were displayed as planned and that stock-outs would not bias sales data. Also, a number of shoppers were surveyed at the checkout and asked about awareness and likening of the promotional material. Sales data for the treated stores and 22 control stores without any promotion were analysed to assess the impact of non-price promotions on sales.

Compared to control stores wines with regional promotions increased in sales up to 84%. Visual shelf talkers had a marginally larger effect on sales than verbal forms. Because of substitution effects non-promoted wines generally lost sales in the presence of non-price promotion for the treated wines. Non-price promotion is only worthwhile for retailers if the promotion generates greater additional sales than they cannibalise from non-promoted wines. In three of the treatments promotion effects could not overcompensate substitution effects, that is in total less wine was sold than in control stores. Regional visual and regional verbal shelf talkers resulted in the largest increase in total sales (+52% and +25%). The higher impact of regional messages is certainly influenced by the longer exposure consumers have

had towards regionality and “regional heroes”, which Wine Australia has been promoting since 2009. Also consumers have been aware of regionality through cellar door visits, regional marketing and the simple statement of region of origin on wine labels. Compared to regionality, environmental sustainability is a new concept to Australian wine consumers. New sustainability schemes, such as *Entwine*, have only been recently introduced and the campaign has not been advertised and promoted as much as the *Regional Heroes* one. Therefore, if the Australia wine industry wants to promote the *Entwine* protocol or other environmental friendly campaigns, it must be remembered that a considerable amount of resources must first be invested to create consumer awareness.

Contrary to expectations, banners did not augment the effect of shelf talkers. Instead we observed a lower impact of shelf talkers on sales when banners were present. In the checkout surveys very few consumers were consciously aware of the store banners and none of those could describe its content. Although these consumer statements suggest that banners created low conscious awareness, this cannot explain their negative sales effect compared to stores where they were not present.

The in-store test of non-price promotions was replicated in an online choice experiment. The sample is representative for premium red wine buyers in the three states included in the experiment. In a visual shelf simulation respondents had to indicate how many bottles of each wine they wanted to buy. The same wines as in the in-store experiment were promoted with shelf talkers and respondents saw banners in some treatments. The effect of in-store promotion on the number of bottles respondents were willing to buy was analysed compared to a reference condition without any promotion. The results from the online experiment were correlated to the sales effects observed in store to assess the predictive validity of online experiments to predict in-store effects. We observed a high correlation of between 0.61 and 0.86 depending on the choice measure analysed. This strong alignment of predictions from online experiments with observations made in-store suggests a very high predictive ability of online choice experiments. These have a number of advantages compared to in-store experiments, such as lower costs and quicker completion and are particularly suitable for the test of promotions in overseas markets.

We acknowledge the support of the Centre for the Study of Choice (CenSoC) at UTS and the team of Professor Jordan Louviere for the online experiment.

We established an excellent partnership with Vintage Cellars, and we sincerely thank and acknowledge the support we received from Mr Grant Ramage, Ms Lisa Graham, Ms Lana Mai, and all Vintage Cellars store managers involved in this research. Without their help, this research would not have been possible.

3. BACKGROUND

Background of original application in 2009

The project is located in program 1b of the GWRDC's Five Year Plan (2007-2012). It also links very clearly into 2a by developing an understanding of the impact of various environmental and other 'trust' type logos on wine bottles; and the project supports Program 4 by actually testing consumer responses to the programs being implemented by Australian grape growers and wineries in this area as defined in 4b.

This project was developed with Wine Australia (Lucy Anderson) to aid them in testing potential labelling and communication schemes for a new Australian wine 'trust mark' before investing the industry's resources in a final market solution. Recent research has shown that consumer response to such label claims or stickers regarding organic, biodynamic, sustainably grown, and carbon neutral is not very strong, especially if these are accompanied by a price premium. Nonetheless, the AWBC felt that a new version of its 'Product of Australia' kangaroo needed to be updated to include a range of 'trust' cues. They are also working with the 'Made in Australia' group to try and link their potential new logo to this scheme.

The WFA is party to a working group of suppliers through the Australian Food and Grocery Council on a project to measure carbon footprints of food projects. Our participation in the early phases of this project was to help the WFA and the Australian wine sector to build networks with these important industry players and open the door for broader industry participation in these programs in the future.

The project is two linked projects related to testing the impact on consumer preferences of potential labels or trust marks for Australian wines, and for certification or registration of environmental and other claims (integrity, compliance and sustainability). The project used methodology developed under the Project Supervisor's existing GWRDC grant using simulated wine shelves to measure the impact of different labelling schemes now being considered for Australian wines both domestically and internationally. The results would indicate which, if any, combinations of labels/trust marks provide a measurable impact on sales and which segments are driving this impact. The project focused on a new logo or 'trust mark' being considered by the Australian Wine and Brandy Corporation (AWBC) for Australian wines domestically and for export. The second part was to be more speculative and involves 'carbon -based' labelling, which is potentially under consideration domestically with the Australian Food and Grocery Council. If this does occur, these labels could be tested alongside the AWBC's logo by enlarging the experimental design. Current work by Provisor with the "Carbon Calculator" and how this might be labelled was also under consideration.

Original project aims

The plan was to test the logos/trust marks in Australia and in two export countries chosen by the AWBC. More countries could be added for additional costs. This project aimed at

providing much needed networking support for the Australian wine sector in developing partnerships with domestic and international retailers and their associations by allowing the wine sector to fund some of the early research on these initiatives using the latest and most accurate techniques.

Approved project modifications and revised project aims

The project objectives were revised, reflecting both the preliminary project results suggesting a limited international consumer interest in product attributes communicated by a trust mark, and a change in Wine Australia's strategy towards the domestic market. Over a series of consultations with AWBC and the GWRDC in 2010/11, exploring the potential for non-price related retail promotion for domestic wines was identified as revised project aim.

The project modifications followed two main project aims:

1) Assessing the impact of non-price related regional and environmental in-store promotion for higher priced wines.

This aim reflected the increased market share of retailer brands at lower price points, eroding the share of higher priced national domestic wine brands. Taking into account that ubiquitous price promotions in the long term erode brand value, regional and environmental information was suggested to be a successful market differentiation strategy to enhance the sales or price premium paid for regional or environmentally sustainable Australian wines. Prof Lockshin and the project team succeeded in gaining the corporation of Vintage Cellars, a large Australian specialty wine retailer, for testing the effectiveness of this non-price promotion strategy in selected stores. By comparing the sales of promoted wines to those in control stores without promotion, an externally valid sales effect was determined.

2) Testing the ability of online experiments to predict effects of in-store promotions.

Conducting tests of in-store promotions crucially relies on the collaboration and agreement for data sharing by a retailer and is costly to conduct. The ability to run an in-store test was therefore the perfect opportunity to test to what degree on-line choice experiments are able to correctly predict the sales impact of in-store promotions. In case satisfactory agreement was observed, then on-line experiments would be a suitable and less costly tool for the Australian wine industry to test the performance of marketing activities.

4. PROJECT AIMS AND PERFORMANCE TARGETS

This section first describes the output and performance targets from the original application and then details the modified project aims.

Original project plan

	Outputs	Performance Targets	Target Date
1	Consumer-based country images related to wine quality, wine style, sustainability, traceability, quality control for Australia and key competing wine producing countries.	- Organization of Advisory Group and liaise with AWBC - Select countries - Develop survey - Administer questionnaire in 5 key markets - Analyse data	Dec 2009
2*	Sales impact of proposed trust mark logo and other environmental claims on wine consumers in two to four export markets	Decide markets based on budget and collaborators, gain approval from relevant organisations and Advisory Group, design experiment, develop graphics, successively run experiments with panel provider, analyse results and present basic results for at least one country (UK) in May 2010. Results for the other countr(y)ies will be finalised in winter 2010.	May 2010 August 2010
3*	Perceptions and recommendations of key trade players for expected effect and potential (communication) support for implementation of trust mark	Develop interview guide with AWBC, visit of key trade players, analysis of interview protocols and summary of results	June 2010

Note: *later revised project outputs and performance targets

Originally the project was developed to test an Australian trademark and relevant communication in overseas markets. *Project phase 1 was completed.*

In 2010/11 the project was revised to test the sales impact of retail promotion programs for environmental and regional communication. Accordingly, the original *phases 2 and 3 were revised* after results from phase 1 and reorganisations in the Australian wine industry.

Revised project plan

Phases A, B and C replaced the original phases 2 and 3.

	Outputs	Performance Targets	Target Date
A	Sales impact of retail promotion program: Australian A+ and regional Australian wines; promotion of sustainability (Entwine) in an Australian wine retailer. Test ability of online experiments to predict effect of in-store promotion.	- Liaise with Mr Dean Robinson, Head of Coles Liquor and the advisory group to: design experiment, develop graphics, successively run experiments with panel provider and in matched retail stores. - Analyse sales records prior, during and after retail promotions. - Analyse online experiment results.	Sept 2011
B	Detailed results and recommendations for an Australian-based retail trade program that will enhance the sales or price premium paid for regional Australian wines.	Detailed analysis of results. Presentation of findings to the advisory board and the GWRDC. Development of simulations to test retail activities to maximise outputs.	Nov 2011
C	Trade articles and presentations of key results. Segmentation of consumers responding to regional and environmental claims. Available to present to conferences or other trade events, or to key retail groups.	Additional analysis of the data, including segmentation and simulations of programs aimed at different segments and recommendations for next stage of implementation, including overseas recommendations.	March 2012

5. METHOD

The project consisted of three separate phases, the international trademark study, the Australian in-store test and the Australian on-line test. The methodology applied in each of the three phases will be detailed below.

Phase 1: Country images and importance of trade mark wine attributes

An online survey was conducted in five key target markets (UK, Ireland, West Coast US, Canada and Sweden) to measure:

1) The importance of trade mark attributes relative to known wine characteristics

   The **Best-Worst methodology** (Cohen, 2009; Finn & Louviere, 1992) was used to assess attribute importance and cross-cultural consumer segments were identified with latent class segmentation (Mueller & Rungie, 2009).

2) Images consumers hold of different wine producing countries.

   The **Pick-any method** (Driesener & Romaniuk, 2006) was applied, allowing a respondent-friendly assessment of comprehensive country images for five wine producing countries (Australia, Chile, France, South Africa, US).

Organisational and structural supply determinants as well as differences in consumer demand were found to be important drivers of sustainable food consumption (Koos, 2011). Cross-national differences in the importance of environmental sustainability stem from each country's history and varying stages of development towards sustainable practices, such as laws regarding recycling. Thus we expected differences in purchase behaviour and attribute importance across countries as a result of local culture, attitudes, behaviour, values and availability (Thøgersen, 2010).

Three European countries, Sweden, the UK and Ireland, as well as two North-American regions, the US west coast and English speaking Canada, were selected for the study. Sweden is a Scandinavian country, where markets for organic food are among the most developed on a global scale (Bech-Larsen & Grunert, 2003) and where the penetration of consumers who have bought environmentally labelled products is the highest in the world (Koos, 2011). Similar to Sweden, Canada has a state monopoly wine retail format, which follows a deliberate sourcing agenda for sustainable products. The US west coast is characterised by a large domestic production of wine, where demand for environmentally sustainable food has strongly increased recently (Dimitri & Oberholtzer, 2007), but is characterised by a lower state involvement in eco-labelling (Sønderskov & Daugbjerg, 2011). The UK and Ireland have only recently developed a broadly shared wine culture and wine trade is characterised by strong supermarket price competition. Among European countries, the UK and Ireland are

only in the middle of the field regarding the penetration of environmentally labelled products (Koos, 2011).

An international online panel provider, actively managing consumer panels to be closely representative of the national population, provided a sample of more than 500 respondents for each of the five countries. The survey was presented in Swedish in Sweden and in English in all other countries. In Canada the sample is only representative of about 60 per cent of the population with an English language background. Respondents were required to be of legal drinking age, had to consume wine at least once a month and had to have purchased wine in the last month. Table 1 provides a detailed description of the five country samples.

Table 1: Sample composition (in percent)

	UK	Ireland	US	Canada***	Sweden
N	525	533	516	519	505
Gender					
Male	48.0	38.6	48.1	48.7	50.3
Female	52.0	61.4	51.9	51.3	49.7
Age					
18-24*	15.4	14.6	16.5	14.5	14.7
25-34	16.0	27.2	17.2	16.4	16.6
35-44	19.2	23.5	18.4	17.1	17.6
45-54	16.0	18.4	18.4	18.7	16.6
55+	33.3	16.3	29.5	33.3	34.5
Wine consumption frequency					
More than once a week	53.1	42.8	42.8	35.6	25.9
Once a week	27.0	36.4	32.4	32.4	35.4
Once or twice per month	19.8	20.8	24.8	32.0	38.6
Number of people in household					
Average	2.7	3.2	2.9	2.7	2.4
Stdev	1.5	1.5	2.4	1.3	1.3
*Annual total household income***					
<20,000 £/€/$	20.0	4.3	6.2	4.0	4.6
20,001-40,000 £/€/$	33.5	18.0	18.0	13.3	11.3
40,001-60,000 £/€/$	19.6	20.6	17.8	16.0	15.2
60,001-80,000 £/€/$	6.1	18.2	17.6	15.2	16.2
80,001-100,000 £/€/$	3.8	14.4	14.5	15.2	17.0
>100,000 £/€/$	3.3	8.9	20.1	17.8	28.8
prefer not to say	13.7	15.6	5.8	18.5	6.9

Notes: *minimum age 18 UK and Ireland, 19 Canada, 20 Sweden, 21 US;
** Income categories for Sweden: <SEK 100,000; SEK 100,001- 200,000; SEK 200,001- 300,000; SEK 300,001 - 400,000; SEK 400,001-500,000; >SEK 500,001
***Canada: the study only covers English-speaking Canadians.

