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Consumer behaviour and sensory preference differences: implications for wine product marketing

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Abstract

Purpose – Exploratory research was conducted in a well-known Australian wine region to determine the differences in the behaviour dynamics and sensory preferences of consumer groups. The overall aim is to gain some insights into the product style preferences of consumers and what this means in practical terms to wine product marketing.

Design/methodology/approach – Information was obtained from a random sample of 150 visitors to ten wineries in the Yarra Valley wine region in Australia. Data were collected by means of self-administration surveys using a highly structured questionnaire at each of the winery tasting room venues.

Findings – Specific differences exist in the wine consumption behaviour and sensory preferences of males and females and between generational cohorts, specifically Millennial and older consumers. Females drink less wine than males, spend less thereon but tend to “compensate” for this by buying higher priced wine per bottle, which could represent a risk-reduction strategy. Females are noticeably higher than their male counterparts in white wine consumption, showing a preference for a sweeter wine style at a young age, and reported a strong preference for medium body style wines over light and full-bodied wines. From a sensory preference viewpoint, fruit tastes and aromas are by far the most important, especially among females, as are vegetative characters, wood/oak, and mouth-feel characters. More males, on the other hand, preferred the aged characters of wine.

Research limitations/implications – It is possible to target wine consumers in accordance with their gender and lifecycle stage as far as the sensory and certain behavioural aspects of the product are concerned. However, this should not be oversimplified and drive product marketing strategies in the wrong direction.

Originality/value – This study is of value to academic researchers, wine industry practitioners and other wine distribution channel members alike, as it provides insights into consumer behaviour differences and one of the core tangible aspects of a wine product, namely the sensory preferences of consumers.

Keywords Wines, Gender, Consumer behaviour, Consumption, Age groups, Australia

Paper type Research paper

An executive summary for managers and executive readers can be found at the end of this article.

1. Introduction

As wine gradually becomes a lifestyle beverage, more and more people are drinking wine as reflected in statistics in the USA, UK, Australia and a growing number of other countries. For example, in the 2009 *Gallup Poll* 50 per cent of women in the USA named wine as their standard alcoholic drink, up from 46 per cent in 2005 (Saad, 2009), and almost six in ten Americans (58 per cent) are now wine buyers (Harris Interactive, 2009). Clearly these consumers have gone

through a process of becoming more socialised to wine over time (Olsen *et al.*, 2007).

Wine is an information-intensive experience product and by virtue of this the buying situation is often regarded as a complex one in which a high degree of associated risk is perceived (Bruwer *et al.*, 2002; Lacey *et al.*, 2009; Mueller *et al.*, 2009). Wine is an experience product mainly because the quality thereof cannot be assessed until the product has actually been consumed (Barber *et al.*, 2008; Barber *et al.*, 2006; Chaney, 2000; Jaeger *et al.*, 2009). The sensory aspects, specifically the olfactory ones of wine are an integral part of the total product experience that consumers have when consumption takes place (Lee and Lee, 2008). Not surprising, there have been a multitude of studies in this area in recent years in Australia (Saliba, Bullock and Hardie, 2009; Saliba, Wragg and Richardson, 2009).

In determining reasons for differences in the sensory perception of wine, it seems from the anecdotal evidence that lifestyle has an impact. In the UK, research indicates that while women are the major purchasers of wine, more women buy in supermarkets and more men in specialty wine shops (Ritchie, 2009). The 2008 survey of the Wine Market Council

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reports that 56 per cent of all wine consumers in the USA are women (Wine Market Council, 2009). A Christy Frederick Marketing survey reports 77 per cent of women polled in the USA buy the wine for their household and buy it like the groceries, as a food item (Wenzel, 2005).

Wine is a particularly complex beverage from both a chemical and sensory viewpoint (Thorngate, 1997). It is therefore surprising that developing an understanding of how consumers relate their sensory preferences to the wines they actually end up buying is an area of research that has not been extensively navigated to date (Lesschaeve, 2007). For example, it has been found that consumers had difficulty matching label sensory descriptions with corresponding wines (Charters *et al.*, 2000), although the majority read back labels and therefore use it as a purchase choice factor (Bastian *et al.*, 2005).

2. Literature framework

Certain products are perceived to be more gender-specific than others, meaning that individuals with stronger masculine or feminine identities tend to associate with them if they appeal to this aspect of their identity (Hall *et al.*, 2001 cited in Barber *et al.* 2006). Spawton (1989, 1990) went as far as to state that wine has been generally perceived as a “feminine” beverage. Atkin *et al.* (2007) suggest that a good starting point when evaluating how consumers make wine buying decisions may be to look at differences by gender.

It has also been suggested that the wine industry needs to know more about sensory preferences in wine drinking and, specifically, the difference in tastes of male and female consumers (Bruwer and Li, 2007; Gelinard, 2008; Lewis, 2004; Miller and Bruwer, 2006; Saliba, Bullock and Hardie, 2009). In Australian studies it was found that gender differences in wine consumption are likely to be associated more strongly with volume (and perhaps) wine style and grape variety (Bruwer *et al.* 2005; Bruwer, 2007). A search of the literature indicates that much of the discussion in the field is based on anecdotal evidence. This certainly has an important place when it comes from people with domain knowledge such as sommeliers, restaurateurs, bar staff and retailers, who are dealing with, and observing, male and female wine consumers on a regular basis.

Norris and Lee (2002) undertook research into sensory preferences. They used blind tastings and preference mapping to develop a map of wines in a chosen category with a determination of a sensory profile that was optimal for each of their research subjects, but did not isolate male and female preferences in their research findings. However, they suggested that their techniques of determining sensory preferences could be used to determine similarities and differences between wines and identify groups of consumers with similar likes and dislikes and could be a valuable tool in the winemaking and blending process. For the purposes of this study, such an approach has not been adopted because of the context of the research (ten winery tasting rooms and difficulties of setting up blind tastings with a wide variety of wine styles) and because the aim was to establish what consumers perceive as their preference, based on their past experiences of wines they have consumed. Results are therefore relevant to wine marketers and researchers seeking to understand consumer preferences.

2.1 Red versus white wine consumption by gender

Market research by the American Wine Council (2000) indicates that 56 per cent of Chardonnay and 47 per cent of

Cabernet Sauvignon drinkers are female, which does not suggest very big differences (Schamberg, 2002). In the UK, wine writer Jancis Robinson dismisses the notion of differences in gender preferences, stating women are far too big a group to generalise about (Robinson, 2004). However, UK statistics indicate a stronger preference for white wine among females, with 34 per cent of women preferring red wine and 48 per cent preferring white wine. These statistics also indicate that only younger and less experienced drinkers drank white wine exclusively (Low, 2001). In Australia (Hoffman, 2004) showed that females are more likely to drink white and sparkling wine than males. These studies apparently did not probe whether these trends have a relationship with the age group of the consumers.

