

Exploring the nature of price satisfaction in the Australian wine supply chain

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Abstract

In recent years, there has been an increasing realisation of the need for Australian Wineries to develop and maintain quality relationships with their suppliers of grapes. This is especially against the background of the realisation that quality relationships can reduce the level of transaction cost and improve efficiency in the supply chain. One important factor which has been considered as having the potential to enhance and sustain high quality business relationships is the price satisfaction, which measures the perception of the price levels that is paid to the farmers.

The aim of this contribution is to explore the main dimensions of price satisfaction between the Australian grape growers and wineries, and determines its impact on overall price satisfaction.

Based on the results of the online interview with 396 Australian grape growers, we identify price transparency, relative price satisfaction, price quality ratio and price reliability as the main factors which influence grape growers satisfaction with the price.

We conclude that wineries need to focus on the psychological aspect of the price such as price information, stable prices as well as the process of price determination in order to enhance the perception of price fairness from the grape growers.

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Introduction

The wine supply chain involves the production of grapes, the transformation of grapes into wine and the marketing of the wine products. It is one of the few industries where a business can be involved in primary and secondary production as well as the marketing of the end product. The producers of wine products obtain their grapes from their own vineyards or from grape growers who sell their grapes to the wine producer. In order to obtain grapes, a wine producer (winery) must liaise with the grower to acquire grapes of a required specification. In some cases, the wineries obtain the grapes from the open market which is characterised by the use of an arm's length method of transacting. This method of exchange is often associated with high levels of transaction costs and may generate inefficiencies (Hobbs & Young, 2000). In order to overcome this, the development and maintenance of long term and closer relationships between the growers and wineries is required. Long term relationships (LTR) between the wineries and grape growers may provide additional advantages including the reliable supply of grapes, improvement in the level of technical interaction between the wineries and the growers, potential product adaptation, reduction in the level of uncertainties as well as enhancements in the capacity of the wineries to plan and forecast production schedules (Batt & Wilson, 2000).

Currently, certain relationships between grape growers and wineries in the Australian wine industry have become strained and adversarial which has led to short term relationships which could harm the long term viability of the industry (Speedy, 2006). Therefore to prevent long-term instability in the industry, action must be taken to create LTR between the two actors.

One important factor that has been considered in many exchange relationships is price, which is the financial value that is given out in exchange for a product. The literature on consumer studies regarding price have argued that customers hold an internal reference price which serves as a standard against which newly encoded prices are compared (Diller, 2000; Matzler *et al.*, 2006). The reference price therefore provides base for customers to determine their level of satisfaction with the exchange, the so called "Price satisfaction", which has been explored in detail by authors such as Diller (2000) and Matzler *et al.* (2006) in consumer markets. However, the literature has not fully explored the concept of price satisfaction in industrial markets and more especially in the Australian wine industry where issues of relationships are beginning to take centre stage.

The aim of this paper is to explore the nature of price satisfaction in the Australian wine industry. Specifically, we determine the main dimensions of price satisfaction from the grape growers' point of view and determine how the dimensions influence the overall price satisfaction. It is expected that this will enhance understanding of how wineries can use price to improve their relationships with the grape growers.

The remaining sections of the paper are organised as follows: First, we provide a background information about the Australian wine industry and literature review about the concept of price satisfaction. Next we describe our empirical methods. Finally, results are discussed and conclusion drawn.

Literature review

Concept of price satisfaction

The extant literature in marketing holds that consumer satisfaction is the main directive of marketing (Anderson *et al* 1994). This notion of consumer satisfaction is also connected to the concept of relationship marketing and the creation of long-term relationships which result in customer satisfaction, incorporating satisfaction relating to price and its various dimensions. While the notion of price is included in the scale items of many questionnaires (see Fornell *et al* 1996; Gyau and Spiller, 2007; Sternquist *et al*, 2004; Voss *et al*, 1998) little attention is paid to the antecedents of price satisfaction and the nature of the construct items. Furthermore, the literature debates that price satisfaction is a higher order construct linked to a number of attributes related to price. Campbell (1999) suggests that price satisfaction is a consequence of price fairness and price perception, while Keaveny (1995) and Varki and Colgate (2001) discuss that price perception has an effect on satisfaction. Matzler *et al.*, (2006) takes the discussion further by postulating that price satisfaction is a multi-dimensional, higher order construct.