1) Importance of trade mark attributes

In the survey respondents were asked to consider their choice of a 750ml bottle of wine to consume at home with friends or family. This way we standardised the consumption situation when measuring attribute importance.

The aim of the study was to assess the importance of environmentally sustainable wine production techniques relative to other characteristics used by consumers to reduce risk during purchase, such as controlled quality standards and traceability. Four other attributes, 'well known brand', 'reputable wine region', 'promotional offer' and 'taste I like', were included in the study, as previous research identified these to be of high importance to wine consumers (Goodman, 2009).

To assign the seven wine attributes into best-worst choice sets, a symmetrical balanced incomplete block design (BIBD) of seven sets with four items per set and a pair frequency of two was selected.

2) Image of Australian wines

Consumer attitudes and beliefs about the images of Australian wine and key competing countries Chile, France, South Africa and US were measured regarding:

a) Taste and wine style perceptions
b) Perception of suitability for different consumption occasions
c) Price-value perceptions
d) Perceptions regarding labelling and packaging
e) Use of sustainable and environmentally responsible practices
f) Use of quality control
g) Adherence to rules and standards of traceability and origins

A total of 53 perceptions were elicited for each of the five production countries. For a complete list see Table 3, Table 4 and Table 5.

An example of a survey question is shown in Table 2.

Table 2: Pick-any approach example for taste and wine style perceptions

For each country (column) tick all statements that you believe apply to wine from this country. There are no right or wrong answers. Just tick those that you believe.

Wines from ...	Australia	Chile	France	South Africa	US
taste good					
are easy to drink					
are complex and thought provoking					
have a lot of different styles and a variety of tastes					
taste pretty much the same and are boring					
are truly different from wines from other countries					
are produced in distinct wine regions					

Table 3: List of taste and wine style perceptions included in survey

Taste and wine style		
Wines from ...	Wines from ...	Country … makes good …
taste good	come in grape varieties I like	red wines
are easy to drink	are exciting	white wines
are complex and thought provoking	are boring	sparkling wines
have a lot of different styles and a variety of tastes	are traditional	rose wines
taste pretty much the same and are boring	are fashionable	
are truly different from wines from other countries	are elegant	
are produced in distinct wine regions		

Table 4: List of consumption occasion, labelling and price-value perceptions included

Suitability for different consumption occasions	Labelling and packaging	Price-value perceptions
Wines from ...	Wines from ...	Wines from ...
go well with food	have easy to understand labels	are good value for money
are better to drink without food	have difficult to understand labels	are expensive
are too high in alcohol	have unique packaging	I would recommend to a friend
are suitable for special occasions	have modern packaging	I am likely to buy in the future
are good to drink at home	have traditional packaging	
are suitable to drink at fine dining restaurants		
are suitable for casual dining out		
are good to give as a gift		

Table 5: List of environmental sustainability, quality control and traceability perceptions

Use of sustainable and environmentally responsible practices	Use of quality control	Adherence to rules and standards of traceability and origins
Wines from ...	Wines from ...	Wines from ...
are safe	are truthful in their label declarations	are produced in an environmentally friendly manner
are reliable	can be traced back to the wine grower and wine maker	harm the environment during their production
are risky because you don't know what you will get	are credible in their region and grape variety indications	are natural products
have consistent quality		contain unnatural additives
are variable in quality		have a large carbon footprint (high greenhouse gas emission)
are trustworthy		have a large water footprint (high water use, low water conservation)
inspire confidence		have high food miles
have a minimum quality standard		come from a clean environment
		are produced sustainably

Phase 2: In-store experiment

Vintage Cellars, a specialty liquor retailer of the Coles group agreed to test the sales impact of retail promotion programs between mid-September and mid-October. An earlier start was not possible because of the Vintage Cellar winter wine promotion month from August to September, which would otherwise interfere with the project's retail promotion test.

An advisory group was set up with participants from WFA and Wine Australia.

A total of 16 wines were selected from the Vintage Cellars core range to test the communications in different treatment conditions across 64 stores in Victoria, NSW and Queensland.

Environmental and regional logos and slogans were designed and selected with the advisory group. They were pre-tested in an online survey with Australian wine consumers to select the most preferred slogans and logos to be used for in-store communication in July 2011.

Vintage Cellars printed and installed the promotion material in store in mid-September, where it was displayed for four weeks. Sales for the treatment wines were recorded during the experimental phase until mid-October.

1) Development of retail promotion communication

The first stage of development of the communication campaign involved two brainstorming sessions with the researchers, a professional graphic designer and participants from WFA and Wine Australia.

The aim of the first session was to select the logos to be chosen for the consumer pre-test. The researchers contacted Jonathan Pagano - art director at Show Pony Advertising – with whom the researchers had been collaborating for other projects in the past two years. A first draft of the logos generated 15 logo suggestions (9 for the regional communication and 6 for the environmental communication). After the first internal screening, four potential regional slogans were shown to Annabel Mugford and Stacey Packer (Wine Australia) to decide about the three logos to be tested in the consumer survey. Similarly, 4 potential environmental logos were shown to the advisory team to select the three environmental logos to be used in the consumer survey.

The final regional and environmental logos selected for the consumers' test are presented in the following Table (Table 6).

Table 6: List of logos selected for consumer test

#	Environmental logos	Regional Logos
1		
2		
3		

Adopting a similar procedure, the researchers developed a list of eighteen slogans to promote wine regionality and 15 slogans to promote wine environmental friendliness. In a meeting with the advisory group we selected 13 slogans for the best-worst experiment in the consumer test. The slogans were selected in agreement with Annabel Mugford and Stacey Packer (Wine Australia) and Jonathan Green (WFA). The final list of 13 slogans selected for the consumer test is shown in Table 7.

Table 7: List of slogans selected for consumer test

#	Environmental Slogans	Regional Slogans
1	Environment, we care	The regions you love
2	Your environmental choice	Your regions, your love
3	For Taste, For nature	Regional! Not just another wine.
4	Environmentally Yours	Australian Regions - A choice to trust
5	Entwine - sustaining wine's future	Truly, Madly Regional
6	Grown environmentally friendly	Go Regional!
7	Looking after the environment	There's always more to discover
8	Responsible for nature	Australian wine - take time to rediscover
8	Environmentally sustainable	Quintessentially Australia
10	Grape to glass green wine	Australian Regions - everyone has a story
11	Wine, Naturally	Your regions, your passion
12	Entwine - green from grape to glass	A+ Australia
13	Inseparable from Nature	Australian regions - discover your own backyard

The **aim of the consumer test** was to select one environmental and regional logo and slogan each, which were most liked consumers, to be used for the in-store experiment.

A survey was conducted among 822 respondents socio-demographically representative of the population of Australian red wine drinkers (RoyMorgan, 2006). The survey consisted of a small set of socio-demographic questions to ensure sample representativeness, as well as questions about the average price at which consumers buy wine in a retail store and shopping frequencies in the most important retail outlets in Australia. Regarding the selection of slogans and logos, the questionnaire included a ranking question to select the most liked of the three environmental and regional logos, as well as a Best-Worst (BW) instrument to select the most liked slogan.

The sample was representative of the socio-demographic population of Australian wine drinkers in terms of age, gender and location. There was a slight over representativeness of respondents with higher household income between $100,000 and $149,999 (23.7%) and a graduate degree from university or TAFE (35.3%). This over-representation of higher incomes and education is typical for red wine drinkers of higher price point wines.

The vast majority of respondents (62.4%) consume wine more than once a week, drinking almost equal amounts of red and white wine (47.2%). It was also interesting to observe that the majority of respondents have consumed more non-alcoholic beverages – milk (93.3%), soda (72.4%) and fruit juice (74.7%) – rather than alcoholic beverages – beer (67.9%), spirits (45.0%) and RTDs (23.4%) – in addition to wine. In line with previous studies (Corsi, Mueller, & Lockshin, 2012), 45.0% of consumers never buy wines above $30 and 60.3% of them never buy wine above $50. At the same time, 31.0% of consumers never buy wine below $10, but 18.4% of respondents buy wine below $10 every week. In addition, while

$10-$20 wines are most commonly purchased every month (31.1%), $20-$30 wines are generally bought every three months (27.0%).

From the **ranking of the logo alternatives** it followed that logo #3 was the most preferred regional logo (average ranking 1.56 out of 3 alternatives), while logo #1 was the most preferred environmental logo (1.35 out of 3 alternatives) (see Table 8):

Table 8: Logo ranking from consumer test

Logo	Regional	Environmental
1	2.20	**1.35**
2	2.24	2.34
3	**1.56**	2.32

The Best-Worst experiment measuring the **preferences for the slogans** resulted in "Australian Regions – discover your own backyard" selected as the most liked regional slogan (see Table 9). "Wine, Naturally" was selected by consumers as most liked environmental slogan (see Table 10). Particularly for the environmental slogans, there was strong consumer agreement about the most preferred and the second most liked was less preferred, as indicated by a significantly lower Best-Worst score.

Table 9: Regional slogan ranking

Regional Slogans	BW Score	Ranking
Australian Regions - discover your own backyard	**1.96**	**1**
Australian wine - take time to rediscover	1.63	2
Australian Regions - everyone has a story	1.50	3
There's always more to discover	0.99	4
Your regions, your passion	0.51	5
Australian Regions - a choice to trust	0.07	6
The regions you love	-0.21	7
Your regions, your love	-0.44	8
Regional! Not just another wine.	-0.70	9
Quintessantially Australian	-0.79	10
There must be a Region for…	-1.31	11
Go Regional!	-1.51	12
A+ Australia	-1.69	13

Table 10: Environmental slogan ranking

Environmental Slogans	BW Score	Ranking
Wine, Naturally	**1.94**	**1**
For taste, For nature	1.04	2
Grown environmentally friendly	0.58	3
Responsible for nature	-0.11	4
Inseparable from Nature	-0.15	5
Looking after the environment	-0.18	6
Environmentally sustainable	-0.20	7
Entwine - green from grape to glass	-0.24	8
Your environmental choice	-0.36	9
Entwine - sustaining wine's future	-0.47	10
Environmentally Yours	-0.60	11
Environment, we care	-0.61	12
Grape to glass green wine	-0.65	13

Based on the results from the consumer pre-test, it was decided to use the most preferred logos and slogans for the in-store and the online experiment.

2) Promotional material development for the in-store and on-line experiment

The slogans and the logos were combined to test the ability of a) type of message, b) shelf-talkers, and c) banners to stimulate sales. Each of these three attributes had two levels:

- **Type of message**: Regional or Environmental;
- **Shelf talker presentation format**: Visual (Logo + Slogan) or Verbal (Slogan Only);
- **Banner**: Present or Absent

Thanks to the help of Vintage Cellars' graphic designers, the following shelf talkers and banners were developed and used in both the in-store and online experiment (see Table 11 and Table 12).

Table 11: Shelf talkers included in the experiments

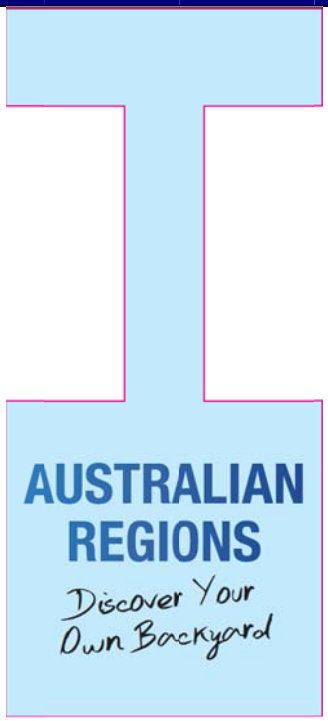
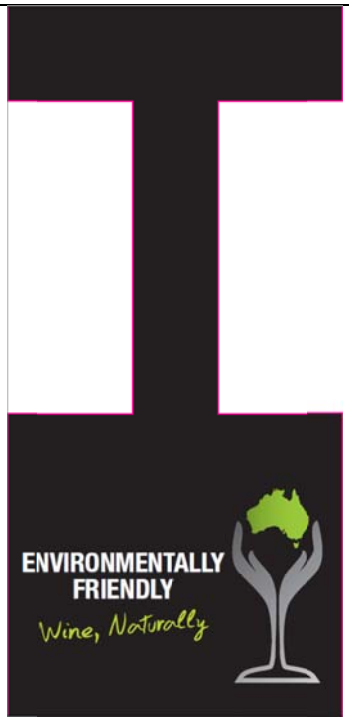
Presen-tation format	Environmental	Regional
Verbal		
Visual		

Table 12: Banners included in the experiments

Environmental	Regional
	

The shelf talkers and banners were approved by the advisory group (Annabel Mugford, Stacey Packer and Jonathan Green).

3) In-store experiment

In order to test the main effects and possible interactions between the above-mentioned factors (type of shelf talker message, presentation format of shelf talker message and presence/absence of banner), a full factorial **experimental design** was developed. This generated a total of 8 treatments and the reference treatment (no shelf talker or banner) to be tested as shown in Table 13.