2.2 Sweet versus dry wine consumption by gender

There are divergent views on this aspect. Women are perhaps being stereotyped in terms of the common belief that young women prefer sweeter wines (Miller and Bruwer, 2006). A study with a small sample of women with different levels of wine tastes in the Hunter Valley Region of Australia found that the majority of women were indeed more attracted to “softer, less structured, sweeter styles” (Lewis, 2004). There were unfortunately no males in this study to compare results. In the USA, the Beringer Wine Company has found sweet wine consumption spread evenly between men and women (Fuhrman, 2001). In the UK, the assumed female preference for sweet wine is not supported by evidence as women buy most wine and most wine bought is dry in taste (Low, 2001). Clearly the jury is still out as regards the verdict to this potential research question.

2.3 Physical reasons for gender differences in sensory perception of wine

Women tend to be superior in the senses of taste and smell, with up to 20 per cent more ability to distinguish different smells than men, and they have a greater capacity to pick up subtleties in wine (Wenzel, 2005). This is a repeated assertion in the literature (for example, Atkin *et al.*, 2007; Bruwer, 2007). Women’s palates tend to be more sensitive, which explains why many women prefer white wines with more subtle acidity and lower tannins and that many find tannin astringency and bitterness off-putting in red wine. They also pick up subtleties in white wine more often than men (Fuhrman, 2001). Women have better smell senses than men and tend to have greater sensitivity to the complexities of wine. Men tend to go for massive reds and women for more delicate wines (Juergens, 2005).

Fuhrman (2001) points to significant differences in wine styles in explaining physical differences in sensory preferences. White wines tend to have more subtle acidity and lower tannins. Red wines most often have quite high tannins. Red wine tannins preserve them and diminish with age, until they become softer, and less astringent. Whether this leads to differences in sensory preferences in wine is a question that needs answering.

2.4 Generational differences in wine taste preferences

Generational cohorts are one of the least understood marketing dynamics. Generational issues are however, only one element that marketers should include in planning their marketing strategies (Higgins, 1998). In recent times, wine marketers have also started to take a generational view of the

wine market. The belief is now widely held that for the world wine market to grow, more young drinkers must be introduced to wine during the critical years in their late teens to early-to mid-20s, during which they form consumption habits for life (Bruwer, 2002, 2004). In fact, Murphy (1999) asserted that most people in the USA have established their drinking preferences by the age of 40 years.

Generally consumers' wine consumption increases with age peaking during the midlife stages before declining (Batt and Dean, 2000) and increased self-confidence with this product plays a role in this process (Veale, 2008). It is therefore for the purpose of discussion prudent to generically refer to the young wine consumer group as largely occasional wine drinkers (Allen, 2002). Not surprising, but quite short-sighted, the wine industry has heavily relied on and focused most of its marketing efforts on the affluent Baby Boomer generation. It has now begun to take notice of the purchasing power of Generation X and Millennials in particular (Wright, 2006), with Generation Y not too far behind either. Generation Y consumers (18-26 years old) are typically the children of the now affluent Baby Boomer generation and present an increasing market for alcoholic beverages with wine in particular benefiting from the fact that it is viewed by them as "fashionable" and reflecting a "sophisticated" image (Euromonitor, 2007).

From a sensory perspective, the taste of wine is the most important factor in determining why people do or do not drink wine (Keown and Casey, 1995; Thompson and Vourvachis, 1995). Not surprising, a study by Charters and Pettigrew (2007) found that the foremost determinant of wine quality is that it tastes good while a study in the USA on Millennials confirmed that liking the taste of wine is the main reason why they drink wine, while conversely not liking the taste was by far the most important reason why they do not drink wine (Thach and Olsen, 2006). Batt and Dean (2000) reported similar findings in Australia albeit across all age groups. Even when linked to a specific consumption situation such as consuming wine in a restaurant with food, taste is the primary reason why consumers select a specific wine (Hall *et al.*, 2001; Jaeger *et al.*, 2010). It therefore appears that ample justification exists to explore the taste aspect further, which is what we attempted to do in this study.

2.5 Social basis for differences and trends in wine taste preferences

Depending on the buying (and consumption) situation a multitude of tangible product, sensory and even atmospheric cues impact on the wine consumer in various ways. Whereas wine is sold in the retail off-premise sector largely on the basis of its tangible product cues such as brand name, bottle shape and size, label design and information, grape variety, price, etc., there is none or at best very little opportunity for consumers to engage with the experience aspect of this product. The situation in the on-premise sector within which wine is actually consumed in situ is no better in that most wine is ordered from restaurant wine lists that often contain minimal information and there are even fewer informational cues at the disposal of the consumer than is normally the case in the off-premise sector. In fact Ritchie (2009, p. 195) contended that "it is psychologically easier to buy wine in an off-trade situation rather than in an on-trade environment." Furthermore, in the on-premise setting, food often dictates the wine choice in a restaurant (Schamberg, 2002).

As wine becomes a lifestyle beverage, women have become the majority buyers and decision makers: In an Australian study on wine consumption and household income, females reported a higher incidence of being the decision maker in wine purchasing (Bruwer *et al.*, 2005). In the USA, according to research for the Wine Market Council, women account for 60 per cent of "high end" wine buyers; that is, they match two of the three following criteria - they purchase wine costing more than US\$15 occasionally to frequently, have more than 12 bottles on hand at home, and would buy a wine costing more than US\$15 for a casual meal at home.

A California study reports that women drink more wine at restaurants, as cocktails and on celebratory occasions than men (Sbrocco, 2003). Australian research suggests a slightly different pattern of wine consumption in so far as males reported slightly higher wine consumption than females, peaking with increasing age, with males 35+ years old showing the highest level (Bruwer *et al.*, 2005). However, as with the Californian study, this study found that females reported a higher percentage of wine consumption in restaurants. They also noted females across both their sample groups bought more expensive wine than males. In terms of income, more females than males in the sample earned an income in the highest of three categories. There was also anecdotal evidence that females spend more overall on wine (Bruwer *et al.*, 2005). Women today have a higher disposable income to support their increasing wine involvement. Bruwer (2002) notes that the majority of Generation X tasting room visitors are female, highly educated, relevantly affluent and drinking a high volume of wine.

In determining reasons for differences in sensory perception of wine, it seems from the anecdotal evidence that lifestyle has an impact. In the UK, research indicates that while women are the major purchasers of wine, more women buy in supermarkets and more men in specialty wine shops (Low, 2001). In the USA, 70 per cent of women buy the wine for their household and buy it like the groceries, as a food item (Wenzel, 2005). While this may hold true for homemakers, Bruwer *et al.* (2005) in an Australian study found particularly among the young female group, that women were more influenced by wine writers in newspapers and magazines, retail staff and attendance at wine festivals than their male counterparts, although their strongest influence on wine purchase was friends and family. While the above provide some perspectives, they are far from conclusive. It therefore appears that the place where consumers buy their wine and the factors that influence them to buy it in that buying situation require further investigation and this is something that this study attempts to do.

Dee Blackstock, UK Master of Wine and wine buyer, notes more similarities than differences between the genders in sensory preferences and suggests differences are about wine knowledge, not gender. However, she points out that traditionally women have not been judged on their wine knowledge, whereas it has been part of "being a man" to know about traditional wine and make choices when dining out and entertaining and believes as roles become blurred, differences that exist will decrease (Low, 2001).

