

## **Developing a Scale that Measures the Winescape**

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### **Abstract**

This exploratory study aims to conceptualise the commonly referred to 'winescape' construct and develop a winescape scale that can be used to predict wine tourist behaviour. The scale development adopted procedures suggested by Churchill (1979) and DeVellis (2003). A total of 262 tertiary students were sampled from a university in Western Australia for their perceptions of two well recognised wine regions in Western Australia – Swan Valley and Margaret River. The scale items exhibited reliability, convergent and discriminant validity. Additionally, six winescape factors including service staff, layout, setting, food and wine, non-wine related activities and cottage industries produced significant relationships with satisfaction with a wine region, demonstrating predictive validity.

**Keywords:** Scale development, winescape, visitor satisfaction

# **Developing a Scale that Measures the Winescape**

## **Introduction**

The wine industry is a growing global industry. In Australia, export sales were reported at 258 million litres (A\$1,102 million) in 1999, increasing to 764 million litres (A\$2,271 million) in 2009 (Wine Industry Statistics, 2009). One important and growing aspect of the wine industry is wine tourism. A commonly used definition of wine tourism is the visitation to vineyards, wineries, wine festivals and wine shows for which grape wine tasting and/or experiencing the attributes of the grape wine region are the primary motivators (Carlsen and Charters, 2006; Hall, Johnson and Mitchell, 2000). This suggests it is a unique field that combines the activities of agriculture, wine production and consumption with tourism (Hall, Johnson and Mitchell, 2000).

Clearly, wine tourism is of growing importance to both the wine and tourism industries, impacting on two levels. At the micro level, it impacts on wine producers and the ways they conduct their business (O'Neill, Palmer and Charters, 2002), while at the macro level, it impacts on government policies related to rural development (Hall, Johnson and Mitchell, 2000). Wine tourism creates better synergies with the development of regional economies (Carlsen, 2004; Gammack, 2006; Hall, Johnson and Mitchell, 2000), builds greater brand awareness and involvement (O'Neill and Charters, 2000) and increases post visit purchase behaviours (Johnson and Bruwer, 2007; Mitchell and Hall, 2006). However, the early body of research in the field is largely conceptual in nature, lacking in theoretical underpinning and empirical application (Carlsen, 2004; Mitchell and Hall, 2006).

A construct commonly used in wine tourism literature is the 'winescape' (e.g. Bruwer and Alant, 2009; Carmichael, 2005; Peters, 1997). Generally, the winescape refers to attributes of a grape wine region (Peters, 1997). Specifically, the winescape encapsulates the interplay of "vineyards, wineries and other physical structures, wines, natural landscape and setting, people and; heritage, towns and their architecture and artefacts within them" (Johnson and Bruwer, 2007, p. 277). Findings from recent studies suggest that the winescape is what primarily motivates and drives wine tourist behaviour (e.g. Carlsen and Charters, 2006; Hall, Johnson and Mitchell, 2000).

In spite of frequent references to the winescape, literature associated with the construct remains fragmented. There appears to be no consensus amongst researchers about what specific attributes constitute the winescape. No universally accepted scale that encapsulates the attributes of a wine region currently exists. This can be attributed to several factors. First, previous research is exploratory in nature, lacking theoretical underpinning and empirical testing (e.g. Getz and Brown, 2006). Second, single item scales (e.g. Sparks, 2007) or ad-hoc measures of wine region attributes are used (e.g. Brown, Havitz and Getz, 2006; Galloway et al., 2008), thus, impacting on reliability and validity. Third, studies focus on other variable effects on the wine tourist experience and the winescape is simply a by-product of this aim (e.g. Brown, Havitz and Getz, 2006; Galloway et al., 2008). This study aims to conceptualise and develop a scale that identifies attributes in a wine region. In doing so, the study examines the effects the newly developed winescape scale has on wine tourist satisfaction with a wine region.