Dimensions of price satisfaction

As information access and increased interaction by customers is a modern day norm (Urban, 2003), consumers are increasingly becoming more demanding on the honesty and completeness of information they receive on price (Matzler, *et al*, 2006). The benefits of satisfying consumers by providing honest and frank information regarding prices are increased trust and satisfaction with the company (Urban, 2003, Somogyi and Gyau, 2008). It therefore stands to reason that price transparency is a dimension of price satisfaction. In relation to price transparency in a B2B context, the information access and completeness of information is a non-economic reward concerned by the supplier. Industrial suppliers of some commodities especially agricultural products are often concerned about the price formula that is used by their buyers. Most price formulae take factors such as quality, quantity supplied, geographical location, length of relationship, nature of contracts etc into consideration (Schroeder *et al*, 1998). Thus two or more suppliers of physically the same commodities may receive different prices under some circumstances. This therefore makes it imperative for buyers to keep a high level of transparency concerning how prices are determined and paid so that some suppliers may not feel discriminated against. Related to the discussion above is the dimension of price-quality ratio. Monroe (1990) has argued that from consumers' perspectives, value represents a trade off between the benefits they perceive in a product relative to the price they pay for it. The notion of the trade off between benefits and cost is pertinent to customer value. If perceived quality exceeds perceived costs, customer value is high and vice versa (Matzler *et al*, 2006). Therefore a favourable price-quality ratio (i.e. high customer value) will increase customer satisfaction (Lam *et al*, 2004; Matzler *et al*, 2006).

Matzler *et al* (2006) postulate that in a B2C context, customers make price comparisons during the purchasing decision making processes. The price comparison refers to relative prices and is affirmed by a body of literature that identifies the effect of comparative price claims on consumer perceptions of price (see Compeau and Grewal, 1994; Grewal *et al*, 1996). Therefore a relative price of a product directly influences consumer satisfaction and constitutes a dimension of price satisfaction. From the business suppliers' point of view, effects of relative prices may also influence the suppliers' overall satisfaction and performance. Diller (1997, 2000) postulates that consumers gain satisfaction from a price of a product if they believe that the offered price is favourable and fair. Thus, relative prices, price fairness and price confidence are therefore likely to influence the suppliers' overall price satisfaction

Another dimension of price that can be considered from suppliers' perspective and which may influence the overall price satisfaction is price reliability. The notion of price reliability further relates to confidence and is linked to price expectations and whether they are met or not (Diller, 1997; Matzler *et al*, 2006). Price reliability also relates to the idea that prices do not change unexpectedly and that the suppliers are informed in a timely manner. If price reliability is high then trust is built and a long term relationship is engendered; a tenet of relationship marketing.

Methods

Survey design

In order to determine the main dimensions of price satisfaction data were collected from FFV using online survey of the grape growers in Australia.

A questionnaire was designed based on an extensive review of the literature on price satisfaction. The relationship studied was one between the grape growers and the wineries. In all about 396 growers were interviewed. All items were measured on 7 point likert scale.

Preceding the creation of the questionnaire instrument, a large volume of time was taken to examine the background literature and the preliminary research results to ensure that the developed scale item measures were suitable and consistent. The scale items in the survey were modified numerous times to improve the efficacy and content of the questions used. The questionnaire was pilot tested on 15 respondents to gain whether the respondents understood the questions and could successfully complete the questionnaire. In addition, the questionnaire was examined by wine industry professionals, including heads of grape grower associations and wine industry experts to gain their opinions of the efficacy of scale items and the overall effectiveness of the questionnaire. The wine industry professionals generally commented that the contents of the questionnaire were sound.

Following, the questionnaire was distributed to the respondents electronically. Wine grape grower associations and private companies provided assistance in terms of giving direct access to their grape growers via electronic distribution of the questionnaire. The wine grape grower associations (eg Murray Valley, Riverina, Barossa, McLaren Vale, Adelaide Hills, Tasmania, King Valley, Granite Belt, Hunter Valley) assisted in the distribution of the survey instrument to their constituents and provided comments of endorsement. Private companies (including grower liaison companies and large wineries) also provided access to their growers in a similar method. The assistance by the associations and companies provided a good regional, state and production (quality of grape production focus) representation in final sample. The survey was completed in 4 months in 2009.

