A STUDY OF AUSTRALIAN WINERY WEBSITES

by

Robyn Davidson

School of Commerce, Flinders University
G.P.O Box 2100, Adelaide, South Australia, Australia, 5001
Robyn.Davidson@flinders.edu.au

Abstract

This paper presents the results of a study that evaluated 260 Australian winery websites. It gives a picture of where Australian wine industry website development is in terms of content and design issues. The criteria used to evaluate the websites were designed based on previous works published in the e-commerce literature, and after consultation with personnel in the web development and winery industries. This study is part of a larger research project that aims to bridge the gaps between managers' beliefs about customer requirements, the actual design and operations of the website, marketing of the website, and customers' actual requirements.

Keywords

Internet commerce, website design and evaluation framework, wine industry, gap analysis

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Introduction

The intention of this research was to evaluate a sample of Australian winery websites. The purpose of the evaluations was to ascertain exactly what wineries are providing on their websites. The evaluations considered both content and design issues. This research on its own provides a picture of the development of winery websites at this point in time. However, its main use will be in a broader study. The main research involves identifying the information, design, and communication gaps, which will give rise to the extent and possible causes of the fulfilment gap. The fulfilment gap represents the overall discrepancy between a customer's requirements and experiences. Ziethaml, Parasuraman, and Malhotra's (2002) conceptual model of understanding and improving e-service is used as the basis of the main study. This paper describes the first part of this larger research project. The justification for the research, method and design follow. In addition, the results of this study are compared to previous studies of this nature; recommendations for further research; and the contribution of this research are given.

Justification for research

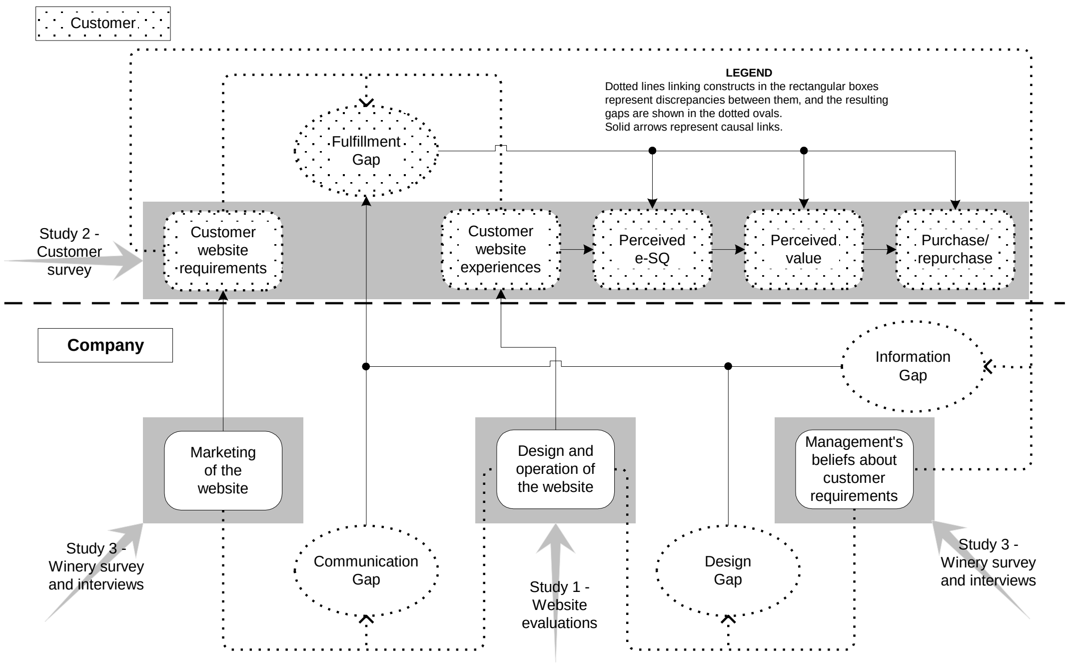
The wine industry is important to the Australian economy and it is rapidly growing. In 2003 the number of wineries in Australia increased by 11% from the previous year, and there are now over four times the number of wineries that there were in the early 1980s. After accounting for closures, the wine industry has gained a new wine producer every 61 hours over the past three years. With an increasing number of wineries, there is also an increase in production. The 2002 vintage was a record 1.65 million tonnes, up 19% from the previous year, and although production was down slightly in 2003, due to difficult seasonal conditions, it is still up from previous years. The majority of Australia's wine producers are small; 86% crush less than 500 tonnes. By comparison, the five large wine groups (Southcorp Wines, BRL Hardy, Orlando Wyndham, and Beringer Blass) dominate the industry crush with 1.06 million tonnes, or 78% of the national total. In fact, the top 22 wine companies (parent companies and their subsidiaries) account for 94% of the total sales. This leaves the remaining 1,600 Australian producers to compete for a market share of only 6% (Winetitles, 2004). Given that the large wineries have such a huge market share, they also have a big advantage in terms of distribution and more influence with the major retail chains so the smaller players need to look at other, less traditional routes to markets such as the Internet (ACIL Consulting, 2002). The Internet is seen as the new way to do business, and a popular belief has been that it will be necessary for organizations to embrace this new technology if they are to gain a competitive advantage and prosper (Goodman, 2002; NOIE, 2000). This has led to a dramatic increase in the number of wine producers adopting a Web presence over the past few years. The number of wineries with websites is increasing; 58% of companies now have a website, compared to 37% two years ago (Winetitles, 2004). With this rapid uptake, and given that the majority of Australian wineries are small family run businesses, it is not surprising that organisations like the South Australian Centre for Innovation, Business and Manufacturing (a government initiative with the role of helping businesses to achieve their goals) are often asked the question "how can I use the Web to help my business and what should I put on a website?" (D. Monck, personal communication, July 23, 2002).