Table 13: Experimental treatments design

Treatment	Message	Shelf Talker Format	In store banner	Stores
1	Regional	Visual	Yes	5
2	Regional	Verbal	Yes	5
3	Regional	Visual	No	5
4	Regional	Verbal	No	5
5	Environmental	Visual	Yes	5
6	Environmental	Verbal	Yes	5
7	Environmental	Visual	No	5
8	Environmental	Verbal	No	5
9	Reference stores (no treatment)			22

Assignment of stores to treatment conditions

The basis for the selection was the complete list of stores Vintage Cellars owns in Australia. Vintage Cellars did not give us authorization to use the stores in Western Australia (11). In addition, given that Vintage Cellars has only one store each in the Northern Territory and the

Australian Capital Territory, and four stores in South Australia, it was decided to focus on the stores owned in New South Wales (31), Queensland (15), and Victoria (17). This resulted in a total of 63 stores, which represent the base for the experimental treatment allocation. When determining the number of stores assigned to each of the 8 treatments and the reference condition, we aimed for a minimum of 5 stores per treatment.

After assigning the stores (described in more detail below), Vintage Cellars informed us that one selected for treatment #8 (Clayfield-QLD) would have to be closed down in October 2011. It was therefore decided to substitute this store with a store in Waterloo (NSW), which had very similar characteristics with Clayfield. This reduced the final number of control stores to 22 (see Table 13).

When assigning stores to treatment conditions we aimed for minimal differences between the treatment cells. We allocated similar stores to each of the 8 treatments, so each block contained a range of store sizes and sales volumes. By minimising between treatment cell differences we wanted to minimise the influence of store characteristics on the observed differences in sales.

The selection of the stores to be assigned to each treatment followed specific criteria. Vintage Cellars sent us the following main store characteristics:

1) Store Name;
2) Address;
3) State;
4) Post Code;
5) Selling Area (sqm);
6) Sales index (%).

This information was then combined with the following socio-demographic information for each of the suburbs where the stores are located:

1) Population size;
2) Age;
3) Employment (% full-time vs. part-time);
4) Household income;
5) Owned vs. rented houses (%);
6) Average loans

To reduce collinearity between these twelve store selection criteria we conducted a factor analysis. Then repeated draws to minimise the observed differences in store differences between treatment cells were conducted to generate a balanced combination of store and socio-demographic characteristics across the experiment treatments. Table 14 shows the resulting list of stores by location and treatment.

Table 14: List of stores by location and treatment

#	Store	Address	State	Treatment
28	3732	Shop1/30A Greensborough S/Plaza, 25 Main St, Greensborough	VIC	1
12	3466	Shop 1, 166 Mona Vale Road	NSW	1
20	3570	18/19/20 Village Green, 22 Kenthurst Rd, Round Cnr, Dural	NSW	1
43	3988	Cnr. Gilroy Road & Gilroy Lane, Turramurra	NSW	1
60	8653	Shop 15, Indooroopilly Central Centre,	QLD	1
16	3530	123 - 125 Bayswater Road	NSW	2
1	3046	150 Pakington Street, Geelong	VIC	2
33	3760	261 High Street, Ashburton	VIC	2
10	3461	548 Sydney Road	NSW	2
56	8648	Shop 6, Spring Hill Marketplace, 365 Turbot St, Spring Hill	QLD	2
14	3522	896 Military Road	NSW	3
40	3984	388 Military Road, Cremorne	NSW	3
30	3736	160-162 Glenferrie Road, Malvern	VIC	3
7	3404	Corner Beecroft Road & Mary Street	NSW	3
52	6202	32 The Esplanade, Paradise Point	QLD	3
15	3524	19 Ben Boyd Road	NSW	4
31	3738	620 Hampton Street, Brighton	VIC	4
46	5760	2 Centreway, Mount Waverley [CHANGED]	VIC	4
51	6192	Metropol S/C, Pine Mt. & Creek Rd., Carindale	QLD	4
62	8660	262 Given terrace, Paddington	QLD	4
11	3463	57 Gladesville Road	NSW	5
17	3551	Shop M3, Westfield Bondi Jucntion, 500 Oxford St	NSW	5
48	5762	96 Church Street	VIC	5
19	3564	Corner Old Northern Road & Old Castle Hill Road	NSW	5
54	6243	Robina Town Centre, Robina	QLD	5
13	3516	619 Port Hacking Road	NSW	6
4	3284	Unit B-005, Chatswood Chase S/C	NSW	6
37	3968	27 Lawrence Street, Harbord	NSW	6
44	5460	197-215 Condamine Street, Balgowlah	NSW	6
57	8649	469-496 Logan Rd, Stones Corner	QLD	6
6	3401	296-298 Great North Road	NSW	7
23	3604	266 Parramatta Road, Stanmore	NSW	7
42	3987	46 Spit Road, Mosman	NSW	7
26	3728	254 Coventry Street, South Melbourne	VIC	7
32	3745	Tunstall Square 2-42 Tunstall Road Donvale	VIC	7
3	3185	Shop 2, 1 Crystal Street, Waterloo	NSW	8
41	3986	202 Military Road, Neutral Bay	NSW	8
21	3578	914 - 918 Pacific Highway, Chatswood	NSW	8
49	6125	457 Cavendish Road, Coorparoo/Holland Park	QLD	8
53	6233	222 Hawken Drive, St Lucia	QLD	8
2	3171	31 Anderson St, Yarraville	VIC	9
5	3285	181-183A High Street	VIC	9
8	3405	240-242 King Street, Newtown	NSW	9

#	Store	Address	State	Treatment
9	3412	Shop 17 Forestville Shopping Centre Starkey Street	NSW	9
18	3555	Shop15 Oxford Square, 61-65 Oxford Street,	NSW	9
22	3585	396-398 New South Head Road, Double Bay	NSW	9
24	3671	Shop 4, 17-19 Old Barrenjoey Road	NSW	9
25	3673	Shop T10 Norton Plaza Shopping Centre 51A-57 Norton St	NSW	9
27	3729	Shop 9 & 10, 191-219 Bay Street, Port Melbourne	VIC	9
29	3735	Shop 24, 215 Little Bourke Street, Melbourne	VIC	9
34	3782	13 Bay Road, Sandringham	VIC	9
35	3866	240 Church Street, Richmond	VIC	9
36	3871	Shops 7, 8 & 9 Carlisle Arc, 232 Carlisle St, Balaclava	VIC	9
38	3982	1 Glenayr Street[should be AVENUE], Bondi	NSW	9
39	3983	235 Darby Street, Cooks Hill	NSW	9
45	5461	222 Clovelly Road, Clovelly	NSW	9
47	5761	481 Toorak Road, Toorak	VIC	9
55	8647	Shop 10, Merthyr Village, 95 Merthyr Rd New Farm	QLD	9
58	8650	620 Moggill Rd, Chapel Hill	QLD	9
59	8651	106 Oxford Street, Bulimba	QLD	9
61	8657	2721 Main Place, Broadbeach	QLD	9
63	8665	Mayfair Village Cnr Manly Rd & Hargreaves Rds Manly	QLD	9

The 40 stores in the eight treatment conditions were informed about the purpose of the experiment via a three-page brief. The brief was sent directly from Vintage Cellars' headquarters to ensure the stores followed the brief accurately.

At the end of December 2011 Vintage Cellars provided us daily volume sales data for all 62 stores (40 treatment and 22 control stores) before, during and after the in-store experiment.

To assess the impact of the non-price promotions on sales, the data was divided into three different time periods: a) a period before the experiment, b) a period during the experiment and c) a period following the in-store experiment. The precise dates of the time periods were:

- **Before experiment**: 15 Aug – 11 September 2011;
- **During experiment**: 12 September – 16 October 2011;
- **After experiment**: 17 October – 11 December 2011.

A team of four research assistants contacted all 40 treatment stores where the promotional material was displayed to inform them about their store visit in the following days and to check if all the promotional material sent out from Vintage Cellars' headquarters had arrived. Overall, each research assistant visited a total of 10 stores twice. The first visit was held between the 9th and the 11th September to ensure that all promotional material was correctly displayed in store. The second visit took place between the 17th and the 19th October to confirm that all promotional material was completely removed. During the duration of the

experiment (12th September – 16th October) the research assistants called the stores every week to establish if there were any problems and that everything was running smoothly.

The shelf talkers had a traditional 75 mm x 50 mm size and were displayed in front of each wine as indicated in Figure 1.

Figure 1: In-store shelf talker presentation



The banners were printed in A1 size (594 mm x 841 mm). Only the stores assigned to treatments #1, #2, #5, and #6 displayed them. The store staff displayed two banners at the front of the store in windows as shown in Figure 2.

Figure 2: In-store banner presentation



Checkout survey

During their first visit research assistants conducted a short survey with consumers leaving Vintage Cellar stores. The questions were designed to measure the likeability and prompted and un-prompted awareness of the promotional material displayed in store.

Selection of promoted wines

The project aim was to assess the impact of non-price promotions on higher-priced regional Australian wines. Because the experiment was conducted in late winter/early spring we decided to focus on red wines. In the following we describe the selection process of the promoted wines. It should be emphasised that it was not our aim to explore the promotional effect of single wines, but rather to select a typical range of Australian wines, which cover a large range of different characteristics, to estimate the *average* promotional effect.

Vintage Cellars has a state-specific core range of 500+ wines available across all stores. However, the core range of wines is not identical across states. Accordingly the first selection criterion was the identification of the sub-set of identical wines, which were available across all three states NSW, QLD and VIC. This reduced the set to a total of 91 potential wines to be used for further selection.

In a second step 45 wines outside our target price range of $12-$40 were eliminated, leaving us with 46 wines to choose from. We aimed at balancing the selected wines across the following five criteria.

- **Price**:
    1. $12-$25 (lower premium price range)
    2. $25-$40 (higher premium price range)

- **Region**:
    1. South Australia
    2. Victoria
    3. Western Australia
    4. Other.

- **Grape Variety**:
    1. Cabernet Sauvignon
    2. Pinot Noir
    3. Red Blends
    4. Shiraz

- **Sales Index**:

Vintage Cellars provided us a sales index of the wines belonging to the core range. We grouped the wines into four quartiles in order to balance more and less popular wines:

1. 1st Quartile
2. 2nd Quartile
3. 3rd Quartile
4. 4th Quartile

- **Environmental Friendliness**:
  To classify the wines according the degree of adherence to the Entwine certification scheme protocol we used help provided by Jonathan Green from WFA.
  1. High Entwine
  2. Medium/High Entwine
  3. Medium/Low Entwine
  4. Low Entwine

From the 46 available wines a total of 25 wines were selected by balancing them according to these five criteria. 16 wines were selected for promotion and 9 wines were selected for the on-line experiment to serve as a control and proxy for premium priced red wines available in Vintage Cellars, which we did not promote. A complete list of all 25 wines is below (see Table 15).

Table 15: List of wines included in the experiment

	Number	Wine	Avg. Retail Price (Cassady)	Exclusion
Treated wines	1	Cape Mentelle Shiraz	36.3	0
	2	Katnook Estate Cabernet Sauvignon	38.8	1
	3	Mildara Coonawarra Cabernet Sauvignon	26.5	0
	4	Taylors Estate Cabernet Sauvignon	20.3	0
	5	Seppelt Original Sparkling Shiraz	31.5	0
	6	Leeuwin Prelude Cabernet Merlot	35.0	0
	7	Ninth Island Pinot Noir	21.5	1
	8	Tyrrells Rufus Stone Heathcote Shiraz	28.5	0
	9	Darenberg Laughing M/Pie Shiraz Viognier	39.0	0
	10	Wirra Wirra Woodhenge Shiraz	32.5	0
	11	Pepperjack Shiraz	21.9	1
	12	Wolf Blass Grey Label Shiraz	36.5	0
	13	Kooyong Massale Pinot Noir	27.0	1
	14	Voyager Estate Girt By Sea Cab Merlot	32.5	0
	15	Houghton Marg River Cabernet Sauvignon	19.0	0
	16	Alterum Pinot Noir	30.0	0
Control wines	17	Sticks Pinot Noir	32.5	0
	18	Vasse Felix Cabernet Merlot	32.8	0

(not treated)	19	St Hallett Faith Shiraz	22.8	1
	20	Fox Gordon By George Cabernet Tempranillo	21.5	1
	21	Paxton Cabernet Sauvignon	31.3	0
	22	Paringa Estate Pinot Noir	31.5	0
	23	Langmeil Valley Floor Shiraz	36.0	0
	24	Glaetzer Bishop Shiraz	31.9	1
	25	Moss Wood Amy's Red Blend	34.0	1

Notes:

- *Treated wines*: had a shelf talker in the in-store experiment.
- *Control wines*: were available in store (without shelf talker) and were included in the online experiment without shelf talker (see Phase 3).
- *Prices*: are prices in store and as shown in the online experiment
- *Exclusion*: these wines had to be excluded later from further analysis, because we realised after the experiment that these wines were on price promotion in some Vintage Cellar stores directly prior to, or during the experiment. The effect of this price promotion would have interfered with effect of the non-price promotions we wanted to assess.

Phase 3: On-line experiment

An online experiment was conducted in early December 2011 to test the effects of the same regional and environmental store banners and shelf talkers as used in the in-store experiment on consumers' stated purchase intent.