2.6 Evidence of wine companies catering to gender differences

Attempts by wine companies, in Australia and abroad, to cater for sensory differences between genders, suggest that the issue is significant to the wine marketing field. Although the industry is in general seemingly not yet convinced that male and female wine palates are different enough to warrant a focus on special products (Lewis, 2004), some individual wine companies have targeted females directly though. Wine products such as Constellation's Annabella and Fosters Australia's Pink and Pink Jewel, Beringer's White Lie made for the USA market, and Germany's Bend on the River are but a few examples (Bruwer, 2002; Bruwer *et al.*, 2005). Much of the promotional efforts of the companies producing these wines have notably been about packaging to appeal to female wine drinkers and providing sweeter, lighter-styled and lower alcohol wines.

Women's role as purchasers of wine is often misunderstood and under-leveraged; specific gender-vending is therefore an important wine marketing issue (Sbrocco, 2003). Lewis (2004) suggests that "almost every time the male-dominated wine industry has come up with a product to woo the female palate it has flopped", citing the Hardy's Wicked Wines range, launched in 2000, as a prime example. Sbrocco (2003) in the USA found several large and small companies are now marketing specifically to women, not with frilly labels, sweet wine or colour, but in how wine is integrated into lifestyle as an everyday beverage.

2.7 Gaps in the knowledge base

Despite views being divided, most of the anecdotal evidence found in the literature did not strongly support the notions that women prefer white and sweet wine more and that men prefer red wine more than women. There is evidence that social change may have contributed to a diminishing of differences, because in recent years, as wine has become a lifestyle product, more people are drinking it and consumption is proportionally higher for women. As it has become a lifestyle product, women have become the majority buyers of wine, matching wine with the food they prepare. Social change has also provided women with more disposable income and more opportunities to engage with a range of wine styles. Anecdotal evidence was also found in the literature for differences in physical sensory perception of wine between men and women and chemical differences in wine styles which affected people differently.

Although some researchers have pointed to the need, there remains a lack of specific research on gender differences in the consumer behaviour dynamics and sensory perception of wine drinkers. Attempts by wine companies, in Australia and abroad, to cater for sensory differences between genders, suggest that the issue is significant to the wine marketing field. Atkin *et al.* (2007) suggested that when attempting to determine the reasons behind wine drinkers' choices demographic and lifecycle variables should be used and that a good starting point is gender, specifically. This study has adopted this premise in its investigative methodology and broadened the scope to include the age generation aspect.

3. Research methodology

3.1 Research questions

The main research question is whether there are significant differences between male and female wine consumer behaviour and sensory preferences and if so, what is the nature of these differences? The other related questions to which this research sought answers are:

- Do more women prefer white wine to red than men?
- Do women prefer sweeter wine than men?
- Do women prefer lighter wine styles than men?
- Have differences changed over time and therefore are there significant differences between age groups of the same gender?
- Does early experience of wine play a role in the differences, should they exist?
- What are the differences between gender and age groups in terms of the distribution outlet types where they buy their wine from?
- What are the main influencing factors in consumers' wine buying decisions?

3.2 Hypotheses

The following six hypotheses were formulated to answer the research questions:

- H1.* Wine volume consumption and monthly spend of males are higher than that of females, also across age groups.
- H2.* Females are more likely than males to be influenced in their wine buying by their significant others (spouse/partner and family), their friends and the social occasion and the choice of food to match wine is the single most important wine buying choice factor across all the age and gender groups.
- H3.* More females than males prefer white to red wine.
- H4.* More females than males prefer sweet wine to dry wine.
- H5.* More females than males prefer lighter body styles of wine.
- H6.* The differences in preferences between males and females are diminishing as opportunities for experiencing wine are increasing, therefore younger age groups will exhibit less differences.

3.3 Research design

The primary data collection instrument was a questionnaire and was based on the research questions arising from the literature review. Several of the original questions were changed to closed questions to improve the efficiency of the questionnaire design. Only four questions were left as open-ended questions, with the objective of determining how consumers convey feelings and perceptions about the wine they drink. Additional questions on demographics, lifestyle and behaviour were incorporated to use the research opportunity to further inform knowledge in the field and to be able to contrast and compare with other studies in the field.

The final questionnaire had a total 30 questions of which most were close-ended. Respondents answered questionnaires in five to eight minutes on average. Researchers have pointed to the difficulties of differences of language in describing sensory perception of wine between a wide range of consumers and winemakers (Bruwer *et al.*, 2005; Norris and

Lee, 2002) so the language of the questionnaire was in terms that were readily recognisable to low and medium wine knowledge consumers.

The sampling frame was ten tasting rooms on recognised wine routes within the Yarra Valley Wine Region in Australia. The questionnaires were distributed to the tasting rooms where data collection took place during a six-week period. The tasting rooms were chosen for their proximity to major wine routes and to reflect a broad range of sizes of winery/tasting room businesses to obtain as wide as possible a range of visitors. Sample control factors that contributed to the quality of the data collected, included that all respondents were regular wine drinkers, consuming wine at least once a month with 95 per cent consuming it at least once a week. Furthermore, 82 per cent were the main buyers of wine for their households meaning that there was a high likelihood that had a very good understanding of various aspects of wine buying and consumption.

The questionnaire was left, usually on the counter or near to it, at each tasting room, next to a marked box with slot. The box was labelled and the purpose of the questionnaire, suggested time needed to complete the questionnaire (five to ten minutes) and assured confidentiality explained. This information was repeated at the top of each questionnaire.

3.4 Research limitations

- The research was conducted at ten tasting rooms in the Yarra Valley wine region in Australia and was limited to tasting room visitors to the Yarra Valley, tasting rooms open seven days per week and did not include all tasting rooms in the Yarra Valley in that category.
- Candidates in the study were wine drinkers (above 18 years old), who consume wine on a relatively regular basis.
- The final sample size is relatively small (150 respondents). The researchers distributed 300 questionnaires and only 187 (62 per cent response rate) were completed. Of these 37 were incomplete or incorrectly filled in to the extent that they were not useful for the purpose of the research and were not used in the study.
- The respondents who filled in questionnaires do not necessarily reflect a cross section of tasting room visitors. The questionnaire is long and involves some risk taking (diminished by anonymity) and requires some time and effort to complete (five to eight minutes). It is not unreasonable to suggest it may have been more attractive to the more confident or wine involved drinker than the casual wine drinker.

4. Results and discussion

4.1 Demographics

The demographic characteristics of the consumers serve as the basis for the further data analysis and testing of the hypotheses (Table I). The age group distribution of the sample confirms earlier work by Bruwer (2004), in which he found that the Millennial and Generation-X age groups are highly active and prominent as tasting room visitors in Australia. Table I shows that 50 per cent of the sample were between 18-34 years old, thus representing the Millennial generation group. While the gender split was almost equal, there were more Millennial females (56 per cent) than males (45 per cent). The educational status of the total sample was high, with 77 per cent in possession of a tertiary qualification.