## **Literature Review**

Servicescape theory works to explain the effects the physical evidence in a service environment have on customer mood states and behavioural intentions (Bitner, 1992). Since it is acknowledged that tourism destinations (Hu and Ritchie, 1993) and wine regions (Hall, Johnson and Mitchell, 2000) are a combination of tourist facilities and services, a wine region is viewed as a context-specific service environment. Thus, servicescape elements such as ambient conditions, spatial layout and functionality as well as signs, symbols and artefacts (Bitner, 1992) are included in the winescape scale developed in this study.

Ambient conditions take into account variables such as music, temperature, odour and lighting that stimulate the five human senses and subsequently, affect mood states and behaviour (Bitner, 1992). Atmospherics such as the visual, aural, olfactory and tactile elements of the environment in various service settings play a role in influencing customer emotions, attitudes and behaviours (Kwortnik, 2007; Lucas, 2003; Martin and Turley, 2004; Ryu and Juang, 2007).

Layout refers to the way in which the furnishings and equipment are arranged within service environments and the ability of these items to facilitate the achievement of performance goals of customers and employees (Bitner, 1992). A well-designed layout reduces overcrowding and long wait periods that take time away from enjoying the primary service experience (Kwortnik, 2007; Lucas, 2003). An elaborate layout affects levels of customer excitement and repurchase intentions (Wakefield and Baker, 1998).

Signs, symbols and artefacts describe tangible signage and décor that are used for the purposes of enhancing a certain image or mood, communicating or directing the consumer through the service environment (Bitner, 1992). Effective signage creates positive customer perceptions of the servicescape, which impact on beliefs, attitudes and behaviours (Cockrill, Goode and Emberson, 2008; Newman, 2007).

The servicescape framework has been used extensively in studies that examine customer behaviours across many contexts and cultures (e.g. Kim and Moon, 2009; Lucas, 2003; Ryu and Juang, 2007). However, some researchers have extended the servicescape framework when examining context-specific service environments that impact on customer behaviour. Such contexts include cruise ships, referred to as the 'shipscape' (Kwortnik, 2007) and festivals, referred to as the 'festivalscape' (Lee et al., 2008). In such studies, the servicescape framework has been extended to include specific attributes relevant to each context. Since this study focuses on the context of the wine region, wine and non-wine related attributes associated with the destination and region are included in the winescape scale.

The multi-attribute approach is a commonly used method within destination marketing to highlight a destination's facilities and attractions that are most appealing to potential tourists (Pike, 2002). Existing literature identifies tangible attributes such as restaurants and festivals as well as intangible attributes such as ambience and cleanliness in a destination (e.g. Morgan, Pritchard and Piggott, 2003). For the purpose of this study, this approach was adopted to identify relevant facilities and attractions in the literature that function as key attributes in a wine region (e.g. Brown, Havitz and Getz, 2006; Getz, 2000; Getz and Brown, 2006; Hall, Johnson and Mitchell, 2000; Sparks, 2007). These were included in the winescape scale developed in this study.

Researchers observe that visitors to a wine region often get involved in non-wine related elements and activities (e.g. Carlsen and Dowling, 1998). Activities are an important part of a tourist experience as they provide the visitor with something to do that is unique to the destination (Weiermair and Fuchs, 1999). For the purpose of this study, non-wine related attributes present in the wine region were also considered. These attributes included visits to cottage industries with local produce such as olive oil, pasta and chocolate, river boat cruises, fishing, horse riding, cooking tours and bicycle tours.

Finally, service staff are personnel who interact with the customer and who deliver service during the service encounter (Bitner, 1990; Shostack, 1985). Highly knowledgeable wine consumers expect cellar door staff to demonstrate strong product knowledge (Charters and Ali Knight, 2002). Such positive experiences with service staff convey the quality of service delivered at cellar doors (O'Neill, Palmer and Charters, 2002). Thus, friendly, helpful and knowledgeable staff and cellar door access were also included in the winescape scale developed in this study.