The choice experiment included a total of 25 wines: the 16 treatment wines from the in-store experiment (see Table 15 in Phase 2); and the remaining 9 wines representing red wines of the target price range also available in Vintage Cellars' stores.

198 respondents were recruited from an Australian online panel provider. To qualify, respondents had to be of legal drinking age, had to drink red wine, had to buy wine in retail shops in the price range of at least $20 once every three months, and had to have bought red wine in the last two months, which included the time period of the in-store experiment.

The purchase occasion selected was 'to buy a wine to take to somebody else's house for dinner' because it usually involves higher value wines compared to those consumed at home on a daily basis. Using a between-subjects design, respondents were randomly assigned to one of nine different survey versions, covering regional and sustainable banners and shelf talkers in visual and verbal formats (Table 16).

Table 16: Survey versions online choice experiment

Treatment	Message	Shelf Talker Format	In store banner
1	Regional	Visual/Logo	Yes
2	Regional	Verbal/Slogan	Yes
3	Regional	Visual/Logo	No
4	Regional	Verbal/Slogan	No
5	Sustainable	Visual/Logo	Yes
6	Sustainable	Verbal/Slogan	Yes
7	Sustainable	Visual/Logo	No
8	Sustainable	Verbal/Slogan	No
9		Reference (no treatment)	

After the qualification section and questions regarding their last red wine purchase, respondents entered the choice section of the survey, where a mock-up bottle store entrance was shown (Figure 3). According to the random assignment to one of the nine survey versions (Table 16) the store entrance either showed one of the two banners (regional or sustainable) or none.

Respondents were then presented with a series of choice sets with 9 bottles of red wine in each. Photo-realistic images of the wines were shown as they would appear in store and the in-store price was shown below each bottle. Whenever one of the 16 treatment wines appeared on a shelf of treatments 1-8, the appropriate shelf talker (regional or sustainable, verbal or visual) was shown below the wine. Respondents were asked to click through each of the 9 wines on a shelf to indicate the most and least preferred wine and the number of bottles

they were willing to buy of each of the nine wines. Each wine was enlarged at the right hand side of the shelf when the mouse moved over it (Figure 4).



Figure 3: Screen shot of online simulation of store banner at survey 'entrance'

Each respondent had to complete 25 choice sets, so each wine appeared a total of nine times in combination with in combination with different wines on the same shelf. At the end of the survey respondents completed a number of completed a number of socio-demographic questions. A socio-demographic sample characterisation can be found in

characterisation can be found in

Table 17. As can be expected from the qualification criteria that included the frequent purchase of higher-priced wines, the sample has an above average education and income. The regional representation by states largely reflects the distribution of wine consumers according to Roy Morgan (2006).

To assess the impact of regional and environmental promotion on consumer's choices, their purchase intent (number of bottles per wine) and choice of the most and least preferred wines were compared to the reference survey version without in-store promotion (version 9 in Table 16).

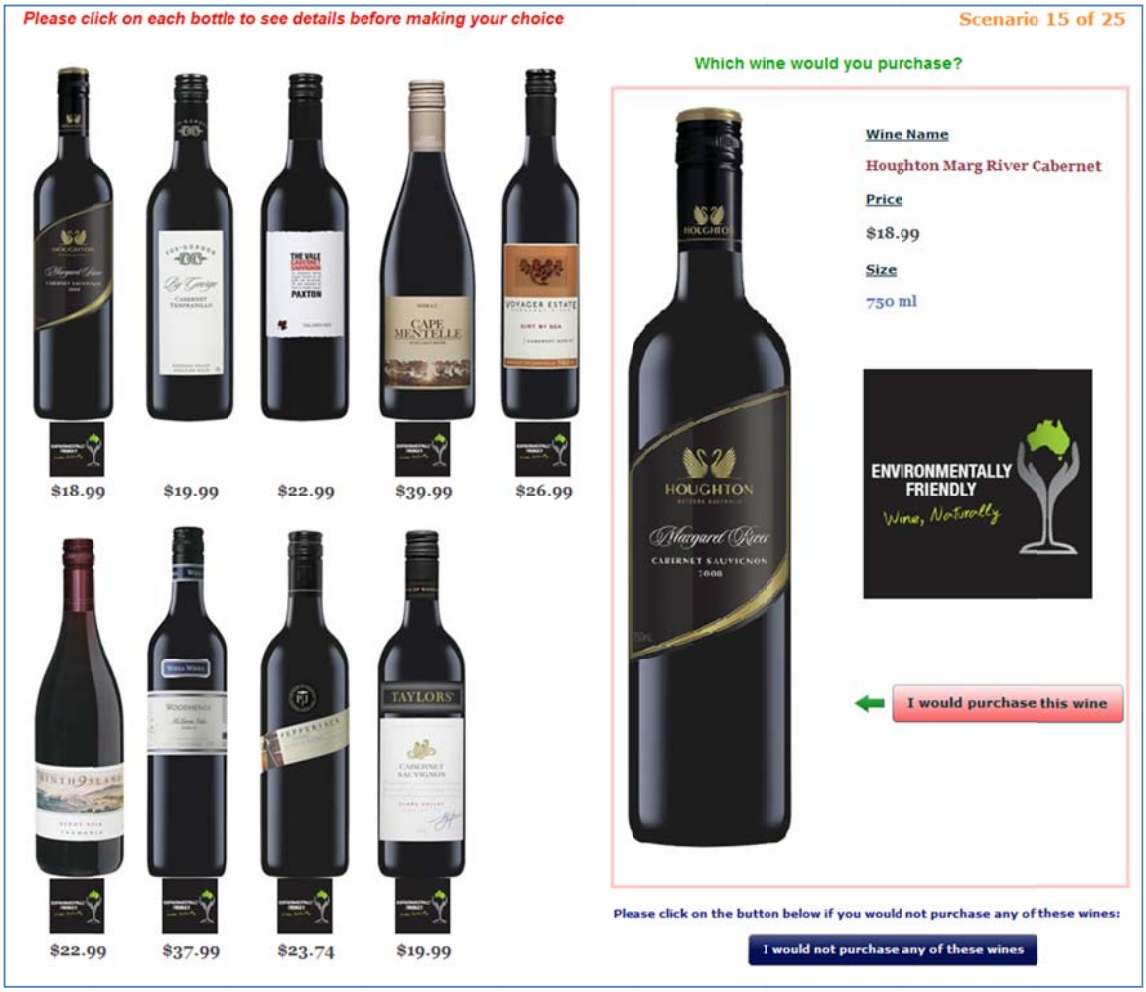


Figure 4: Online wine shelf simulation with shelf talkers

Table 17: Characterisation of online sample

Age	Percent	**Marital status**	Percent
20-24 years	1.5	Never married and living alone	7.1
25-29 years	12.1	Never married and living with a relative or friend	5.6
30-34 years	20.7	Never married and living with a long term partner	7.6
35-39 years	14.6	Widowed	1.5
40-44 years	12.1	Divorced	7.6
45-49 years	6.1	Separated but not divorced	.5
50-54 years	6.1	Married	58.6
55-59 years	10.1	Living with long term partner	11.6
60-64 years	10.6		
65-74 years	5.6	**Household status**	
75+ years	.5	Couple family with no children	31.8
		Couple family with children	40.4
Gender		One parent family	3.0
Male	40.4	Other family household	2.0
Female	59.6	Single person household	12.6
		Group household (i.e. shared)	10.1

State			
NSW	34.8	**Number of people in household**	
VIC	32.8	1 (I live by myself)	11.1
QLD	13.1	2 people	42.4
SA	11.1	3 people or more	46.5
WA	4.0		
TAS	1.5		
NT	.5		
ACT	2.0		

Highest non-school qualification	
Postgraduate Degree or equivalent	19.7
Graduate Diploma and Graduate Certificate from university or equivalent	10.1
Bachelor Degree or equivalent	30.8
Advanced Diploma and Diploma from university/TAFE or equivalent	11.1
Certificate or equivalent (e.g. Certificate III & IV or Certificate I & II)	16.7
None of the above	11.6
Annual total household gross income (before tax)	
$0 - $25,999	3.5
$26,000 - $51,999	7.6
$52,000 - $88,399	16.2
$88,400 - $103,999	11.6
$104,00 - $129,999	11.6
$130,000 - $155,999	13.1
$156,000 - $181,999	6.6
$182,000 or more	12.1
Prefer not to say	17.7

6. RESULTS / DISCUSSION

Phase 1: Country images and importance of trademark wine attributes

1) Importance of trade mark attributes

Choices from the best-worst task were standardised to importance weights, which add up to one hundred per cent across all seven attributes (i.e. the vertical sum for each country in Table 18 is 100).

Across all five countries 'liking the taste' is by far the most important attribute (around 50% of attribute importance). Taste is followed by reputable region and quality control. Environmental sustainability on average has 8% attribute importance, but is more important in Sweden and less important in Ireland. Across all countries traceability has low importance.

Table 18: Standardised importance weights for five countries and total sample

	UK	Ireland	US	Canada	Sweden	Total
N	525	533	516	519	505	2,598
Like the taste	47.5	50.5	47.3	44.6	46.7	47.5
Reputable region	13.8	14.6	13.7	14.8	12.2	13.9
Quality control	10.4	8.7	13.4	15.0	13.1	12.0
Known brand	8.8	8.7	8.0	9.2	8.7	8.7
Sustainability	7.0	5.3	8.7	7.5	12.2	7.9
Price promotion	8.1	7.2	4.4	4.4	2.9	5.4
Traceability	4.3	4.9	4.5	4.5	4.2	4.6

A cross-national segmentation analysis identified three consumer segments across the five target markets. One segment paid particular importance to environmental sustainability besides other credence attributes such as quality control and reputable region. Again, this target segment had the lowest incidence in the UK and Ireland, while it was particularly strong in Sweden and the west coast US. More details about the segmentation analysis can be found in the journal paper (Mueller Loose & Lockshin, 2012) included in Appendix 1.

Because of the relatively low importance of traceability and environmental sustainability in sizeable key export markets for Australian wine, it was decided to reconsider the trust-mark strategy and further testing of potential trustmarks.

2) Image of Australian wines

The following tables summarise the key findings from the country image analysis for Australia and four competing wine producing nations.

Table 19: Taste profile and distinctiveness

Producing countries	Summary of perceptions in the five countries
Australia	Good, not boring, easy to drink
Chile	Good and easy to drink in Ireland and Sweden, but homogeneous and not distinctive
France	History and tradition, complex, elegant, exciting and provoking wines
South Africa	Very homogeneous wine styles and varieties, no appeal or tradition
USA	Boring, not easy to drink, very similar between each other and not coming from a very distinctive region

Table 20: Country perceptions of wine types

Producing countries	Summary of perceptions in the five countries
Australia	White wines for the UK, Ireland and Sweden, Red wines for USA and Canada
Chile	Red wines
France	Sparkling wines
South Africa	Red and white wines
USA	Rosé wines for all but Sweden

Table 21: Country perceptions of price-for-value, packaging and labelling

Producing countries	Summary of perceptions in the five countries
Australia	Not expensive and easy to understand, modern and unique labels, especially for Canada and the US
Chile	Good-value-for-money, but they lack modernity and are difficult to understand
France	Classic, expensive, and difficult to understand labels
South Africa	Good-value-for-money and modern packaging only for Sweden
USA	Not expensive and easy to understand, modern labels

Table 22: Country perceptions of consumption occasions

Producing countries	Summary of perceptions in the five countries
Australia	Dinner at home with friends or a relaxed night out
Chile	Dinner at home with friends or a relaxed night out
France	Special occasions, dinner in a fine dining restaurant, gifts to be matched with food
South Africa	Indifferent
USA	Dinner at home with friends or a relaxed night out

Table 23: Country perceptions of product safety, quality control and traceability

Producing countries	Summary of perceptions in the five countries
Australia	Safe wines. Canada, Ireland and UK appreciate Australian reliability, but based on what is on labels rather than wine areas and vineyards
Chile	Not safe, lacking quality control, not reliable and variable quality for US and Canada
France	Safe and able to supply reliable products. Credibility of French wine areas and vineyards
South Africa	Not safe, lacking quality control, not reliable and very variable quality for US and Canada
USA	Trustworthy, reliable and good quality controls only for domestic consumers

Table 24: Country perceptions of environmental sustainability

Producing countries	Summary of perceptions in the five countries
Australia	Environmentally friendly, especially in Canada. Canadian consumers put Australia on the same level as France. High food mileage in Ireland and Sweden
Chile	Not environmentally friendly, coming from polluted areas, with a high food mileage for US and Canada
France	Natural, sustainable and respectful of the environment. Low food mileage
South Africa	Not environmentally friendly, coming from polluted areas, with a large carbon and water footprint and high food mileage for US and Canada
USA	Natural, sustainable and environmentally friendly only for US consumers

Overall, Australia enjoys a very favourable image as wine producing county, mainly for lower priced wines. Regarding the trust mark characteristics, Australian wines are perceived as safe and reliable and only high food miles for transport to local market is perceived as a disadvantage for environmental sustainability.

A more detailed analysis and results table scan be found in the conference paper (Corsi, Lockshin, & Mueller, 2011) included in Appendix 1.