A comparison of data collected from the main study, (customer survey, website evaluations, winery surveys and interviews) will provide evidence and possible reasons for any fulfilment gap between the customer and the company. Once the fulfilment gap is known, wineries can work towards closing it. This will make a visit to the website more fulfilling for the customer and give the winery a more effective Web presence. The resultant website design and evaluation framework will provide wineries with a tool that will assist them to create a new, or improve an existing, Web presence.

Research design and method

The broader research study aims to conduct a gap analysis of the Internet commerce activities of Australian wineries based on Zeithaml, Parasuraman, and Malhotra's (2002) conceptual model of understanding and improving e-service (Figure 1).

Figure 1: Conceptual Model for Understanding and Improving e-Service Quality



Source: Adapted from Ziethaml et al., 2002

This main study involves finding out what gaps exist, if any, and possible causes for these gaps, between what the customers' requirements are and the customers' actual experiences. This involves finding the information gap – which represents the discrepancy between customers' requirements concerning a website and management's beliefs about those requirements; the design gap – which represents the failure to fully incorporate knowledge about customer requirements into the structure and functioning of the website; the communication gap – which represents the inflated or inaccurate promises about a website made through traditional media and on the website itself; and hence the fulfilment gap – which represents the overall discrepancy between a customer's requirements and experiences. In order to discover these gaps three separate, yet related, studies will take place. These are:

1. An evaluation of existing winery websites.
2. A survey of customers.
3. A survey and interviews with winery management and marketing personnel.

An analysis of the results obtained from these data collections should ascertain the extent and causes of the above-mentioned gaps. The shaded boxes and notation in Figure 1 indicate where the above studies fit into the model.

The population consists of Australian winery websites. Data obtained from Winetitles (2002a) on the 13th December 2002, in an Excel spreadsheet, contained (inter alia) the names of all wineries in Australia and the URLs for those with websites. This spreadsheet is an electronic form of the Australian and New Zealand Wine Industry Directory (Winetitles, 2002b), which is considered to be the most complete source of data regarding the wine industry. While the directory is published yearly, it is updated continually as data comes to hand, therefore, the spreadsheet file obtained on the 13th December 2002 contained the most up-to-date data available at that time. At this time there were 1,577 registered wineries in Australia with 849 of them listing URLs. From these 849 wineries, 39 were eliminated due to missing information. The missing information was either the size of the winery or its geographical region. In addition, a further 14 wineries listed more than one geographical region. In some cases these regions covered two states. As each winery needed to be classified into one region only, these wineries were also eliminated. This left a sampling frame with 796 members.