Table I Demographic characteristics of the wine consumers

Characteristic	Male (%)	Female (%)	Total (%)
Gender	52.0	48.0	100.0
Age group (years)			
18-24	11.5	13.9	12.7
25-28	10.3	18.1	14.0
29-34	23.1	23.6	23.3
35-40	5.1	15.3	10.0
41-45	9.0	6.9	8.0
46-54	15.4	9.7	12.7
55-65	23.1	11.1	17.3
65 +	2.5	1.4	2.0
Education level			
No tertiary qualification	23.1	23.6	23.4
Undergraduate tertiary qualification	43.6	41.7	42.6
Postgraduate tertiary qualification	33.3	34.7	34.0
Annual household income level (AUS\$)			
< 50,000	9.0	13.9	11.4
50,000-100,000	43.5	47.3	45.2
100,001-200,000	37.2	31.9	34.7
200,000 +	10.3	6.9	8.7
Number of persons in household^a			
Persons under 18 years old	0.51	0.38	0.45
Persons 18 years and older	2.23	2.18	2.27
Persons ≥ 18 years old who drink wine	2.18	2.22	2.20

Note: ^aValues are means

Household size was generally small with on average less than three persons per household. This is not surprising, given their high SES (socio-economic characteristics) and high level of mobility due to few children living in the household. Most adults in the household (mean = 2.20 persons) consume wine. From this it can be deduced, although not confirmed, that if one spousal partner drinks wine the other one in the household is also likely to do so. The household income levels are weighted heavily to the middle and upper levels and are functions of the relatively high education and occupational levels and small household membership size.

4.2 Wine consumption dynamics

Distribution outlet categories for wine buying

The study explored whether any relationships exist between the volume of wine purchased from each outlet category and gender and/or age generation groups (Table II). No significant difference in distribution outlet category usage between males and females could be found.

The test statistics show significant differences (one-way ANOVA test, 0.05 level) between Millennials and Generation-X, Baby Boomer and older consumers for buying wine in restaurants, bars/pubs, mail order/wine club and internet direct online. It is insightful that the generations show no differences as far as wine buying from the mainstream distribution outlet categories is concerned (large chain stores, specialty shops, supermarkets and winery tasting rooms). The fact that the Millennials buy significantly more wine than older consumers from restaurants and bars/pubs, could well be because they are more mobile as a result of them

Table II Wine buying from distribution outlet categories by age generation

Factor	Wine volume % purchases (mean)			ANOVA	
	Overall	<35 years	≥ 35 years	F	Sig.
Large national chain liquor stores	27.4	22.4	32.2	3.788	0.054
Winery tasting rooms	15.2	14.8	15.6	0.023	0.879
Supermarket/grocery stores	14.5	15.7	13.4	0.401	0.527
Independent specialty wine shops	14.3	16.5	12.0	1.666	0.199
Restaurants	10.8	14.8	6.8	15.672	0.000*
Winery mail order/wine club	10.7	5.2	16.4	8.049	0.005*
Bars/pubs	5.3	8.8	1.8	16.1223	0.000*
Internet direct online	1.8	1.8	1.8	8.049	0.005*
Total	100.0	100.0	100.0	–	–

Note: *Significant at 0.05 level

having less children living in the household (see Table I) who could curtail participating in social activities outside the home.

Wine volume consumption and monthly expenditure

The annual per capita wine consumption of Australians in 2008 was 22.7 litres (Australian Bureau of Statistics, 2009). Regular consumers however, drink substantially more wine than this national average and this phenomenon often transcends to those who visit tasting rooms at wineries (Bruwer, 2004). The fact that the annual consumption of the tasting room visitors in this study are four times above the national average, confirms that the tasting room visitors represent a top-slicing of the Australian wine market as no overseas visitors were included in the sample. Less than 5 per cent of the respondents drank cask wine, which is not surprising since they were tasting room visitors in a wine region that mostly markets wines in the super- to ultra-premium price ranges.

Table III shows that the average monthly volume consumption of the sample was 8.2 bottles, with the average of the males significantly higher than the females (at the .05 level, independent samples *t*-test). This is in line with the findings on wine consumption levels in other Australian wine market studies (Bruwer and Johnson, 2005; Bruwer and Li, 2007). Although the females in this study drink significantly less wine by volume than the males, they “compensated” for that by buying a higher quality product as the average price they paid per bottle was a significant 27 per cent higher than

that of the males. This reconfirms the observations about female wine consumption patterns and the speculation that it is rooted in higher risk-reduction perception, discussed earlier.

It follows that Millennial consumers drink significantly less wine and spend significantly less money on their monthly wine purchases compared with the older generations. In terms of wine drinking frequency (not shown), 85 per cent of the females drink wine at least a few times a week and the frequency increases across the age groups. Slightly more males in the sample (92 per cent) are frequent wine drinkers. A pattern emerged of wine drinking becoming more frequent from the 40 years age group upwards in the female group and 35 years upwards in the male group. Although it appears as if higher wine volume consumption could be positively correlated with increasing age, this should be confirmed in future purpose-designed research studies.

The results contained in Table III guided the acceptance of *H[1]* in that the wine volume consumption and monthly spend of males are significantly higher than that of females, also across the Millennial and older age groups.

4.3 Wine buying influencing factors

Respondents had to indicate the importance of each of a range of factors that influence their wine buying on a ten-point ranking scale. These factors were randomly placed in the questionnaire to limit order bias. The scale was tested for reliability (Cronbach alpha = 0.74) and this was found to be

Table III Monthly wine consumption and expenditure by the wine consumers

	Amount spent per month (\$)	Consumption per month (bottles)	Average price paid per bottle (\$)
Total	188.07	8.22	28.76
Male	208.33	9.59	25.47
Female	165.5	6.74	32.43
<i>t</i> -value	1.464	2.723	–1.706
Sig (two-tailed)	0.145	0.007*	0.041*
Total	188.07	8.22	28.76
<35 years	148.70	6.95	28.25
≥ 35 years	226.40	9.49	29.26
<i>t</i> -value	–2.688	–2.407	–0.245
Sig. (two-tailed)	0.008*	0.017	0.807

Notes: Grouping variables: gender and age; * significant at 0.05 level

at an acceptable level. The results are reflected in Tables IV and V for gender and age generation groups (Millennial vs older) respectively.