## **Methodology**

Since the aim was to develop a scale that measured the winescape, the procedures suggested by Churchill (1979) and DeVellis (2003) were adopted. First, an initial pool of winescape items was generated from a review of relevant literature. Following five focus group sessions, each involving eight to 10 participants aged between 21 to 70 years, 124 items were selected to represent constructs in the winescape scale. Next, a review panel of five professionals from the wine and tourism industry examined the items and provided comments on the constructs and their corresponding items. Nine items that were deemed vague, ambiguous, double-barrelled, lengthy or irrelevant were removed from the pool of items, leaving 115 items.

From the qualitative research conducted, a survey instrument was created that would serve as the basis for the quantitative research. The survey was conducted on a pilot sample of tertiary students utilising a convenience sampling method and a pen and paper self-administered Likert-style questionnaire. This method offers advantages such as allowing the respondents to remain anonymous, giving them a greater opportunity for self-disclosure and is also an inexpensive form of gathering data quickly, without the costs incurred for postage or interviewers (Sproull and Kiesler, 1986). In total, 262 tertiary students were sampled from a university in Western Australia for their perceptions of two well recognised wine regions in Western Australia – Swan Valley and Margaret River. A screening question was used to ascertain whether respondents had visited a wine region recently. Of the 262 surveys distributed, 227 (90%) addressed the screening question and were usable.

## **Results**

The 115 scale items were initially examined with exploratory factor analysis using a VARIMAX rotation. The final solution, with 54 items, explained 67% of the variance with a KMO of 0.84 and a Bartlett's Test of Sphericity of 0.001. Factor structures identified service staff, signage, layout, setting, wine attractions (wine festivals, wine tours, wine brands), food

and wine, non-wine related activities (fishing, riding, cooking tours), cottage industries (farmstays, local produce and craft markets), heritage and cleanliness. As expected, wine attractions and food and wine were the most important attributes, while non-wine related activities was the least important attribute in the winescape (refer to Table 1).

Confirmatory factor analysis was used to further refine and test the measurement properties of the winescape constructs. As a result of cross loading and multi-collinearity, nine items were deleted, leaving 45 items. As can be seen in Table 1, the composite reliabilities for the constructs in the winescape scale were 0.90 for service staff, 0.87 for signage, 0.82 for layout, 0.79 for setting, 0.76 for wine attractions, 0.83 for food and wine, 0.79 for non-wine related activities, 0.79 for cottage industries, 0.83 for heritage and 0.84 for cleanliness, suggesting acceptable reliability (Hair, Babin and Anderson, 2010). All constructs exhibited convergent validity with variance extracted scores greater than 0.50 (Fornell and Larcker, 1981). Since all the values were equal to or exceeded the square of the correlations between the constructs (0.002-0.40), the results also suggested discriminant validity (Fornell and Larcker, 1981).

Finally, the predictive validity of the constructs in the winescape scale was examined. Multiple regression analysis tested the ability of the constructs to predict wine tourist satisfaction. As can be seen in Table 1, service staff ( $\beta = 0.19$ ,  $p = 0.05$ ), layout ( $\beta = 0.14$ ,  $p = 0.05$ ), setting ( $\beta = 0.16$ ,  $p = 0.05$ ), food and wine ( $\beta = 0.19$ ,  $p = 0.001$ ), non-wine related activities ( $\beta = 0.20$ ,  $p = 0.001$ ) and cottage industries ( $\beta = -0.21$ ,  $p = 0.001$ ) produced significant relationships with satisfaction with a wine region, demonstrating the predictive validity of the six constructs.