To determine an acceptable sample size Krejcie and Morgan's (1970, cited in Cavana, Delahaye & Sekaran, 2001, p.278) 'sample size for a given population size table' was used to determine that a sample size of 260 is appropriate for this population. The stratified sampling technique was used as that increases a sample's statistical efficiency; provides adequate data for analysing the various subpopulations; and enables different research methods and procedures to be used in different strata (Emory & Cooper, 1991, p. 266). The sampling frame was divided into strata based on size and geographical location of the winery to ensure that all size wineries from across Australia are fairly represented.

A number of tests were applied to ensure the reliability and validity of the results. A test-retest reliability test was used to ensure stability. The researcher repeated evaluations of 20 websites six months after the initial evaluations. The results from these evaluations were compared to the original results. A test-retest coefficient of 92% was achieved. In addition, 89 student research assistants each evaluated one website, the results of which were compared to the researchers original results. A reliability coefficient of 83% was calculated. Both of these coefficients are acceptable as they are above Wimmer and Dominick's (1991) recommendation of 75%.

A parallel-form test was also conducted where different sets of data were checked for inconsistencies (Cavana et al., 2001). For example, if on-line ordering was not available, then the questions referring to on-line orders should have been answered 'not applicable'. Furthermore, conducting the evaluations was not a simple task of working through a checklist in a linear fashion. The sites had to be searched, often over several pages, to find the required information. This non-linear approach caused some values to be overlooked in the initial evaluation. Therefore, sites that had missing values were revisited and reevaluated.

Face validity was achieved by ensuring the researcher had a clear understanding of the conditions that must exist to yield a certain response for each variable (Cavana et al., 2001). Coding rules were devised that clearly stated what was required for each response. The majority of variables required a yes or no response, so the coding rule stated what had to be present to give rise to a yes response. If further clarity was needed an example was also given.

Content validity ensures that the measures include an adequate and representative set of items that tap the concept. Cavana et al. (2001) suggests that this can be achieved from the literature, from qualitative research, and from the judgment of a panel of experts. In this study a comprehensive range of sources was used to formulate the framework upon which the evaluations were based. This included a literature review, preliminary qualitative research, and consultation with industry and academic personnel.

The data were entered into SPSS at the time of the evaluations, hence minimising human error in transferring results at a later time. These data were analysed using SPSS to present a picture of the level of development of websites and to determine if there are any differences or correlations between the level of development of the website and winery size. This took the form of frequency tables, cross-tabulated tables, and charts. Pearson's Chi-Square test was used to test for significant relationships between variables. In instances where Persons Chi-Square test assumptions were violated, because some cells had less than the expected count, Fisher's Exact test was used.

Results

To record the complete results in detail far exceeds the scope of this paper. A summary of the results, attributes with significant relationships, and points of interest are given here. No attempt is made to explain the results although the reasons may be obvious in some cases. Later stages of the broader research study will provide empirical evidence to explain the reasons for any significant relationships and answer any further questions. The following subheadings refer to the categories and sections in the evaluation framework.

Company Information: Company Details

Company details were well represented, however, a contact name was not provided on 139 (61%) sites.

Company Information: Geographical Location

The location of the winery was indicated on the majority of sites (224 sites, 98.2%), however, the official geographical region was not always evident. Unless the user has a good knowledge of towns in winery regions, and can recognize towns such as Baskerville to be in the Swan Valley, or Eden to be in the Barossa Valley, then it is not always evident where the winery is located.

Company Information: Investor Information

Only seven (3.1%) wineries provided financial reports. There was a significant relationship between size and this provision, with only six large and one medium winery providing this information.