Among the ten influencing factors, there were significant differences (one-way ANOVA test) between males and females for only two factors, namely wine writers/critics and wine store staff. In both instances males reported a significantly higher influence than females. In the case of age generations, Millennials indicated that they were significantly less influenced by their spouse/partner than were the older generation groups. One can assume that some of the Millennials did not have a spouse/partner simply because of their young age, hence the lower influence by a spouse/partner reported. For Generation-X and older consumers the advice of restaurant waiters was significantly less important than for Millennials. Young females are more influenced than their male counterparts by third parties such as restaurant waiters, the social occasion, their friends and other family members. Older females are on the other hand more influenced than their male counterparts by their spouse/partner and the extrinsic cue such as wine label information. The results confirmed the acceptance of $H[2]$ that females are more likely than males to be influenced in their wine buying by their significant others (spouse/partner and family), friends

Table IV Wine buying influencing factors by gender

Factor	Mean rating values			ANOVA	
	Total	Male	Female	F	Sig.
Food choice	3.59	3.32	3.88	1.785	0.184
Spouse/partner	4.11	4.47	3.73	1.800	0.182
Social occasion	4.24	4.24	4.25	0.000	0.994
Friends	4.45	4.39	4.51	0.100	0.753
Personal finances	5.49	5.27	5.72	0.988	0.322
Label information	6.02	5.86	6.19	0.541	0.463
Wine writers/critics	6.04	5.37	6.77	9.043	0.003*
Other family members	6.18	6.36	6.00	0.601	0.440
Restaurant waiters	6.72	6.81	6.62	0.223	0.638
Staff in wine store	7.24	6.85	7.68	4.311	0.040*

Notes: *Significant at 0.05 level; rating scale: 1 = most influence to 10 = least influence

Table V Wine buying influencing factors by age group

Factor	Mean rating values			ANOVA	
	Total	<35 years	≥35 years	F	Sig
Food choice	3.59	3.58	3.61	0.005	0.943
Spouse/partner	4.11	4.70	3.51	4.709	0.032*
Social occasion	4.24	4.16	4.33	0.132	0.717
Friends	4.45	4.38	4.53	0.156	0.693
Personal finances	5.49	5.16	5.83	2.129	0.147
Label information	6.02	6.38	5.66	2.660	0.105
Wine writers/critics	6.04	5.95	6.14	0.168	0.683
Other family members	6.18	5.78	6.60	3.264	0.073
Restaurant waiters	6.72	6.29	7.16	4.617	0.033*
Staff in wine store	7.24	6.99	7.51	1.700	0.104

Notes: *Significant at 0.05 level; rating scale: 1 = most influence to 10 = least influence

and the social occasion and the choice of food to match wine is the single most important wine buying choice factor across all the age and gender groups.

4.4 Wine type, style, body style and other sensory preferences

One of the study's main objectives was to examine gender and age differences in perceived sensory preferences and hence it looked specifically at the wine type, style, taste and aroma aspects.

Wine type preferences

These are reflected in Table VI according to gender and generation group in terms of the actual wine type consumption of the consumers. From the results one can infer that females preferred red and white wine almost equally, while red wine consumption was considerably higher (almost double) among males (58 per cent) compared to white wine consumption. A higher percentage of females drank sparkling and rosé wine compared to males. Fortified consumption was small, but twice the amount for males compared to females. The difference between males and females in terms of their red and white wine consumption (86 per cent of their total consumption) was highly significant (one-way ANOVA at 0.05 level). Figures 1 and 2 show these differences within each gender more clearly in patterned format, albeit by age group.

On further examination of wine type consumption by age group, only red wine consumption shows a significant difference across all the age groups. This aspect is more specifically addressed in Tables VII and VIII from both the between and within group perspective. There is sufficient evidence contained in Table VI to accept $H[3]$ that more females than males prefer white to red wine when judged purely by their actual consumption thereof.

Sweet or dry wine style preferences

Previous research found that the taste of wine is the most important factor why people drink or do not drink wine (Keown and Casey, 1995; Thompson and Vourvachis, 1995). Key factors that determine the taste of wine include the level of sweetness versus dryness and the body style (varying from light to full-bodied). Table VII shows that both males and females exhibit a significant difference in their preference for sweet versus dry wines in terms of taste, while Figure 1 illustrates this within each gender by age generation group.

The difference between genders in the preference for sweet versus dry style wine is apparent only in the case of young female drinkers (Figure 1) and although both males and females report a higher preference for sweet wine when younger and thereafter gravitate towards drier wine styles, double the number of females, compared with males, preferred sweet to dry wine. However, this should be seen in context as this was only 16 per cent of all the females as the balance preferred dry wine. On the other hand, 92 per cent of males and 84 per cent of females overall prefer dry wine, hence a dry wine style was a clear preference with both genders (chi-square test at 0.05 level). Figure 1 shows that, while all age groups preferred dry wine to sweet wine, the largest difference emerged in the 18–24 year age group, where far more young females (44 per cent) than males (11 per cent) preferred sweet wine the highest percentage among all the age groups. All females in the older than 40+ years age groups preferred dry wine over sweet wine.

Table VI Actual wine type consumption breakdown of wine consumers – gender and age group

	Red wine			White wine			Sparkling wine			Rosé wine			Fortified wine		
	%	ANOVA F	Sig.	%	ANOVA F	Sig.	%	ANOVA F	Sig.	%	ANOVA F	Sig.	%	ANOVA F	Sig.
Total	50.7			34.9			8.7			3.4			2.3		
Gender		15.524	0.000*		11.190	0.001*		3.459	0.065		5.727	0.018*		0.977	0.325
Male	58.2			29.2			7.0			2.6			3.0		
Female	42.6			41.1			10.5			4.2			1.6		
Age group (years)		2.214	0.036*		1.011	0.426		0.775	0.609		1.533	0.161		1.205	0.304
18-24	38.0			41.7			10.3			5.0			5.0		
25-28	39.9			41.3			9.7			8.1			1.0		
29-34	51.6			34.4			10.1			2.1			1.8		
35-40	59.7			29.5			6.1			2.9			1.8		
41-45	66.2			24.6			5.7			0.8			2.7		
46-54	52.9			31.4			9.0			5.0			1.7		
55-65	53.4			36.4			5.7			1.2			3.3		
65 +	38.0			41.7			10.3			5.0			5.0		

Note: *Significant at 0.05 level

Figure 1 Gender preference for sweet wine

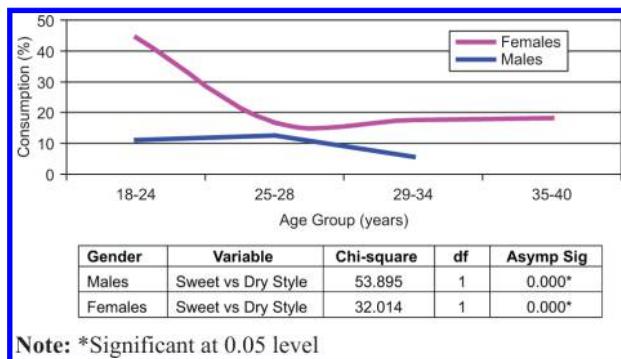
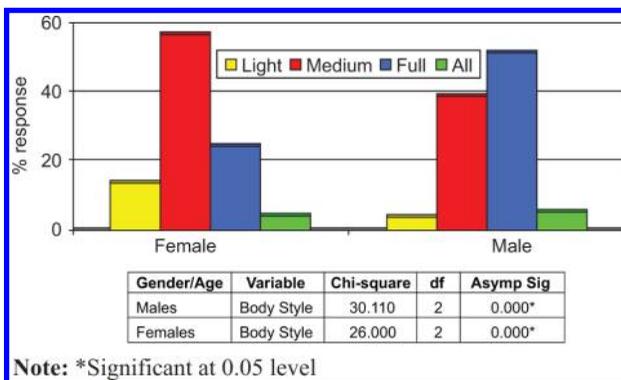