**Table 1: Means, standard deviation, composite reliability and regression of the winescape constructs on satisfaction with a wine region in Australia**

Servicescape Constructs	Mean	Standard Deviation	Composite Reliability	Standardised Coefficients Beta
Service staff	5.96	0.86	0.90	0.19*
Signage	5.24	0.98	0.87	0.09
Layout	5.31	1.19	0.82	0.14*
Setting	5.26	0.92	0.79	0.16*
Wine attractions	6.18	0.78	0.76	0.09
Food and wine	6.00	0.95	0.83	0.19***
Non-wine related activities	4.58	1.20	0.79	0.20***
Cottage industries	5.17	1.02	0.79	-0.21***
Heritage	4.85	0.94	0.83	-0.04
Cleanliness	5.26	1.01	0.84	0.06

*Note: 1 = Strongly Disagree and 7 = Strongly Agree*

From the findings, it is clear that the six constructs appear to be foremost on respondents' minds when rating their satisfaction with a wine region. Of these six constructs, only cottage industries produced a significant negative influence on satisfaction. It is likely that respondents' experiences with farm stays, local produce and craft markets may have been limited or below the level of satisfaction to warrant this result. Interestingly, wine attractions did not produce a significant influence on satisfaction. Possibly, many respondents may be visiting the wine region for an overall experience rather than with any specific intention to attend a wine festival, participate in a wine tour or seek out a well known and reputable wine brand.

## **Discussion, Limitations and Conclusion**

The aim of this exploratory study was to conceptualise the winescape and develop a scale that could measure effects of the attributes of a wine region on wine tourist satisfaction. The newly developed winescape scale exhibited reliability, convergent and discriminant validity. Six constructs within the winescape scale also demonstrated predictive validity, suggesting that it has potential to become a competent measure that can predict wine tourist perceptions, attitudes and behaviours.

Methodologically, this study introduces theoretical underpinnings using servicescape theory from the services marketing literature (e.g. Bitner, 1992) and multi attribute destination theory from the tourism marketing literature (e.g. Hall, Johnson and Mitchell, 2000). This helps to address the empirical shortcomings identified in previous wine tourism research (Carlsen, 2004; Mitchell and Hall, 2006). The study also extends frameworks from previous wine tourism research (e.g. Sparks, 2007; Wakefield and Blodgett, 1996) by integrating all relevant servicescape elements into the context-specific service environment of a wine region. An integration of the fragmented literature may help toward developing a winescape scale that is universally accepted and utilised.

Managerially, the study may be able to offer a few contributions. At a regional level, identifying what wine regions can provide and which attributes in the winescape have the strongest effects on wine tourist behaviours can assist in the allocation of resources for both short and long term projects. From high level government initiatives to small, locally-operated businesses, such resource allocation could be instrumental in guiding wine tourism policy making, wine region development and infrastructure, business operations management, human resources management as well as branding and marketing.

A key limitation to this study is the sample. First, it is acknowledged that a convenience student sample is not representative of the average wine tourist. Other studies suggest that the average wine consumer is older, a higher income earner and at a later stage of their life cycle (e.g. Brown, Havitz and Getz, 2006; Charters and Ali-Knight, 2002; Sparks, 2007). Second, the single study and small sample size restrains its ability to capture the characteristics of a general population. These issues impact on the generalisability of the findings.

It should be noted that since this is a pilot study in developing a winescape scale, the convenience student sample has served its purpose in being exploratory in nature. The next stages of the study involve administering the newly developed scale to wider demographic samples, representative of the Australian population at large. Replicating the winescape scale and testing its psychometric properties across a variety of wine regions at different levels of development, cross-nationally and even cross-culturally will add rigour to it.

Future research should consider integrating the winescape scale into a well established buying behaviour framework (e.g. Sparks, 2007) that could be helpful in predicting decision-making outcomes. It would be interesting to determine at which stage in the decision-making process the winescape attributes have the most influence. If the winescape attributes are more influential in information search stage, then these attributes could be introduced in promotional campaigns that attract potential wine tourists. However, if the winescape attributes are more influential in the post purchase behaviour stage, then the focus could be on guarantees provided by service staff in the winescape.

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