Product Information: Wines

The majority of sites provide a description (199, 87.3%), tasting notes (195, 85.5%), and price (144, 63.2%) of the wines available. Fewer sites provided technical notes (68, 29.8%) and very few provided a tasting chart (4, 1.8%) or a bestseller list (1, 0.4%). There was a significant relationship between size and the attributes wine description, technical notes, and reviews, with medium and larger wineries more likely to provide these. The researcher’s observation was that the larger the winery the more detailed these descriptions became. Conversely, there was a significant relationship between size and provision of price, with smaller wineries more likely to provide the price.

Sales and Ordering: Cellar Door Tasting and Sales

The main observation that came from the cellar door tasting and sales section was that, of the 141 (61.8%) sites that promoted cellar door tasting and sales, 41 (29% of the 141 sites) failed to give the opening hours and 61 (43% of the 141 sites) did not give a map. In addition, 39% of those companies that do list having cellar door sales in the Wine Industry Directory (Winetitles, 2002a) fail to even mention it on their websites.

Sales and Ordering: External Distributors

Eighty-seven (38.2%) wineries provided the name of external distributors with lesser numbers providing further details. Generally, the larger the winery the more likely it is to provide distributor information and provide this in greater detail.

Sales and Ordering: On-Line Orders

Seventy-one (31%) wineries provide the facility on their website to take wine orders on-line. There is no significant relationship between winery size and this function. However, between 30% and 35% of micro, small and medium wineries provide such facilities compared to only 13% of large wineries.

Facilities promoting retail sales of wine to other countries was noticeably absent, with only a few sites providing export freight prices (4, 5.6%) and a currency converter (2, 2.8%). Only five sites (3.2%) provided their content in a language other than English. There was no relationship between winery size and this provision, with small wineries accounting for two cases and micro, medium and large wineries accounting for one case each.

Approximately 25% of the sites that allowed on-line ordering were of the sophisticated shopping cart type. These had good form validation techniques and gave a detailed confirmation of the order placed. In addition, these sites were more likely to facilitate secure on-line payment. The remaining sites had simple forms, ineffective or no validation, simple thank you confirmation pages, and less secure and or off-line methods of payment.

Only two (2.8%) companies promoted similar products to what was being ordered. For example, when placing an order for a sweet white wine, the purchaser is presented with information on other sweet varieties that are also available. No wineries promoted complementary products. The wineries that promoted similar products were medium and large in size.

Sales and Ordering: Customer Service

Very few wineries provided additional customer service items. Accessories such as clothing promoting the winery, glasses and corkscrews were offered for sale by 12 (5.3%) of the companies surveyed. A smaller percentage offered wine in gift boxes (7, 3.1%), food and wine packs (6, 2.6%), personalized labels (3, 1.3%), and a corporate gift service (1, 0.4%).

Only two of the 151 sites that provided any sort of ordering facility offered a way to check the status of the order on-line, or gave a choice of delivery methods.

Of the 151 wineries who have on-line ordering, 125 (82.8%) allowed mixed orders to be placed, whereas the remainder restricted orders to case lots of the one variety. In addition, at least half of the wineries didn't accept orders for anything smaller than case or half-case lots. An accurate figure for this was unobtainable, as the minimum size for an order was not always specified on the site.

Only 22 (14.5% of 151) wineries offered some kind of loyalty discount, this was usually a discount to members of their wine club who purchased a minimum amount each year. No indication was given on the remaining sites, so it is assumed that such discounts are not available. No sites advertised that a surprise bonus or discount would be received on ordering.

Sales and Ordering: Off-Line Orders

Just over half of the wineries (128, 56.2%) offered an alternate way of placing orders other than on-line. The most popular method of ordering was posting or faxing a supplied order form (78, 34.2%), while the least preferred methods were placing an order by email (8, 3.5%) or by telephone (4, 1.8%). Thirty-eight (16.7%) wineries offered a choice of the above methods.

Of the 103 wineries that provided an order form, 41 (40% of the 103) had a form that could be filled in on-line before printing it. Of those 41 forms, approximately half had some form of script that automatically calculated the price and/or freight. There was a significant relationship between providing an ordering method and size of the winery. Generally, an off-line ordering facility of some kind is more likely with the smaller wineries.

Content, Organisation and Timeliness: Content

The majority of sites (215, 94.3%) clearly indicated the name of the business and that it is a winery. However, 13 sites (5.7%), didn't clearly say to the viewer "This is the XYZ winery website."