Figure 2 Gender differences in wine body style preferences



It is clear that young females report a preference for sweeter wine styles but that this preference declines sharply, even before they reach 30 years of age. Males, on the other hand, report preference for drier wine styles even from a young age. Overall the initial preference for sweet wine reduces over time for both genders, but more drastically in the case of females. On a cautionary note, the sub-groups' sample sizes were quite small and hence care should be taken when generalising about

Table VII Wine style preferences of consumers between gender and age groups

	Variable	Chi-square	df	Asymp sig.
Gender				
Males	Sweet vs dry style	53.895	1	0.000*
Females	Sweet vs dry style	32.014	1	0.000*
Males	Body style	30.110	2	0.000*
Females	Body style	26.000	2	0.000*
Age group (years)				
<35	Red vs white	0.373	1	0.541**
≥35	Red vs white	20.082	1	0.000*
<35	Sweet vs dry style	32.890	1	0.000*
≥35	Sweet vs dry style	53.389	1	0.000*
<35	Body style	13.794	2	0.001*
≥35	Body style	31.652	2	0.000*

Notes: *Significant at 0.05 level; **significant at 0.10 level

them. We therefore conclude that the evidence is insufficient to accept $H[4]$. The hypothesis that more females than males prefer sweet wine to dry wine is therefore rejected.

Light, medium- or full-body wine style preferences

The results in Figure 2 indicate that preference of the females was heavily weighted towards medium-bodied wine styles (58 per cent preference), while that of the males was weighted towards full-bodied wine styles (52 per cent). Light-bodied wine styles are preferred by only 14 per cent of females but the preference is far lower for males (about 4 per cent). The most pronounced differences between the genders are within the medium-bodied (58 per cent of females) and full-bodied wine styles (52 per cent of males).

Within both the male and female genders the difference in wine body style preference is significant (at 0.05 level, sig = 0.0000). Table VII shows that the difference in wine body style preference is significant for both generational groups, namely, Millennials and older consumers whereas in

Table VIII Wine style preferences of consumers within gender and age groups

Age group	Variable	Chi-square	Males			Females		
			Df	Asymp sig.	Chi-square	df	Asymp sig.	
<35	Red vs white	8.000	1	0.005 *	3.457	1	0.063	
≥35	Red vs white	20.829	1	0.000 *	2.462	1	0.117	
<35	Sweet vs dry style	24.029	1	0.000 *	10.526	1	0.001 *	
≥35	Sweet vs dry style	29.878	1	0.000 *	23.516	1	0.000 *	
<35	Body style	9.455	2	0.009 *	13.771	2	0.001 *	
≥35	Body style	0.900	1	0.343	14.966	2	0.001 *	

Note: *Significant at 0.05 level

the case of males, only the Generation-X and older age groups presented a significant difference. $H[5]$ that more females than males prefer lighter styles of wine is therefore accepted.

Generational differences in wine preferences

Wine marketers have in recent times started to take a generational view of the wine market (Bruwer, 2002, 2004) and the results exposited in Table VIII enable the further exploration of this aspect.

The most commonly used variable to explain differences in the wine consumption habits of consumers is their preference for and consumption ratio of red as opposed to white wine. From Table VIII it follows that for males there is a significant difference within the Millennial and older generations between red and white wine consumption. Figure 3 illustrates this quite clearly. The preference of males for red wine was high across all the age groups, peaking between 41-45 years, but shows a drastic decline in the older than 55-year-old age groups with white wine then becoming the preferred wine type.

Figure 4 shows that females exhibit a noticeably different preference pattern for red versus white wines from that of males. Females reported a clearer preference for white wine than males in particular in the 18-34 year Millennial generation group but this changed gradually (no significant difference) across the groups and by the time they reached Generation-X age they also show a preference for red wine, although it never becomes as pronounced as in the case of the males. This shifting trend to red wine declined, then increased again in the older age groups with 55+ year-old females drinking more red than white wine, whereas males showed the reverse trend again albeit somewhat later in their lifecycles.

The findings of the study are somewhat “mixed” and as a result of concrete evidence being somewhat lacking the $H[6]$

Figure 3 Wine type consumption by age group – males

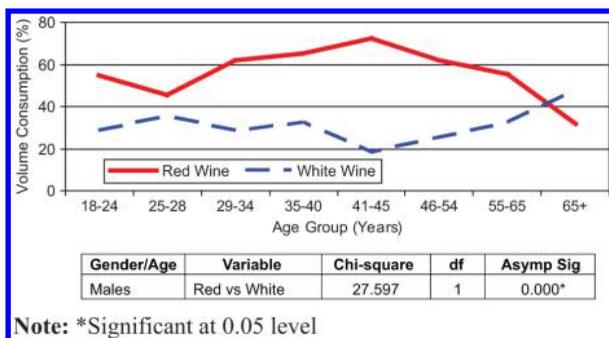
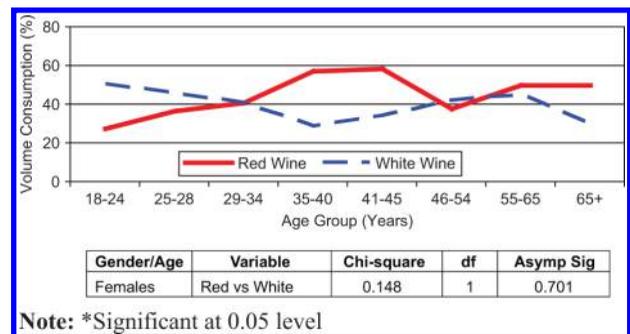


Figure 4 Wine type consumption by age group – females



is rejected that the differences in preferences of males and females groups are diminishing as opportunities for experiencing wine are increasing, therefore younger age groups will exhibit less differences.

Specific sensory characteristics of wine preferred by consumers

Whereas the results displayed and discussed earlier that relate to preferences for wine type, wine style and wine body style in essence encapsulated the sensory preferences of consumers at a generic level. The study also examined their taste/flavour and aroma profile preferences more specifically. Table IX reflects the flavour and aroma categories that consumers prefer. The main categories shown in Table IX in the case of flavour and aroma respectively are in turn composed from 54 different flavour types (e.g. pepper, raspberry, chocolate, citrus, mint, etc.) and 47 aroma types (e.g. apple, perfume, cherry, musty, etc). Although no specific hypothesis was set, the study attempted to check for differences in sensory preferences between males and females.