Discussion

Results from the first project stage implied:

1) Only two of the original three key statements of the trust marks were found to resonate with international wine consumers: quality control and environmental sustainability. Traceability did not appear to be important to consumers in any of the five countries analysed (UK, Ireland, Sweden, West Coast US, Canada)
2) The UK, one of the main markets for Australian wines, showed the highest price sensitivity and the lowest impact of environmental or quality control trust mark elements.
3) Because the UK did not show large potential for the importance of the trademark, the original project aims (to test the trade-mark in the UK and one other market) were reconsidered and changed by the advisory group.
4) In the five markets analysed Australian wine enjoys a very favourable image compared to four new world and old world competitors. Limitations were identified with regards to consumption occasions, which are mainly limited to informal rather than special occasions, and for high food mileage in European markets.

Phase 2: In-store experiment

1) In-store experiment

Vintage Cellars provided us with daily volume sales data for the 25 wines across the 40 treatment and 22 control stores.

Identification and Elimination of otherwise promoted wines

In a first stage sales data were analysed to detect outliers and anomalies. We detected that some wines were subject to considerable changes in the number of bottles sold per week.

Anomalies for wine sales in treated and control stores during the experiment:

1) Treatment stores - wines for which sales reduced sharply

- *Pepperjack Shiraz 750mL* (from 506.8 bottles to 208.2 bottles) – treated wine;
- *Glaetzer Bishop Shiraz 750mL* (from 145.0 to 28.2) – control wine;
- *Katnook Estate Cabernet Sauvignon 750mL* (from 142.5 to 31.2) – treated wine;

2) Treatment stores - wines for which sales increased sharply

- *Ninth Island Pinot Noir 750mL* (from 79.5 to 242.0) – treated wine;
- *St Hallett Faith Shiraz 750mL* (from 105.5 to 612.4) – control wine.

3) Control stores - wines for which sales reduced sharply

- *Fox Gordon By George Cabernet Tempranillo 750mL* (from 105.8 to 20.2) – control;
- *Pepperjack Shiraz 750mL* (from 278.5 to 113.6) – treated wine;

4) Control stores - wines for which sales increased sharply

- *Moss Wood Amy's Red Blend 750mL* (from 67.3 to 162.8) – control wine;
- *St Hallett Faith Shiraz 750mL* (from 86.0 to 352.0) – control wine.

Although Vintage Cellars had assured us prior to the experiment that none of the 25 wines selected for the experiment would be under any promotion for the entire duration of the experiment, we later found out that some wines were promoted just before the experiment started (4^{th} Aug – 14^{th} Sept – Cellar Press p. 118).

These included:

- *Katnook Estate Cabernet Sauvignon 750mL*;
- *Kooyong Massale Pinot Noir 750mL*;

- *Ninth Island Pinot Noir 750mL*;
- *Pepperjack Shiraz 750mL*;
- *Glaetzer Bishop Shiraz 750mL* (4th Aug – 14th Sept – Cellar Press n. 118);
- *St Hallett Faith Shiraz 750mL* (15th Sept-19 Oct – Cellar Press n. 119);

As a consequence, we decided not to include these wines in the analysis.

We couldn't find whether *Fox Gordon By George Cabernet Tempranillo 750mL* or *Moss Wood Amy's Red Blend 750ml* were actually on promotion before or during the experiment, but the fact that the first wine went down from 105.8 to 20.2 bottles sold per week, while the second went up from 67.3 to 162.8 per week in the control stores let us decide to not consider these two wines because they would have biased our results.

Accordingly, after removing 9 otherwise promoted/outlier wines, there were 17 remaining (12 treated + 5 control wines) for analysis. These wines are also indicated in Table 15.

Analysis methods

Two different analysis methods are generally possible to assess the effect on non-price promotions.

Method 1: Comparison between treatment and control stores

The first possible approach of the analysis is to compare sales in treatment stores to those in control stores, where wines were sold without any promotion. This analysis assumes that treatment and control stores do not differ systematically, so all observed differences in sales can be attributed to the effects of non-price promotions. This is a valid assumption because we systematically assigned the Vintage Cellar stores to the eight treatment and control conditions by minimising differences across the nine cells. The advantage of this method is also that it avoids any bias from temporal sales fluctuations.

Method 2: Comparison over time (before vs. during experiment)

The second approach compares sales data of the experimental period to those before the experiment. To allow an unbiased comparison over two different time periods this method critically depends on relative temporal stability of Vintage Cellar sales. Strong sales deviations (e.g. seasonal changes or reduced sales after a strong price promotion wave) would interfere with the sales effect of the non-price promotions and accordingly bias the estimated results.

When analysing Vintage Cellar sales fluctuations we realised that the experimental period in September followed a major price-promotional phase in August. Although none of the wines we selected for final analysis were promoted, sales in September generally declined and most likely fewer shoppers visited VC stores. We analysed the effect of our non-price promotion experiment with this method and observed a positive effect on sales. These results were

presented to GWRDC in February 2012. When later analysing the sales for non-promoted wines during the experimental phase we found a strong decrease compared to before the experiment. We assume that the general dip after the strong price promotions before the experiment might be largely responsible for this effect. We therefore decided to limit the analysis and result to Method 1 (comparison between treatment and control stores during the experiment).

Effects of non-price promotions

To assess the effect of the non-price promotion treatment we related wine sales data for:

a) The 12 treated wines in treated vs. control stores;

b) The 5 control wines in treated vs. control stores;

c) The total effects of the 17 wines (12 treated plus 5 control wines) in treated vs. control stores.

This analysis allows us to understand which of the eight treatments was able to stimulate more sales during the experiment. In addition, by looking at the sales index for treated and control wines in treated vs. control stores, we are also able to understand the degree to which consumers substitute away from non-promoted (i.e. control) wines. This effect of non-price promotions is only positive if consumers buy more of the promoted wines than they reduce their purchases of not-promoted wines. Only in a case of an overall positive effect is a non-price promotion meaningful, otherwise it only induces a substitution from non-promoted to promoted wines.

We calculated the average sales per store during the experiment, as well as the average sales per store for all the seventeen wines combined together (total effect). After this, we indexed the sales in treated stores as a proportion of the sales in control stores, to allow an easier comparison between them. Accordingly, total sales in control stores are standardised to 100% (see lowest bar in Figure 5). The red bars represent effects for treated wines, the green bars indicate relative sales performance for control wines and the blue bar provides the total sales effect relative to control stores.

1) Effect on promoted wines

The use of the promotional material (banners and shelf talkers) had a positive effect and increased sales of treated wines in treated stores compared to control stores for seven out of eight treatments. These effects are represented by red bars in Figure 5.

In particular, the use of a regional shelf talker – visual (184%) or verbal (152%) – without a banner generated the highest sales increase for treated wines in treated stores compared to control stores. Also, a positive promotion effect was recorded for the treated wines promoted with a verbal environmental shelf talker together with (111%) or without (118%) a banner, compared to the same wines located in control stores. Still marginally positive effects were

observed for treated wines promoted with a regional shelf talker and a banner (103%), or with an environmental shelf talker with (105%) or without (104%) a banner. Only verbal regional shelf talkers with a banner were not able stimulate higher sales (96%) for treated wines in treated stores compared to control stores.

2) Effect on non-promoted wines

The green bars represent sales of non-promoted control wines. We would generally expect that their sales would decrease relative to control stores as consumers were likely to substitute them for promoted wines.

In five out of the eight treatments this expectation is confirmed and control wines decrease in treated stores vs. control stores (green bar less than 100%). There were three exceptions, where we observed an increase of sales of non-promoted wines.

- The first of the three exceptions was observed for the verbal regional shelf talker with banner (113%). This phenomenon is particularly surprising because in this condition promoted wines did not increase their sales compared to control stores (96%).

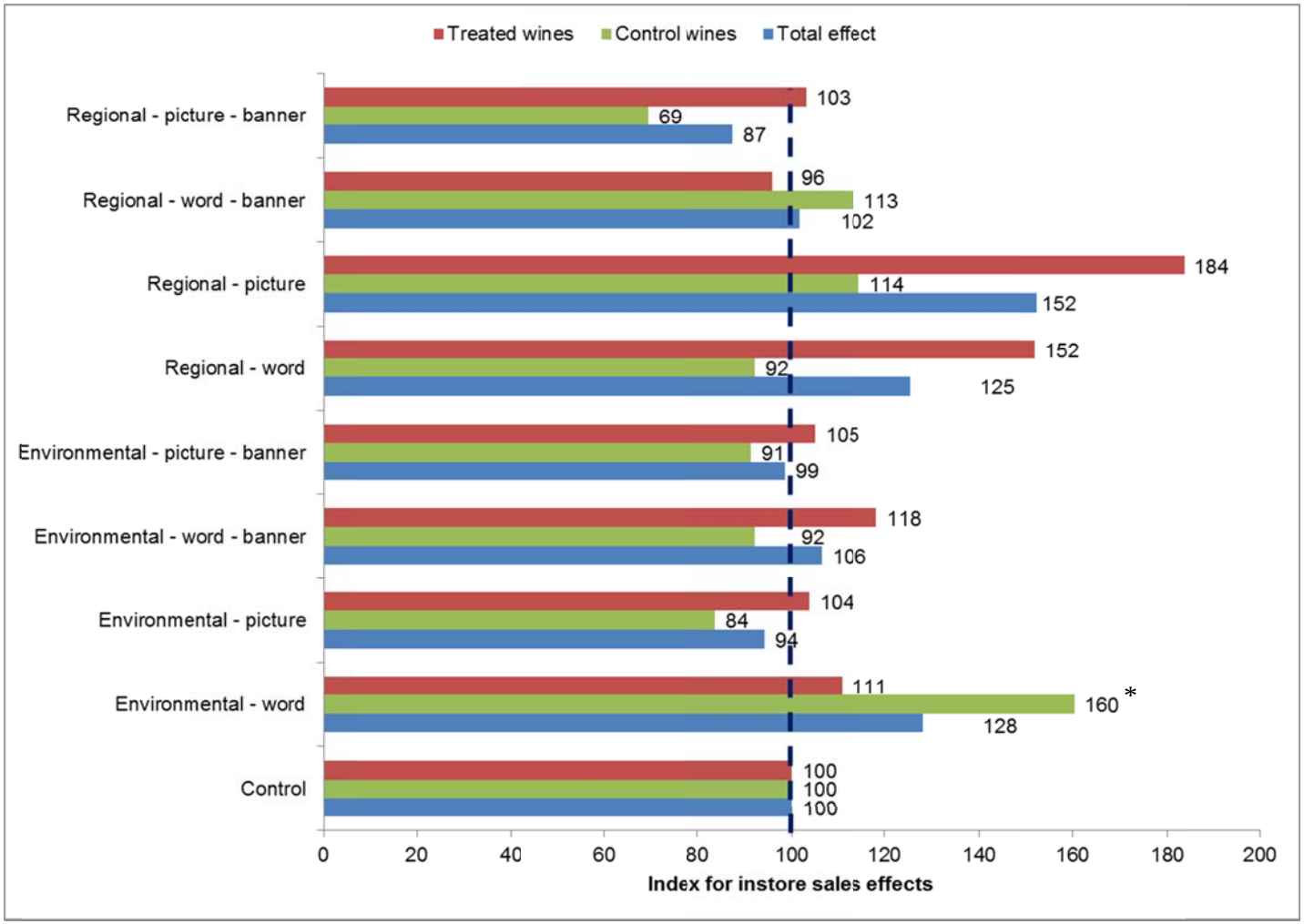
- The second exception, where non-promoted wines increased in sales compared to control stores, occurred for regional verbal shelf talker without banner. These wines increased sales compared to treated stores by 14%.

- The third exception was observed for non-promoted wines in stores where environmental verbal shelf talkers without banners were present. In those stores, sales of control wines were 60% higher than in control stores. This considerable increase, however, can largely be attributed to an outlier wine. We are not aware of the reasons for this increase, but 59 bottles of *Sticks Pinot Noir 750mL* were sold in store 3 during the experiment, compared to an average of 6 bottles sold per store during the experiment in the other treated stores. If we delete this outlier the increase in sales reduces to 111%, which is exactly the same value registered for treated wines in the same stores, suggesting that the same increase was observed for promoted and non-promoted wines.

3) Total effect

The total effect (blue bar) looks at the impact of non-price promotions over promoted and non-promoted wines. A positive total effect can only be observed if the promotion attracts sufficient new sales that do not merely come by substituting for not promoted wines. Overall, we can observe five treatments, where more wines were sold overall in treatment stores compared to control stores. The largest effects were observed for the visual and verbal regional shelf talkers (152% and 125%). The large total effect for verbal environmental shelf talker (128%) was influenced by the outlier detailed above. The verbal regional and environmental shelf talkers with banner (102% and 106%) only had small effects on total sales.

The other three non-price promotion conditions resulted in overall negative sales.



*Note: all values are standardised indexes relative to control condition = 100, also represented by the vertical line; * outlier effect through highly above average sales in one store*

Figure 5: In-store effect of promotional treatments on promoted wines, competitor wines and total number of bottles sold

Discussion

We observed the strongest non-price promotion effects for regional shelf talkers, for which sales of treated wines increased by 84% (visual graphic shelf talker) and 52% (verbal shelf talker). Only for the visual regional shelf talker was the promotion effect strong enough to over-compensate the negative substitution effect for non-promoted (control) wines.