The company name was in the title bar of the web page more frequently than the page description, 177 (77.6%) times compared to 85 (37.3%). There was a 'contact us' link on every page of 164 (71.9%) sites making it easy to contact these companies. However, the practice of placing the Web address on each page as a source of information should the page be printed was practically non-existent with only four (1.8%) sites doing this.

Home pages generally (127, 55.7%) consisted of the winery name and logo, a navigation menu and some introductory text. Some (85, 37.3%) had this without the introductory text. Very few (15, 6.6%) provided just a name and a logo, which linked to a secondary home page that contained the main menu. One company simply had a one-page site with its name and logo on it. One site, also a one-page site, just had a summary of the business on it.

Just over one third of the sites (85, 37.3%) did not conform to the ideas expressed by Nielsen (2000) and Yale (2003) that web pages should be kept short. These sites had pages that were more than three screens long.

Content, Organisation and Timeliness: Organisation

Most websites (203, 89%) adhered to what is considered good practice in screen space usage where 80% of the screen is devoted to content and 20% to navigation (Nielsen, 2000; Yale, 2003). Eight sites (3.5%) consisted of one page only, and thus had 100% content.

On 178 (78.1%) occasions the winery site came up as the first choice in the search engine results list. Twenty sites (8.8%) were not found in the top 20 results listings. However, of this 20, 12 were found by following links from other pages that were in the top ten results list. These links were from tourism or wine association sites.

Just over half the sites had pages that were a fixed size. The majority (85, 37.3%) were designed for a medium sized screen, 37 (16.2%) for a small screen, 7 (3.1%) for large, and 2 (0.9%) for a very small screen. The remaining sites had pages that would adjust for different size monitors. Adjusting for small, medium, and large monitors was the most prevalent (41, 18%) followed by adjusting for all sizes (32, 14%), and then adjusting for medium and large only (24, 10.5%). Sites that are designed for a screen larger than what is being used to view the page are very annoying, as it requires the use of horizontal scrolling.

One hundred and forty-two (62.3%) of the sites had pages that were printer friendly. That is, the complete page printed without parts being omitted. The remaining 86 (37.7%) had lines of text or images that didn't wrap to the next line for printing, which caused incomplete sentences to be printed.

Content, Organisation and Timeliness: Timeliness

Very few sites complied with the practice of inserting the date of when the site was last updated. Only 13 (5.7%) had the date on all pages of the site, 26 (11.4%) had a last updated date on at least one page, either the home page or some other, while on 189 (82.9%) of the sites there was no indication at all as to the age of the content.

Download times ranged from 3 to 134 seconds with a mean of 28 seconds. Only 21 sites (9.2%) had a download time of Nielsen's (2000) recommended 10 seconds or less. The majority of sites (196, 85.9%) fell within the 11 to 60 second range.

Content, Organisation and Timeliness: Security and Privacy
There was a distinct lack of security and privacy information given on the websites. The few sites that did provide information (security: 20, 8.8%, and privacy: 27, 11.8%) mainly did so in a comprehensive manner. Of the 71 sites that collected customer information via on-line ordering only 9 (12.7%) provided a comprehensive security statement, while 7 (9.9%) provided a simple statement. Of the 157 sites that did not provide an on-line ordering facility, 4 (2.5%) provided a statement about security.

Value-Added Features: News / Information

The elements in this section were not well represented on the surveyed websites. Sixty-eight (29.8%) provided press releases, 49 (21.5%) new product announcements, 12 (5.3%) special offers, four (1.8%) employment opportunities, and no sites included a best buys list. There was a significant relationship between winery size and the presence of press releases and new product announcements. The larger the winery the more likely these were to be present.

Value-Added Features: General Information & Features

Sixty-four (28.1%) wineries provided information about the winemaking process; 17 (7.5%) wine storage information; 116 (50.9%) wine aging information; and 101 (44.3%) complementary food information. There is a significant relationship between winery size and the provision of this information. The larger the winery the greater the likelihood of this information being provided.