Table IX shows some significant differences between the taste (flavour) and aroma preferences of males and females (chi-square goodness-of-fit test, 0.05 level). More specifically:

- *Wine flavour preferences.* Fruit taste is by far the most important and among females, vegetative characters are mentioned by a significant number, while “wood/oak”, and “mouth-feel” were also mentioned more often by females. More males in turn preferred the aged characters of wine.
- *Wine aroma preferences.* Fruit aromas were most preferred by nearly two-thirds of the females compared to just over half of the males. Wood aromas ranked next in importance, but within that, “oak and wood” aromas were notably most mentioned by males and “vanilla” by females. “Floral” and “spice” were the third most

Table IX Wine flavours (taste) and aroma types preferred by gender group

	Preference incidence				
	Male (%)	Female (%)	Chi-square	df	Sig.
<i>Flavour/taste type</i>					
Fruit	47.4	59.7	85.700	3	0.000*
Oak/wood	18.0	23.6	28.323	2	0.000*
Mouth-feel	16.7	23.6	25.400	2	0.000*
Aged	16.7	8.3	8.895	1	0.003*
Herb	3.9	6.9	2.000	1	0.157
<i>Aroma type</i>					
Primary fruit	53.9	62.5	68.759	2	0.000*
Woody	14.1	16.7	15.696	1	0.000*
Floral	11.5	11.1	13.235	1	0.000*
Spicy	11.5	11.1	9.941	1	0.002*
Earthy	7.7	1.4 ^a	–	–	–
Herbaceous	3.9 ^a	2.8 ^a	–	–	–
Microbiological	3.9 ^a	1.4 ^a	–	–	–
Caramel	2.6 ^a	6.9	–	–	–

Notes: *Significant at 0.05 level; ^aexpected frequency of < 5

mentioned category and within “spice” the “pepper” aroma was more often mentioned by males. Males clearly liked “earthy aromas” but this was mentioned much less by females.

Although the fact that some wine companies at least appear to cater for the differences in the sensory preferences between males and females in that they have developed some wine brands directly targeted at a specific gender group was mentioned earlier, there is no concrete evidence that this strategy is actually sensory preference-driven at all. This all-important aspect needs to be further investigated in future research studies.

The preceding discussion of the study’s findings was an attempt to highlight the importance to the wine industry of a deepened knowledge of sensory preferences in wine, with specific emphasis on gender and within that, age (generational) differences. Albeit that the study was exploratory, it succeeded in uncovering some important facts and providing further perspectives regarding their meaning. As mentioned, recent attempts by wine companies to cater for gender differences suggest that the issue is indeed important to the wine marketing field.

5. Conclusions, implications, limitations and recommendations

5.1 Conclusions

The main objective of this exploratory study was to examine gender and age generation differences in wine consumption behaviour, including perceived sensory preferences. What emerged is that females bring significant sensory preference and behavioural differences, to their early encounters with wine; these differences appear to diminish with increasing experience with wine.

In main wine markets such as the UK, USA, Australia and some others, increases in wine consumption have been largely

driven by large numbers of females adopting wine as a lifestyle drink. Several factors contributed to this phenomenon, such as health reasons, its image as a sophisticated, even feminine drink, and a rise in discretionary income, to name but a few. A deepened understanding of the female segment, which in the process also highlights differences with males, is therefore of great importance to better inform marketing strategies. Young wine consumers, the Millennial generation in particular, are today the heavy wine consumers of the future and sharper insights on generational differences, combined with gender perspectives are therefore vital for the future success of the wine industry.

The main findings of the study are that females drink less wine than males, spend less thereon but tend to “compensate” for this by buying higher priced wine per bottle which could well represent a risk-reduction strategy as such. Females are also noticeably higher than their male counterparts on white wine consumption and their perceived preference for a sweeter wine style at a young age and show a particularly strong preference for medium body style wines over light and full-bodied wines. Regarding the factors that influence wine buying, the only significant differences between males and females were reported for two factors, namely wine writers/critics and wine store staff. However, the choice of food to match wine is the single most important wine buying choice factor across all the age and gender groups, especially for males. In each case males reported a higher influence than males. From a sensory preference viewpoint, fruit tastes and aromas are by far the most important especially among females, as are vegetative characters, wood/oak, and mouth-feel. More males preferred the aged characters of wine.

Whereas Millennial consumers drink significantly less wine and spend significantly less money on their monthly wine purchases compared with the older generations, the importance of a good understanding of this segment in terms of their future impact in the wine market cannot be overstressed. For males there is a significant difference within the Millennial and older generations between red and white wine consumption, while in the case of females it is far less pronounced. Millennials buy significantly more wine than older consumers from restaurants and bars/pubs, probably because of their higher level of mobility at that stage of their lifecycle. Millennials are more influenced by their spouse/partner than any of the other generation groups, while for Generation-X and older consumers the advice of restaurant waiters is more important than for Millennials. Young Millennial females are more influenced than their male counterparts by extrinsic cues such as label information, by third parties such as wine store staff and wine writers/critics and by their spouse/partners. Overall more research is needed in some of the areas.

5.2 Managerial implications

The adoption of a marketing orientation is by now well accepted in the wine marketing field. Its manifestation in the wine industry is in the form of the whole-of-wine-chain approach in which consumer preferences essentially drive the responses from the wine production chain starting in the vineyard with the grape growing practices used. A marketing-oriented organisation attains its aspirations and objectives through a thorough understanding of customers’ needs and wants. It undertakes intelligence gathering about its

consumers and then creatively uses that intelligence by feeding the information back down its production chain (Kotler *et al.*, 2007). It is therefore somewhat disconcerting that there is still an ongoing challenge for wine marketers to convince the winemakers (and growers) to produce the wines that the consumers actually want to drink. Whereas this study provided insights into what some of the needs and wants of wine consumers are, the real challenge for the wine industry lies in how this knowledge will be used in practice.

This study confirmed that there are clear differences between female and male wine consumers and in both the younger Millennial and older generations. There are many large mainstream wine brands successfully targeted at a broad spectrum of male and female, younger and older consumers alike. One can expect that this will continue to be the case for some time to come for economies of scale and other reasons. Opportunities on the other hand do exist for niche-marketed wine brands targeted at specific segments such as young females and this study highlighted what their specific needs and consumer behaviour dynamics are.

While wine is arguably one of the consumer products with more variety of product choice than most others which at least on the surface appears that every possible need and want of consumers are already being catered for, this has on the negative side led to severe fragmentation of the industry and consumer confusion to such an extent that wine is widely regarded as representing a “complicated” buying decision. Marketing information such as provided by this study should be innovatively used to change this perception and optimise the previously uncovered opportunities.

5.3 Research limitations

A limitation of this study is its exploratory nature and the fact that it is limited to one country only, namely Australia. Research in other country environments should be conducted to expand this knowledge base and for comparative purposes. This research study has provided important exploratory information but the data have been obtained from one regional location and from a relatively small sample. Comparative studies need to be conducted in other regions and on a larger scale.

Much of the information obtained by this study is of a self-report nature and care should therefore be taken when comparing the results thereof with studies using a different measurement methodology. For example, regarding the specific taste/flavour and aroma preferences of the respondents, actual wine tasting did not take place and neither were their wine knowledge or involvement levels tested. This could have had some impact on the validity of the taste and aroma preference results that were obtained. However, this factor is also a potential advantage of the current study, since perceived preference is precisely what marketers need to know, in order to present a product in a favourable light.