Interestingly, both for the environmental and the regional message, additional banners were not able to augment the effect of shelf talkers; instead sales decreased if banners were present. This is contrary to our expectations and the low rate of banner noticing and only moderate liking in the checkout surveys cannot explain this observed negative effect.

There was no uniform effect for presentation format. For the regional message visual shelf talkers had a slightly higher promotion effect than verbal ones (103% vs. 96% for regional shelf talker with banner and 184% vs. 152% for regional shelf talker without banner). For environmental shelf talkers, all effects were highly similar with an only marginal advantage of verbal versus visual shelf talkers (118% vs. 105% and 111% vs. 104%).

Effects on total sales of promoted and non-promoted wines were less clear-cut. If we consider that the large overall sales for the verbal environmental message were most likely based on the large outlier sales in one store, then regional verbal shelf talkers without banner showed the largest overall effect (133% compared to control stores). Comparably this is a favourable promotion effect, considering that 33% more bottles could be sold at the same price. Although price promotions increase sales by 50% to 300%, it has to be considered that because of the price reduction these forego revenue and can damage brand value.

It is interesting to observe that environmental messages result only in small positive effects for promoted wines and which usually come at the cost of lower sales for non-promoted wines, resulting in an overall decline in sales relative to control stores.

So overall, regional had the highest promotional impact, which can be related to the longer exposure Australian consumers had towards wine regionality compared to campaigns promoting environmental messages.

2) Checkout surveys

The checkout surveys were conducted during the first visit research assistants made to the stores (9th-11th September 2011). The assistants checked that all the promotional material was correctly displayed and then they started the interviews, by intercepting people who had purchased a bottle of wine before they left the store.

A total of 284 respondents agreed to participate in the exit survey. Eighty-two per cent of them qualified for the survey as they had purchased a red wine. Eighty-six per cent of them declared they remembered what wines they had purchased. Forty-six per cent of them bought a wine between $12 and $15, but another 30% declared they paid between $16 and $35. This was a good result, as the wines selected for the experiment had a price between $12 and $40. This means that the price range selected for our experiment potentially represents about 70% of the purchases done at Vintage Cellars.

The majority of the sample (72%) did NOT notice any banner at the entrance of the store, and, of them, only 10% declared to have seen it when prompted. The other 28% of respondents who noticed a banner largely could not remember the content or stated a different content than shown by the banners. The majority of those who said that they could remember the content (37%) declared that it had to do either with a generic promotion or with the "Best of 2011" promotion (promotion run by Vintage Cellars from the 4th August to the 14th September 2011). After this, the research assistants showed the respondents the actual banner that was displayed in the store. The feedback about the banner was good overall. The average likeability score was 4.6 out of 7.0, and the average evaluation about the appropriateness of the content was 4.9 out of 7.0. The low conscious awareness of the banners would suggest that consumers did not consider them in their purchase decision, although a subconscious effect would be possible. Nevertheless the low conscious awareness and moderated likeability cannot explain that promotions showing the banner had a lower sales impact than those not showing banners. This implicit negative effect of banners is a highly unexpected effect.

The noticeability of shelf talkers was better. Nevertheless, the majority of respondents did NOT notice any shelf talker, but the percentage went down to 58%. In addition, 18% of those who did not notice any shelf talker remembered to have seen it when prompted. The ability to remember the content of the shelf talker was relatively low, with 31% who could not remember the content of the shelf talker and another 27% declaring that the content was about some generic price promotion or discount. Again, the feedback about shelf talkers was good. The average likeability score was 4.7 out of 7.0, and the average evaluation about the appropriateness of the content was 4.7 out of 7.0.

We also asked consumers about their usage of general shelf information, not specifically related to our tested shelf talkers. From that it followed that 86% of respondents declared that they did NOT use either the information contained on the banner or the shelf talker to decide about the wine they purchased on the day. However, 29% of respondents affirmed that they sometimes use information on shelves to decide about wines to buy. It is worth noting, though, that these statements only represent consumers' consciously perceived usage, while a

lot of research has shown that consumers have a very low awareness of what information they use and which attributes drive their purchase decision (Mueller, Lockshin, & Louviere, 2010).

Discussion

The results of the in-store experiment show us that consumers positively react to non-price promotional activities. In particular, regional shelf talkers – visual or verbal – without banners and environmental verbal shelf talkers with banners are able to stimulate sales more than other treatments.

The first observation to make is that the higher impact registered for regional messages is certainly influenced by the longer exposure consumers have had towards the concept of regionality and "regional heroes" Wine Australia has been promoting since 2009. Longer exposure to advertising/promotional messages is able to increase the probability consumers notice them (Danaher & Mullarkey, 2003). It is not by chance that during the checkout surveys in store, a considerable proportion of consumers affirmed that the content of the banners was relative to the "Best of 2011" Vintage Cellars promotional campaign, which ran from the 4th August to the 14th September, that is one month earlier than our banners and shelf talker were displayed. The lower impact of environmental shelf talkers and the need to support them with banners at the entrance of the stores support this discussion. New sustainability schemes, such as *Entwine*, have only been recently introduced. Several wineries have not adhered yet to the *Entwine* sustainability protocol and the campaign has not been advertised and promoted as much as the *Regional Heroes* one. In addition, a study by Mueller and Remaud (2010) suggested that the percentage of Australian consumers willing to purchase organic wines is small (14%) and hasn't changed much since 2007. Therefore, if the Australian wine industry wants to promote the *Entwine* protocol or other environmental friendly campaigns, it must be remembered that a considerable amount of resources must be invested and it is necessary to wait a bit longer to appreciate the results of such a campaign. We do, however, believe that instead of focusing on launching new environmentally friendly initiatives, the Australian wine industry should investigate further how sustainable/organic wine making practices become normal techniques used by wineries, so that all wineries could improve their environmental footprint.

A second consideration is that non-price promotional messages have been proven to be effective. The impact is not enough to justify the substitution of other traditional forms of promotions (e.g. discounts, buy-one-get-one-free, etc.), but they have certainly the right to be included in the promotional activities a producer or an association of producers might discuss with a retailer. The negative impact of price promotions on producers is well known. Price promotions do not tend to have positive long-term effects (Sharp, 2010); they do not usually expand category demand (Huang & Dawes, 2007); and they erode reference prices (Kumar, Karande, & Reinartz, 1998). It is therefore suggested that producers include some non-price promotional campaigns throughout the year. The cost necessary to design and print shelf talkers and banners is very low, but as seen, they are able to generate a positive impact on sales, especially in situations when other price promotion campaigns are not active.

In line with previous studies, the results of the checkout survey revealed that most in-store communication is not seen by shoppers (Chandon, Hutchinson, & Young, 2002). However, Chandon et al. (2009) showed that in-store marketing increases consumer attention and evaluation of brands displayed on supermarket shelves, and Soars (2003) indicated that shoppers navigate using signpost brands. This research confirmed the findings of Chandon et al. (2009), as the impact of shelf talkers was larger than banners. However, we didn't study how other forms of close-to-brand advertising (e.g. in-store-displays, bottle neck hangers, etc.) might work in comparison to shelf talkers, thus leading to potential future research projects.

A final practical remark about the conduct of in-store experiment is that these types of experiments offer realism other research approaches cannot achieve. We analysed real sales of wine, purchased with people's own money in a real shopping environment. However, in-store research has three main drawbacks. First of all, it is not possible to have the same control over an in-store experiment as we have for an on-line experiment. We might try to reduce and control for unexpected events, as we did in this study, but we cannot control for everything that is happening in a store. Very much related to this point, is the second main limitation. This type of research is quite expensive. If one wants to conduct a nationwide study like ours, it is important to budget for the costs necessary to send research assistants to all the stores where the experiment is conducted. This involves flight tickets, accommodation, car hire, meals and an hourly salary. Thirdly, in-store research takes time. Differently from online research, where data collection can be conducted in two weeks, this research had to last seventeen weeks for data collection only, as we had to register wine sales before, during and after the experiment. Finally, this type of research requires active retailer involvement, interest and collaboration. We established an excellent partnership with Vintage Cellars, and we sincerely thank and acknowledge the support we received from Grant Ramage, Lisa Graham, Lana Mai, and all Vintage Cellars' store managers involved in this research. Without their help, this research could have not been possible.

Phase 3: On-line experiment

The aim of the online survey was to test if a choice experiment with a visual shelf simulation (developed in a prior GWRDC project USA 06-01) and simulated store environment can reliably predict promotional effects observed in-store. While a prior GWRDC project could show that online choice experiments can validly predict wine market sales (Mueller, Osidacz, Francis, & Lockshin, 2010), this was the first experiment to test the predictive ability for in-store promotion. Close enough predictions of the online experiment would allow a quicker and cheaper test of in-store promotions and other changes, such as to packaging, which also would make the Australian wine industry less dependent on retailer cooperation for such research projects.

1) Simulation of retail promotion in on-line choice experiment

In the choice experiment, described in detail above, respondents had to choose the most and least preferred bottle in each choice set and had to indicate how many bottles of each wine they were willing to buy.

An index with the reference condition (no promotion) as base value of 100 was created to compare the number of bottles respondents indicated to buy across the 9 treatment conditions. Accordingly, an index value of above 100 indicates a higher number of bottles respondents were willing to buy, while values below 100 signal a lower purchase intent. Separate indices were calculated for the 12 treatment wines, the 5 non-promoted wines and all 17 wines.[1] The index of the promoted wines reflects the promotional sales effect, while the competitor wine index indicates potential substitution effects of non-promoted wines. The effect for total sales indicates the relative change over all 17 wines relative to the control (no promotion) condition.

Figure 6 shows the relative effect of the 8 promotion conditions relative to the control condition (bottom) standardised to 100. For almost all treatments promoted wines sold more units than non-promoted wines, indicating that promotions had an effect. But when comparing the purchase intent to the control condition without any promotion, then only three promotion conditions resulted in an absolute positive increase in purchase intent (regional shelf talkers word and picture without banner, and environmental shelf talker without banner). The largest effect can be observed for the regional verbal shelf talker (increase of purchase intent by +45%).

Unexpectedly, the banners did not increase the effectiveness of shelf talkers, just like in-store.

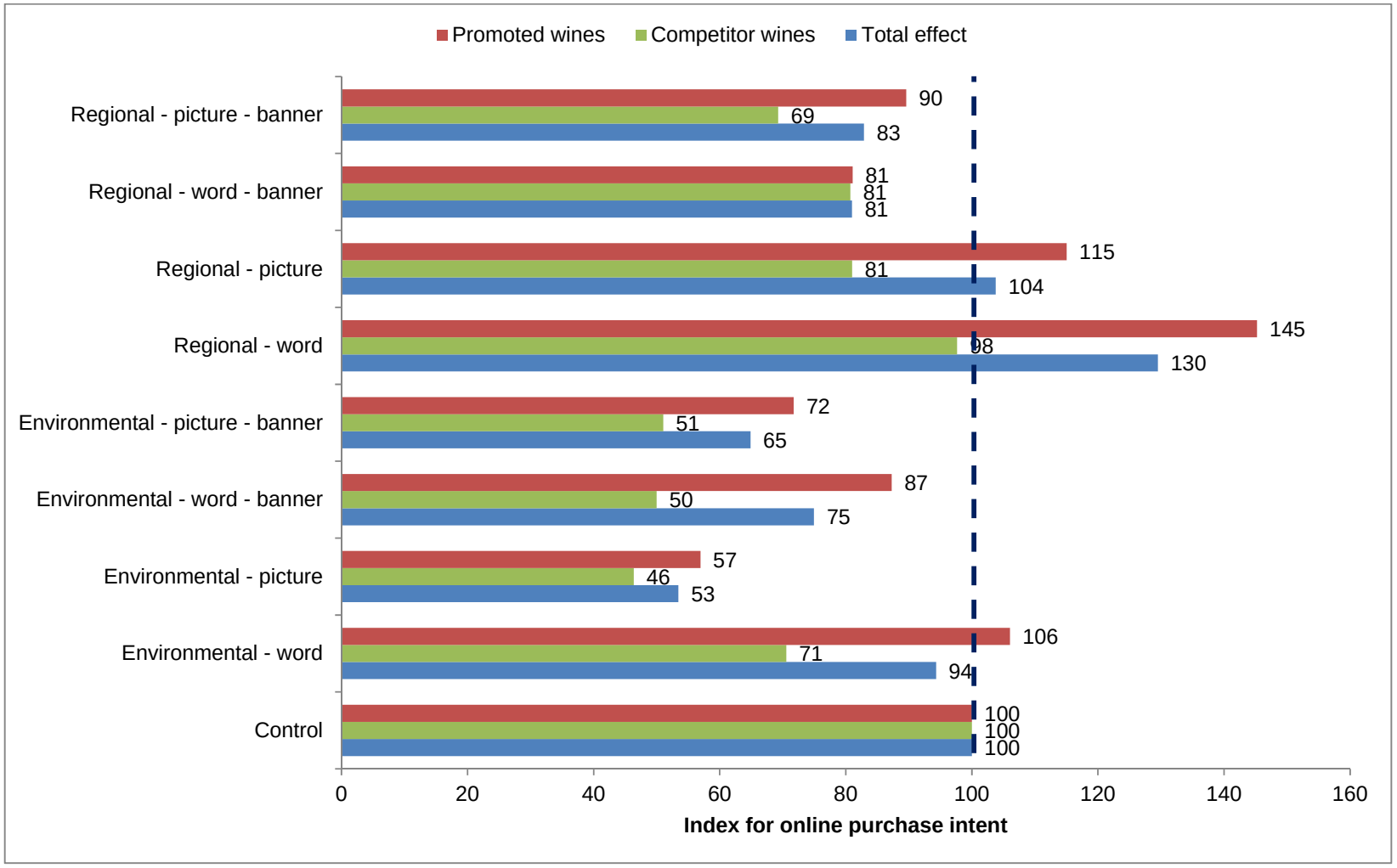
Promotions are only worthwhile if they lead to additional sales and do not (only) cannibalise the sales of non-promoted wines. The shelf simulation suggests that only the verbal regional shelf talker created sufficient sales to compensate for the substitution effect of non-promoted wines (i.e. total sales effect +30%).