One hundred and twenty (52.6%) sites provided information on wine show awards won. There was no significant relationship between size and the provision of this. Between 38% and 67% provided this information for each size category with the larger wineries providing the higher percentage.

The majority of sites (190, 83.3%) did not provide some form of visual virtual tour of the winery. While these sites may have provided some photographs of the winery it was not considered by the researcher to provide prospective viewers with a good overall look at the surrounds. Of those that did provide a visual virtual tour, only one site (0.4%) provided a video clip, four (1.8%) provided 360-degree images, and 33 (14.5%) provided a photo galley. Smaller wineries are more likely to have a photo gallery rather than employ more technical innovations such as video clips and 360-degree images.

Tourism was promoted in some way on 60 (27.6%) sites. The main method was to have links to external sites (43, 18.9%), followed by information given on-site (17, 7.5%), or a combination of both. The relationship between the provision of this information and size was not significant. On-site accommodation was provided and promoted on 26 (11.4%) sites. There was a significant relationship between the winery size and the provision and promotion of accommodation. Generally the smaller the winery the more likely it is to provide accommodation. No large winery provided accommodation. The majority of sites did not promote having an on-site restaurant (186, 81.6%). While there was little relationship between winery size and on-site restaurant information given, the figures indicated a trend towards the smaller wineries being more likely to provide this than the larger ones. This is similar to the provision of accommodation information.

Ten wineries (4.3%), provided a “Frequently Answered Questions” section on their sites. All, except one, were well organized and structured. There was no relationship between this provision and the winery size. The percentage from each of the smaller size ranges was fairly evenly spread between 2.4% and 3.3% with large wineries having 12.9%.

Only 28 (12.3%) wineries provided a members’ or wine club. This took the form of merely signing up for no cost or commitment and then receiving a discount for any wine purchased (15, 6.6%), or joining a wine club where there is a commitment to purchase a certain amount of wine. There were two types of club plans on offer. One involved paying a set amount for a regular delivery of the winery’s choice of wines (e.g. six each of a red and white wine); nine (3.9%) wineries participated in this type of club. The other type of club had different plans and prices so that the member had a choice of what sort of wine they required. This also involved the commitment to purchase a set amount over a period of time. Only four (1.8%) offered this facility. There was no relationship between what was offered and winery size, with a fairly even spread over the size categories.

Approximately one third (81, 35.5%) of the surveyed sites provided an electronic newsletter. These newsletters were provided on-site and, in some cases, there was the facility for the user to subscribe by placing their details on an emailing list. The larger the winery the more likely it was to have an electronic newsletter.

The majority of sites did not provide a chat room or bulletin board where the user could converse with either the winemaker or other users. Only two (0.8%) sites provided this facility; one medium winery allowed interaction with the winemaker, whereas one large winery had the provision for other users to post comments as well as giving responses by the winemaker.

Very few wineries offered some form of contest or give-aways in order to entice the user to purchase their product. Only eight wineries (3.5%), spread evenly across the size ranges, offered an inducement to purchase their wines. One winery, for example, offered a monthly prize for a photograph of their wine being consumed in the most unusual place. No relationship with winery size exists.

Navigation

By far the most common type of menu structure was the breadth emphasising design, where there is one main menu that is visible from every page. This was the preferred method of navigation on 202 (88.6%) of the sites surveyed. Very few wineries (4, 1.8%) used a depth emphasising design such as the breadcrumbs method. Some wineries used the more advanced breadth and depth design (12, 5.3%) where subsequent levels of navigation menus pop up as the cursor is moved over menu items. A number of wineries (54, 23.7%) also made use of a primary and secondary menu structure. The only significant relationship between any of the elements in the navigation section and the size of the winery occurred with the breadth and depth design, and primary and secondary menu variables. In these instances the larger wineries were more likely to incorporate these more advanced methods of navigation.

The presence of a site map to assist in navigation and illustrating the structure of the site was absent in 216 (94.7%) sites. Those wineries that did provide maps of their sites were useful to varying degrees. Seven maps (3.1%) indicated what pages had already been visited; one (0.4%) simply indicated what page was last visited which had the link that brought you to the map; and four maps (1.8%) were simple static lists of pages with no indication at all of what other pages had been visited.