5.4 Recommendations for further research

More research is needed to develop better understanding of how sensory preferences develop, why they exist and how consumers convey perceptions of wine products. Applying a tool such as sensory mapping with blind tastings may be a valuable source of future research data and could be used in conjunction with a questionnaire survey. Such an approach

would characterise the differences between self-reported and actual wine flavour and aroma preferences.

From the time when wine marketing took its still somewhat tenuous place in the whole-of-wine-value chain approach, there has been the burning issue of convincing the winemakers (and grape growers) to produce the styles and quantities of wines that the consumers want to drink. There is certainly still a long, long way to go in this developmental process. Many questions about the marketing intelligence aspect unfortunately still abound. For example, what is the basis for gender differences in sensory preferences in wine? Most of what we know come from anecdotal evidence from sommeliers, restaurateurs, bar staff and retailers who are only observing (not measuring) male and female wine consumers' behaviour on a relatively regular basis. Sensory mapping, in conjunction with other research, may be an important future tool to better inform the industry on this issue.

Whereas some wine companies appear as if they are catering for the differences in the sensory preferences between males and females in that they have developed some wine brands directly targeted at a specific gender group, there is no concrete evidence that this strategy is indeed sensory preference-informed. This all-important aspect needs to be further investigated. Finally, although it appears as if higher wine volume consumption could be positively correlated with increasing age, this aspect and its underlying reasons should be confirmed in future purpose-designed research studies.

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Executive summary and implications for managers and executives

This summary has been provided to allow managers and executives a rapid appreciation of the content of the article. Those with a particular interest in the topic covered may then read the article in toto to take advantage of the more comprehensive description of the research undertaken and its results to get the full benefit of the material present.

Statistics show that a growing number of people in many countries, including the USA, Australia and the UK, are becoming wine consumers. Since wine has been identified as an "information-intensive experience product", the purchase situation is regarded as complex and inclusive of personal risk. A key basis for this perception is the fact that the wine must be consumed before product quality can be ascertained.

An abundance of research serves to indicate the importance of sensory aspects in how consumers experience wine during consumption. The premise is that research can help identify consumer groups that exhibit preferences for similar types of wine. Differences exist in sensory perception of wine and scholars have ascertained several factors that might determine these variations:

- **Gender.** Several researchers acknowledge that awareness of differences between wine consumption behaviours of men and women is important for the wine industry. A common assumption is that women prefer white and sparkling wine, while red remains the choice of most men. Certain

researchers are sceptical of such claims but statistics suggest they have some substance. It is similarly believed that women are more attracted to sweeter wines but evidence from UK, Australian and US studies appears somewhat inconclusive. Another possible factor to consider is the physical differences between the genders. Specifically, it is claimed that women's supposed penchant for the less acidic white wines is down to them having a more sensitive palate than men.

- **Age.** Marketers are beginning to recognise the significance of generational cohorts to the wine market. One conclusion is that efforts must be directed at introducing alcohol drinkers to wine at an early age so that it can become a lifetime consumption habit. To date, most marketing has focused on Baby Boomers but is now also slowly awakening to the potential offered by subsequent generations. The targeting of younger consumers is partly inspired by their perception that drinking wine is trendy and refined. Surveys carried out among different age groups indicate taste to be the main factor in the choice of whether or not to consume wine.
- **Social trends.** Evidence suggests that females have become the major buyers and decision makers for wine. They also tend to consume more wine on social occasions than men. However, findings like this are questionable as one Australian study found higher consumption among men. Consumption levels increased with age and were largest among those aged 35 or above. Lifestyle appears to influence buying habits too. Studies reveal a tendency for women to purchase their wine from a supermarket or grocery store, whereas men prefer specialist wine shops. Australian researchers noted that family and friends most influenced the wine purchase decisions of women. It also became apparent that females were also more likely than males to attend wine festivals and to take advice from retail staff and wine writers.

One argument proposed is that any differences are down to knowledge, not gender. That men are traditionally expected to know about wine and women are not is cited to emphasise this point. Another significant pointer is the apparent reluctance within the wine industry to target the respective genders with specific products. That said, certain companies do aim certain wines at female drinkers through the packaging and sweet, light or low-alcohol styles. Producers in the USA are also targeting women, but are focusing on lifestyle to market their products.

Evidence does overall appear to indicate that men and women generally prefer different wines. The existence of differences in sensory perception receives support too. But since social change has seemingly reduced these differences, the picture is now possibly even less clear.

Seeing as findings reported in the literature are mainly anecdotal, Bruwer *et al.* explore the issues further in a study carried out in various tasting rooms within Australia's Yarn Valley Wine Region. A questionnaire was devised and targeted at regular wine drinkers aged over 18 years old. A total of 82 per cent of the 150 respondents also declared themselves as the main buyers of wine for their households, inviting the assumption that those surveyed would possess considerable knowledge about wine buying and consumption. Questions relating to feelings and perceptions about wine were included

along with others addressing demographics, lifestyle and behaviour.

Various hypotheses were tested and the results of the study revealed that females:

- Drink markedly less wine than males but spend more per bottle, as they prefer products of higher quality.
- Consume significantly more white wine than men.
- Prefer sweet wines when younger, but shift to drier wines as they get older. They also overwhelmingly preferred medium-bodied styles.
- Younger Millennial women are likelier than males to be influenced in their purchase decisions by family, friends and other third parties.

Other significant findings included:

- The frequency of wine drinking increased in males over 35 years old and females in the 40-plus age category.
- The number of males who preferred red to white wine was virtually double. However, their preference changes to white wine from 55 years-old onwards.
- Males of all ages prefer their wine dry and full-bodied.
- In terms of sensory preferences, fruity tastes and aromas appealed most to women and the “aged characters” of wine to men.
- Out of ten factors that influence wine purchase and consumption, gender differences were found only for advice from wine critics and store staff.
- All age and gender groups revealed the importance of choosing food appropriate to the wine they intended consuming.

- No differences between the generations in respect of purchasing wine from mainstream outlets like supermarkets, specialty shops and large chain stores.
- Millennials buy more wine than older consumers from bars and restaurants.
- Generation X and older consumers are likely than Millennials to seek advice from restaurant waiters.

Many of these findings mirrored earlier research.

Despite the fact that other cohorts spend and consume more than Millennials, the authors urge marketers to develop greater understanding of what might become a lucrative future market for the wine industry. They also point to the differences manifest in this study and suggest that opportunities exist for a targeted approach that aims to satisfy the needs of specific segments

Bruwer *et al.* acknowledge the limitations of this exploratory study and suggest wider research conducted in other regions and countries is needed before any general assumptions can be made. Additional investigation into the role of sensory perception is also recommended and the possible value of incorporating “blind tastings” into such research is noted. It is thought that combining sensory mapping with other research techniques might best inform the industry about important differences between consumer segments.

(A précis of the article “Consumer behaviour and sensory preference differences: implications for wine product marketing”. Supplied by Marketing Consultants for Emerald.)

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