[1] As specified in
Table **15**, 4 of the promoted and 4 of the control wines had to be excluded from analysis because they had been on price promotion prior to, or during the in-store experiment.

Considering the high overall predictive validity of the online experiment for in-store sales (see next section), the high agreement between the treatment effects measured in store (see Figure 5), and measured in the online experiment (Figure 6) is not surprising. As observed in store, regional verbal shelf talkers had the largest promotional effect (+45%) in the online experiment and also resulted in a clear increase in total number of bottles sold (+30%) compared to the control condition.

In parallel to the in-store experiment, we could not observe a positive effect of banners, instead across all conditions there were more wines sold if shelf talkers were not accompanied by matching banners. Because respondent allocation in the online experiment was truly random, this finding strengthened the validity of the surprising in-store observation which depended on our ability to assign stores to treatment groups, which ideally did not differ from each other.

The conclusion from the online survey agrees with that of the in-store experiment: wineries should focus on regional non-price promotion to increase sales.



Note: all values are standardised indexes relative to control condition = 100, also represented by vertical line

Figure 6: Effect of promotional treatments on promoted wines, competitor wines and total number of bottles sold

2) Predictive validity for retail purchases

The ability to predict in-store effects of non-price promotion was judged by relating in-store sales to two independent measures from the online choice experiment. Figure 7 relates an index of the number of bottles respondents were willing to buy in the online experiment (reference condition = 100) to the same index from in-store sales. Thereby each data point in the chart represents one of the nine treatment conditions. Over nine treatments we observed a high correlation of r=0.613 ($p<0.001$). The online purchase intent was able to explain 38% of the variance of the in-store sales effects. There is one outlier because the online experiment was not able to predict the very large sales effect of the graphical regional shelf talker. Removing this outlier considerably improves the correlation and share of explained variance.

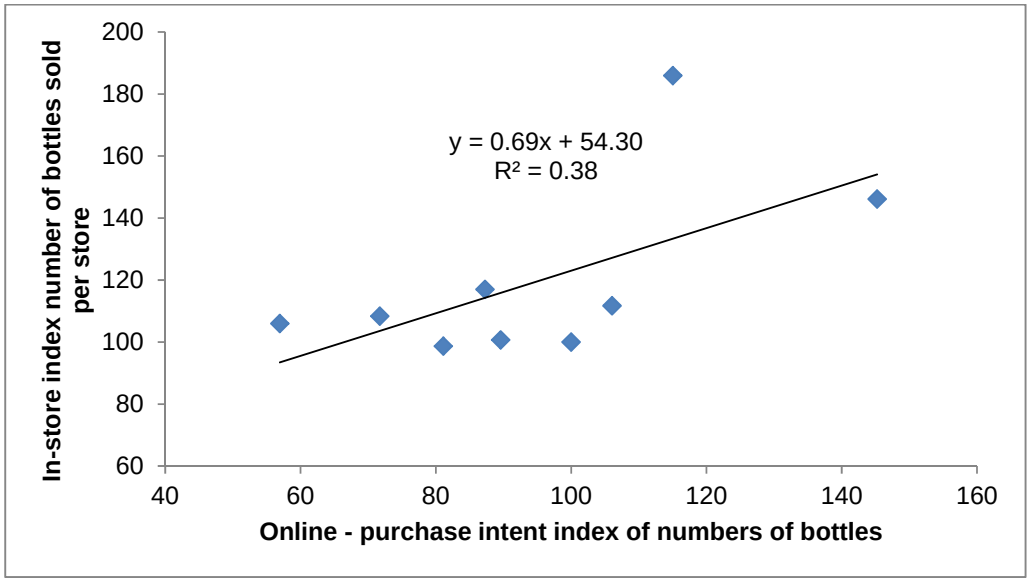


Figure 7: Correlation between online number of bottles purchase intent index and in-store sales index

Figure 8 uses a different measure taken from the online choice experiment: the number of times each wine bottle was chosen as most and least preferred in a choice set [sqrt(Best/Worst)]. These choices are even better able to predict the average number of bottles bought in-store in each of the 9 treatment conditions. The number of bottles bought in-store and the choice measure correlate at r=0.86 ($p<0.001$) and choices can explain 75% of the in-store promotion variance.

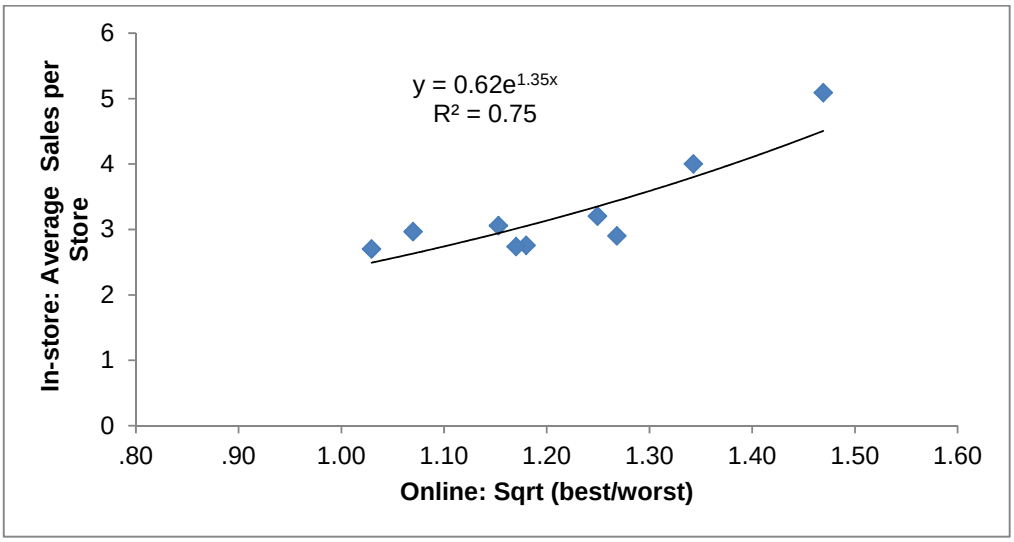


Figure 8: Correlation between online choice ratio and in-store results

3) Segmentation

Store sales data can only be segmented if they are personalised, for instance by identification at the checkout counter with a loyalty or membership card. Nevertheless loyalty card members are only a fraction of the total customer base, not covering all consumers. For our experiment at Vintage Cellars we did not have access to personalised sales data and therefore could not analyse consumer differences for in-store promotion effects.

In such a case online survey data have the advantage over in-store sales data because respondents can be segmented by several criteria. We tested a number of different segmentation schemes to find differences in how consumers react to regional and environmental promotions.

Approach 1: Differences in purchase location

It could be suggested that online choices of those respondents, who also purchase at Vintage Cellars, would be more predictive for in-store sales. For such a segmentation to be successful, Vintage Cellar buyers would have to differ significantly from wine buyers using other stores. About one fifth of the sample had purchased red wine in a Vintage Cellar store in the last four weeks. Although we found some socio-demographic differences for this group, their online choices were NOT closer related to in-store sales than the rest of the sample, which bought wine at different wine retailers.

This finding has important implications. First of all it implies that recruitment of respondents does not have to be limited to consumers of a certain retailer to predict the performance of in-store promotions across several locations (remember that Vintage Cellars locations were randomly assigned to the treatment groups, thereby minimising socio-demographic differences between treatment groups). Because proximity is the main reason why consumers

choose a wine retailer, the likelihood to use a certain store is mainly determined by its location. Therefore an online choice experiment has to aim for random recruitment for the population of wine buyers if the average effect of an in-store promotion over several locations is to be predicted. Instead, if promotional effects in a particular store are be predicted, than recruitment should take the socio-demographic profile of these suburbs into account.

Second, this unsuccessful segmentation by preferred wine retailer suggests that the promotional effect of regional and environmental information is not limited to Vintage Cellars clients, but is also likely to hold for other wine retailers listing higher priced Australian red wines.

Approach 2: Segmentation by age

Of all socio-demographic criteria age showed the largest differences in reaction to non-price promotion in choice experiments, although these differences are minor. Using a median split the sample was divided into two similarly large groups of wine consumers up to 39 years old and those 40 years and older. As for the total sample, the differences in the number of bottles respondents indicated in the treatment groups were standardised with an index relative to the control (no promotion) group (see Figure 9).

For both age groups regional word and environmental word promotions have the largest effects. There are some differences between both age groups. The first difference relates to a weaker reaction in the number of bottes bought for promoted wines. For almost all treatments older consumers show a higher index for promoted wines (red bars), indicating their stronger reaction to non-price promotion. Second, younger consumers generally buy less of the non-promoted wines, indicating a larger substitution effect. This is reflected in the shorter green bars for competitor wines resulting in shorter blue bars for the total promotional effect. Because of this stronger substitution effect for younger consumers, none of the treatments resulted in an overall positive promotion effect, i.e. all blue bars are below 100 of the control condition. In contrast, verbal regional, visual regional and environmental promotion results in an overall increase in the total number of bottles bought by older consumers.

To explore the reasons for the age related differences we analysed consumers' evaluation (liking and appropriateness) of the different promotion treatments. Generally older consumers had a slightly higher liking of the promotional information and we observed a significant difference in the appropriateness of the regional verbal shelf talker, which could explain the stronger reaction of older consumers to shelf information in this treatment condition. Interestingly, environmental concerns, which we measured on a six-item scale, was higher for younger consumers, but this group did not generally react more strongly to environmental shelf information. Only in the visual environmental condition with banner did younger consumers buy more wine than in the control condition. This finding agrees with previous research that environmental concern is not a sufficient predictor for actual purchase behaviour of environmental products (Auger & Devinney, 2007; Carrington, Neville, & Whitwell, 2010).

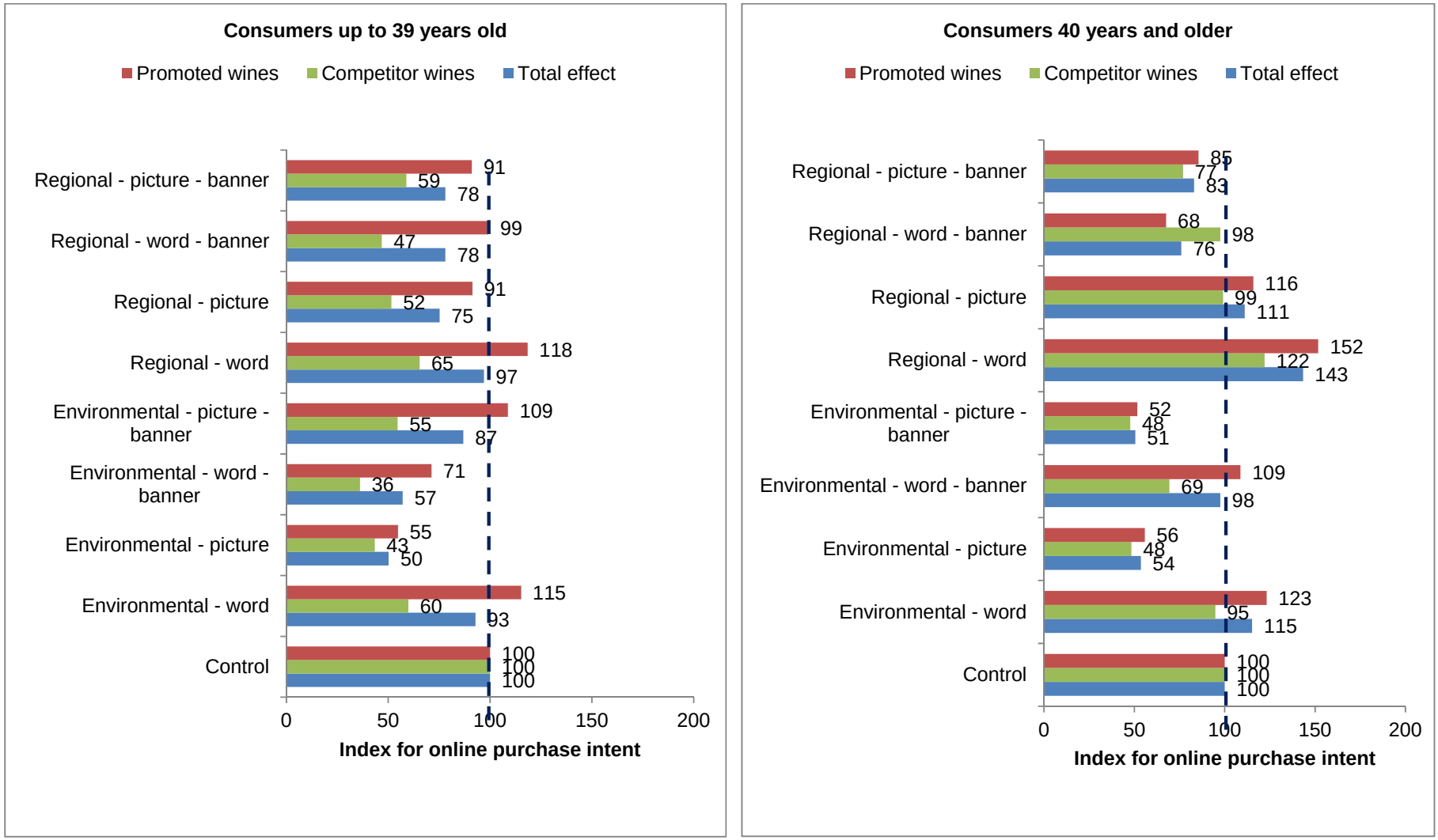


Figure 9: Segmentation promotional effect online choice by age

Discussion

When simulating in-store promotion in an online choice experiment with visual shelf simulations, we observed high congruency with actual sales effects in-store. This high predictive ability has important implications for wine marketing research. Pretesting the effectiveness of promotional material does not require comprehensive and difficult in-store testing, which is dependent on retailer agreement and takes considerable time from preparation to promotion to analysis. A comparable online experiment is designed more quickly and only takes a couple of days to few weeks to collect the data online. Also, online experiments require far less costs than a controlled in-store experiment across several states.