Search facilities were available on only 11 (4.8%) of the sites. These searches were restricted to the winery site itself. No sites had a link to an external WWW search. Of those 11 sites that did provide a search facility, five of them also provided more advanced searching capabilities.

Just over one tenth (28, 12.3%) of the surveyed sites contained broken links, whereas only 10 (4.4%) had sections that did not function and returned error statements. Sixty-six (26.3%) sites did not provide a way of easily returning to the home page once the site was entered. Just under half (96, 42.1%) of the sites surveyed conformed to using standard link colors and very few (6, 2.6%) implemented the use of link titles to assist the user in navigating. However, lack of link descriptions is of less importance when the actual link text itself is self-explanatory and 206 (90.4%) sites used meaningful link descriptions. Of those sites that had links to external sites the majority were links to places of relevance to the winery, (e.g. local tourism, accommodation, or other wine related sites); only two (0.9%) sites included irrelevant links.

While the use of frames has its advantages and disadvantages, Nielsen's (2000) suggestion that frames should be avoided has not been followed by 71 (31.1%) wineries.

Aesthetics

Sites were generally considered to be aesthetically pleasing (118, 51.8%) with 70 (30.7%) being judged as OK but could be improved and 40 (17.5%) rating not aesthetically pleasing. There was not a significant relationship between aesthetically pleasing and size, although the smaller wineries did figure more in the not aesthetically pleasing sites.

Generally, most sites used the same branding and or logos on every page (205, 89.9%) and the option to view pages in text only was virtually non-existent. Only one (0.4%) site gave this option.

The font size wasn't fixed on 153 (67.1%) of the sites, leaving 75 (32.9%) with a fixed size, which may inhibit visually impaired users. Not many sites used some form of special effects (18, 7.9%), for example, a 'flash' introduction sequence. Of those that did, 10 of the 18 sites gave no warning so that feature of the site could not be skipped.

Summary of results and comparison to previous studies

A general overview of the level of development of Australian winery websites can be made from this research. The main differing factor between websites is the interactivity the site has with the customer. The levels of customer interactivity and percentage of sites in each category are show in Table 1.

Table 1: Level of Website Development and Results

Basic website	Reading basic information from static pages (brochure like).	29	13%
Website promoting offline ordering	Engaging in offline sales by means of receiving information from these static pages and then engaging in a sales transaction via the telephone, email, or from printing and posting/faxing a provided form.	128	56%
Website with online sales facilities	Conducting an online sale where order and payment are made on the Web.	71	31%
		228	100%

More information can be gained from the results, however its value will not be apparent until the remained of the major study is completed.

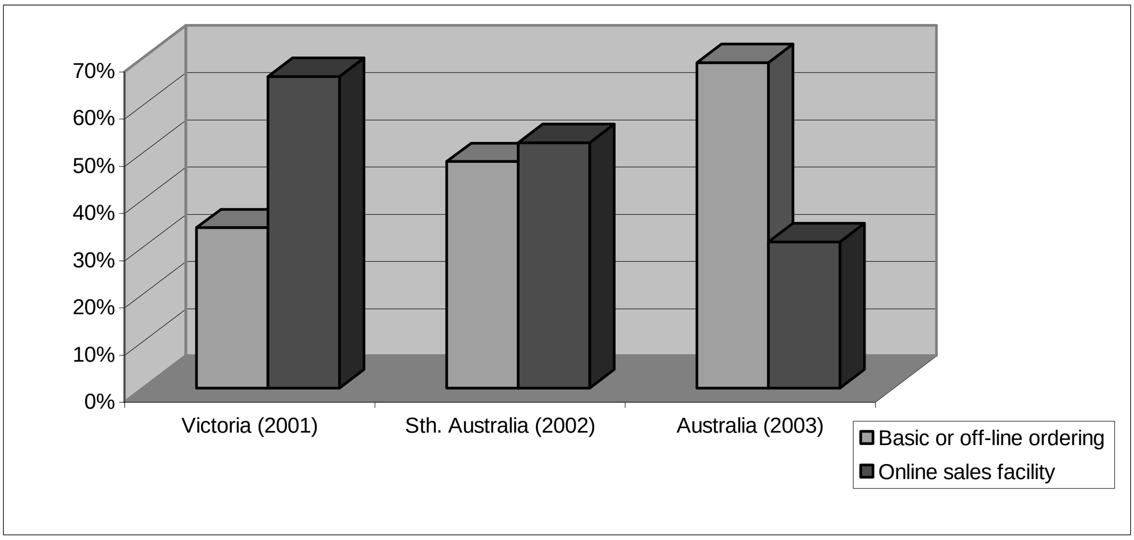
To the author's knowledge, no previous study of this kind has been conducted in the wine industry. Sellitto (2002) conducted a study of Internet adoption in Victorian wineries, while Goodman (2002) conducted a study that investigated the use of the Internet for marketing purposes amongst firms within the South Australian Wine Industry. While these studies are vastly different to this one, some data is comparable to that obtained here. In these two studies the wineries under investigation were divided into two categories: basic websites and those with an online ordering facility. The data obtained from these studies is compared with this study, shown as Australia 2003, in Table 2 and Figure 2.

Table 2: Comparison with Previous Studies

	Victoria 2001 (Sellitto,2002)		South Australia 2001 (Goodman, 2002)		Australia 2003	
	n	%	*n*	%	*n*	%
Basic or off-line ordering	20	34%	21	48%	157	69%
Online sales facility	39	66%	23	52%	71	31%
	59	100%	44	100%	228	100%

In the Victorian (Sellitto, 2002) and South Australian (Goodman, 2002) studies the results only indicated the number of sites with or without online sales facilities. Therefore, some of the basic websites may promote offline ordering. Accordingly, the categories for basic websites and websites promoting offline ordering are combined for the Australian study in the above table.

Figure 2: Graph of Comparison with Previous Studies



These results are surprising as the Australian study is in direct contrast to the previous two. Websites with online ordering facilities are predominate in the Victorian and South Australian studies but are not in the Australian study. The reasons for this are unknown and warrant further investigation. However, a number of possibilities exist, these being:

1. That Sellitto and Goodman have classified websites promoting offline sales (such as the provision of a printable form) as having online sales.
2. Victoria and South Australia have a much higher percentage of wineries proving online sales on their websites than the remaining States, thus bringing down the Australian percentage.
3. The recent rapid increase in wineries with websites over previous years (58% now have websites compared to 37% two years ago) may include predominately basic sites. Hence, bringing the overall average of sites offering online sales down.

Other studies have been conducted that evaluated Websites in different industries. The most notable of the Australian studies are those that used Burgess and Cooper's original and extended version of the Model of Internet Commerce Adoption (MICA and eMICA). These studies were in the Metal Fabrication industry (Burgess & Cooper, 1999), Local Government (Boon et al., 2000), and Regional Tourism Organisations in Australia, New Zealand, and the Asian Pacific Region (Burgess et al., 2001; Doolin et al., 2001a, 2001b). It would be possible to map the criteria used in this research onto the MICA criteria and classify the Australian winery sites into the MICA levels of development. This would allow an accurate comparison with these other industries. This is not within the scope of this study and time restrains prevent this investigation now, however, it could be an area for investigation in the future.

Contribution and further research

This part of the study involved developing a website evaluation framework, which is used to evaluate the websites of 260 Australian wineries. The framework considers content and design issues. The data gathered provides a picture of the level of development of these sites. Personnel in the wine industry could use this framework and data, as it is, to help make informed decisions when implementing a Web presence or to improve an existing Web presence. However, the framework will be more complete and useful when the later parts of the study are completed.

Further research involves developing instruments and conducting surveys to: a) evaluate the website requirements of customers; b) evaluate winery managers' beliefs about customer requirements; and c) evaluate how the websites are marketed. Once these studies are completed the data will be analysed to determine the communication, design, information, and fulfilment gaps between the customer and the organisation. These data will be used to further refine the website evaluation framework and to make recommendations to personnel in the wine industry.

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