Online experiments allow us to quickly and easily test the effectiveness of different non-price promotion strategies in overseas markets. The advantage of online tests is particularly pronounced because the collaboration with overseas retailers is usually more difficult and travel costs are exorbitant.

While it is difficult to collect individual-level sales data in-store, online choices can be segmented by a large range of consumer characteristics. An important segmentation outcome was that online choices of Vintage Cellars buyers were not more predictive for in-store Vintage Cellars sales than of other wine buyers. This finding has important implications for market research because it implies that random sampling of wine buyers in the target price range is able to produce externally valid prediction outcomes. Marketers do not need to rely on sampling buyers at a certain store type to predict average in-store promotion effects across several states.

The largest differences we observed between consumer segments were related to age. The overall promotional effect was larger for older consumers, who to a smaller degree substituted promoted for non-promoted wines. While younger consumers also bought more bottles of successful promotions, they bought considerably less quantity of non-promoted wines. While this effect is interesting, its implication for targeting is limited because younger and older consumers largely buy in the same retail outlets.

7. PROJECT OUTCOME AND CONCLUSIONS

Project performance against planned output

The following tables list performance targets as outlined in the project contract and later contract amendments.

	Outputs	Performance Targets	Performance
1	Consumer-based country images related to wine quality, wine style, sustainability, traceability, quality control for Australia and key competing wine producing countries.	- Organization of Advisory Group and liaise with AWBC - Select countries - Develop survey - Administer questionnaire in 5 key markets - Analyse data	Completed and published in conference and journal publications
A	Sales impact of retail promotion program: Australian A+ and regional Australian wines; promotion of sustainability (Entwine) in an Australian wine retailer. Test ability of online experiments to predict effect of in-store promotion.	- Liaise with Mr Dean Robinson, Head of Coles Liquor and the advisory group to: design experiment, develop graphics, successively run experiments with panel provider and in matched retail stores. - Analyse sales records prior, during and after retail promotions. - Analyse online experiment results.	Completed
B	Detailed results and recommendations for an Australian-based retail trade program that will enhance the sales or price premium paid for regional Australian wines.	Detailed analysis of results. Presentation of findings to the advisory board and the GWRDC. Development of simulations to test retail activities to maximise outputs.	Completed
C	Trade articles and presentations of key results. Segmentation of consumers responding to regional and environmental claims. Available to present to conferences or other trade events, or to key retail groups.	Additional analysis of the data, including segmentation and simulations of programs aimed at different segments and recommendations for next stage of implementation, including overseas recommendations.	Completed Trade article submitted for publication

Assessment of practical implications

Trade mark

This study found the majority of consumers across important export markets have low importance for environmental sustainability and traceability in choosing wines. Also Australian wine was found to benefit from an overall positive image regarding taste, quality, price-value and environmental sustainability with the exception of high food miles in European markets. Results from the first part of this project suggest a limited potential for an Australian trademark combining quality control, environmental sustainability and traceability.

Regional and environmental retail promotion

In-store analysis confirmed that the closer an advertising message is to a product, the higher is the impact on consumers' choices. In particular, our study found that regional messages had a larger effect compared to environmental messages. Secondly, verbal shelf talkers tended to have a slightly larger effect than verbal ones, although visual logos were not known prior to the test and are likely to become more effective if widely promoted. Third, we found banners did not increase the effect of shelf talkers on wine sales. Finally, when assessing the effect of non-price promotions, one has to take the negative substitution effect on non-promoted wines into account. Only regional shelf talkers showed an overall positive sales effect where the positive promotion effect over-compensated the negative substitution effect for non-promoted wines.

In-store research offers the highest level of realism for consumers' studies. However, they require more time, are more expensive, do not allow researchers to have full control of what is happening in a store, and require retailer's interest, involvement, and collaboration.

Ability of online experiments to validly predict in-store retail promotion effects

Online choice experiments were confirmed to have a high external validity to predict effects of in-store promotion campaigns. They are a particularly suitable market research method to pre-test promotional campaigns in domestic and international markets. Online experiments are quicker, cause less costs and are independent of retailer collaboration.

Benefits from the Project

Economic benefits

The major economic claim for this research is that it linked together two industry organisations, which were planning a new trust mark label under one project that benefits the whole Australian wine sector. Neither the AWBC nor Wine Australia had in their budget the funding to do proper market testing of these programs. The Ehrenberg Bass Institute of Marketing Science has developed methods along with the Centre for the Study of Choice using GWRDC funding. These methods are easily and efficiently applicable to a project of this sort. The overall cost was much less than commissioning this research commercially for two reasons: no new methods had to be developed or explained; and much of the development costs were provided as 'in-kind' by UniSA. Our estimate is that to replicate this project commercially would cost more than double our estimated project cost. Most likely the WFA and Wine Australia would either not conduct the research and forego first mover and networking advantages, or they would fund a very cut down version that would not have the ability to accurately measure consumer response to both labelling and communication programs.

The project has confirmed that properly conducted online tests can validly predict in-store sales. Online tests have a large number of economic benefits as they are cheaper and quicker to conduct and do not require active retailer collaboration. This finding will allow the Australian wine industry to cost-efficiently conduct online research and trust in the findings to reflect valid market predictions.

Environmental benefits

The environmental benefits of this project revolve around the ability to make specific claims and have consumers both be aware of them and be influenced by them. The Australian wine sector is investing large amounts of money through its organisations and through individual companies to develop environmentally responsible practices as well as strong compliance and label integrity. These practices help everyone in the long term, but without buyer recognition of these practices, Australia may lose at the cash register to countries and companies that have invested in the communication of their 'trust mark' practices. The benefit of this project was in understanding what the impact of our development will be in sales and margin. This will allow a better allocation of resources in the future.

The results of this project suggest that consumers respond considerably stronger to regional than to environmental messages. There are two implications from this. First, current marketing of high-priced Australian wine should focus on regional claims to use existing consumer valuation of regional characteristics. Second, Australian wineries will need to invest into long-term communication to positively influence associations and valuation consumers have for environmental claims. Given our findings, this may not be able to repay the financial investment in promotion and communication programs. We also found that wine

buyers in key expert markets already believe Australia is growing wine in clean and well cared for environments.

Social benefits

The social impact of this research is easy to explain. The benefits from large-scale investment in environmental and product safety practices are multiplied when buyers actually are aware of them and incorporate them in their purchasing. In this way R&D can lead to actual changes in consumer behaviour. The part of the project focusing on the efficacy of communication strategies to change behaviour leads to an important social benefit. If we can understand what kinds of communications motivate consumers to first be aware of 'trust mark' benefits and then to change their behaviour to purchase these products, we can then implement such communications efficiently and effectively. This project tested different claim contents (environmental vs. regional), different presentation formats (verbal versus visual) and at the same time potential communication techniques, such as shelf talkers and banners, as advised by the participating industry organisations.

8. RECOMMENDATIONS

Regional promotion has the largest effects

For domestic consumers Australian wineries and Wine Australia should focus on regional rather than environmentally sustainable promotion and communication. Both in the in-store promotion and in the online choice experiment, regional promotion had a higher impact than environmental communication.

Marketing required for visual logos and messages

We observed slightly larger promotional effects for verbal than for visual promotional messages. Although visual logos were selected based on pre-tests, they were not known to consumers and consumers did not have any prior associations. In the worst case some consumers might have interpreted them ambiguously. Similar to brand logos, any visual message has to be communicated heavily in national campaigns over time to create awareness, understanding and mental associations. These activities are likely to increase their promotional effectiveness.

Contrary to expectations, we did not observe an augmenting promotion effect by using in-store banners parallel to shelf talkers. This could have been because of the low effectiveness of unknown visual promotions, which were not able to trigger strong consumer associations, or that consumers are more focused on getting into the store, rather than reading material at the entrance.

Quantitative impact on sales

The largest impact of non-price promotion we observed in store (+52% of total sales, +84% sales promoted wines) is lower than comparable price-promotion effects. Therefore these effects will not justify retailers to completely change the strategic approach they have towards promotional activities.

Given the very low cost associated with the design and printing of promotional material similar to the one adopted in this research, it is suggested that producers or associations of producers discuss the opportunity to conduct non-price promotions during the year. This will not just have the benefit of increasing producers' and retailers' margins compared to selling a product at a discounted price, but will also help reduce the negative effects of price promotions.

Use online choice experiments to predict sales effects

Our research confirmed that online choice experiments are a powerful tool for marketing research. Results from choice experiments simulating wine choice in virtual shelves were strongly related to promotional effects observed in-store. Contrary to in-store tests, choice experiments require considerably less cost, time and retailer

collaboration than in-store tests. This echoes previous research conducted using GWRDC funding, where online choice was highly correlated with scan data for wine sales. Future research should employ online choice experiments to test the effectiveness of various marketing interventions in store.

Random samples predict better

It is sufficient to randomly sample wine consumers, who frequently purchase in the target price range to predict average promotion effects across several states. It is not required to sample users of one specific wine retail chain (e.g. Vintage Cellars) to predict the effectiveness of in-store promotion in this chain.

Target segments

We observed very few differences between pre-specified socio-demographic consumer groups in the effectiveness of promotion campaigns. This suggests that promotional campaigns should not target specific consumer groups but rather aim for wide distribution.

Further research required overseas

Testing the effect of regional and environmental promotion was limited to domestic consumers, who because of proximity are considerably more familiar with Australian wine regions than overseas consumers. Results from this study can therefore not be easily transferred to marketing Australian wines in overseas markets.

The first part of the project, measuring the importance of wine attributes on five overseas markets, also resulted in a higher importance of regionality over environmental sustainability. It should be considered though that in this first survey regionality was not limited to Australian regions consumers are usually less familiar with than with regions from closer markets (e.g. French regions are usually better known in European markets).

APPENDIX 1 – COMMUNICATIONS

The following table lists all project related communications ordered by time. The first column indicates those communications enclosed in the final report.

	Type	Topic	Audience	Location	Date
	Advisory group	Project planning meeting	Paul Henry, AWBC	Wine Australia, Adelaide	28/06/2009
	Presentation	Results from five country study on attribute importance	AWBC, WFA	Wine Australia, Adelaide	12/03/2010
	Conference paper & presentation	The relative importance of sustainability, quality control standards and traceability for wine consumers: a cross-national segmentation	Marketing scientists	Australian and New Zealand Marketing Academy, Christchurch (NZ)	01/12/2010
x	Conference paper & presentation	Competition between and competition within: the strategic positioning of competing countries in key export markets	Wine marketing scientists	6th Academy of Wine Business Research International Conference, Bordeaux	10/06/2011
	Conference abstract & presentation	Cross cultural segmentation of Best-Worst Scaling data: an application into assessing the importance of food characteristics	Food consumer research scientists	9th Pangborn Sensory Science Symposium, Toronto	5/09/2011
x	Journal paper	Testing the robustness of best worst scaling for cross-national segmentation with different number of choice sets	Food consumer research scientists	Journal: Food Quality and Preference	Accepted 3/02/12 in press
	Presentation	Results from the in-store experiment	AWBC, WFA	Wine Australia, Adelaide	20/02/2012

Copy of published communications

Corsi, A., Lockshin, L., & Mueller, S. (2011). *Competition between and competition withing: the strategic positioning of competing wine producer countries in key export markets.* Paper presented at the 6th International Conference Academy of Wine Business Research, Bordeaux.

Mueller Loose, S., & Lockshin, L. (2012). Testing the robustness of best worst scaling for cross-national segmentation with different numbers of choice sets. *Food Quality and Preference*(0). doi: 10.1016/j.foodqual.2012.02.002

APPENDIX 2 – IP STATEMENT

There is no specific intellectual property developed from this research project.

All the methods developed were based on publicly available research in economics, and marketing. The combinations used in this research were new, but all methods are provided in published articles.

APPENDIX 3 – REFERENCES

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APPENDIX 4 – STAFF LIST

The following persons were involved in the project:

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APPENDIX 5 – BUDGET RECONCILIATION

End of project financial statement