Measurements

The dependent variable is the overall price satisfaction which was operationalised with 3 statements. The independent variables are the dimensions of price satisfaction which include price transparency (measured with 4 statements), relative price satisfaction (measured with 2 statements). Price reliability and price quality ratio was measured with one statement each. SPSS statistical program version 17.0 was used for all statistical computations. Exploratory factor analysis using principal component analysis with a varimax rotation was applied to the overall price satisfaction, price transparency and the relative price satisfaction constructs. In this analysis, all factors with Eigen values above one were extracted and only factors with loadings above 0.5 were retained (Gyau and Spiller, 2007, 2008). To test for the appropriateness of the factor analysis for the scale, the Kaiser-Meyer-Olkin Measure of

Sampling Adequacy (KMO-MSA) was conducted for all the scale items with more than one indicator variables. All fell within the accepted region of greater than 0.5 (Nunnally, 1978). In addition, these measures were purified using the Cronbach Alpha. The results of the Cronbach's Alpha and the factor analysis are shown in Table 1.

Results and discussion

Table 1: Overall price satisfaction, price transparency and price reliability

Factors and Items	Factor Loadings
Overall price satisfaction KMO=.634, Cronbach's alpha = .696, Explained variance = 62.16%	
The winery keeps all promises regarding the price of my grapes.	.846
The winery offers me a fair and reasonable price for my grapes.	.804
Return on investment is higher in the contract with the winery.	0.709
Price transparency KMO = .818, Cronbach's alpha = .707, Explained variance =69.52 %	
Grape price information is complete, correct and frank.	.803
Grape price changes are communicated properly.	.873
Grape price information is understandable and comprehensive.	.848
Grape price changes are communicated timely.	.805
Relative price satisfaction KMO = .50 , Cronbach's alpha =0.60 ., Explained variance = 68.18%	
I do not believe other wineries will have the same or even better price.	.826
Term and conditions of the grape contract with the winery are better than other wineries' contract offers.	.826

Description of the sample

Respondents noted that the majority of the wineries that they focussed on in the questionnaire were privately owned. Out of the 396 firms which participated in the survey, 239 were privately owned firm and 126 was publicly owned and 31 did not declare the form of ownership. About 42% had traded with the buyer for less than 5 years, 26.5% between 6-10 years and 18% between 11-15 years. 13.4% had dealt with the buyer for more than 15 years. The above indicate that majority of the participant has been in relationships with the wineries for less than 10 years

Therefore the mean amount of years that growers had the relationship with the winery they were asked to focus on was 8.5 years and a standard deviation of 8.37 . Small to medium scale growers were over represented in the sample consisting of 61.4% of all respondents. Large wineries represented 32% of the sample. 6.5% did not classify themselves.

Regression analysis

Table 3: Regression model of overall price satisfaction, and dimensions of price satisfaction

	Co-efficient(beta)	Standard error	T statistic
Constant	-0.975**	0.122	-7.931
Price transparency	0.397**	0.042	8.792
Relative price satisfaction	0.255**	0.033	7.655
Price reliability	0.178**	0.024	3.106
Price quality ratio	0.060**	0.023	7.587

$R^2=0.690$, $Adj. R^2 = .686$; $F = 217.08$; ; ** $p \leq .01$

Relative price significantly influences the overall price. This indicates that suppliers tend to compare prices and services between buyers. Whereas some wineries may offer high prices but only buy low volume grapes, others may buy grapes, at slightly lower price than the market price but takes high volume. The grape growers do not only think about the how much they will obtain but also measure the price in relation to the quantity that can be sold to the buyers.

Thus, relative price in terms of price quantity ratio as well as prices that can be obtained from other buyers has influence on overall price satisfaction.

Secondly, price-quality ratio was also found to influence grape growers' overall satisfaction with price. In the context of the Australian wine industry, this indicate that farmers are interested in the quality grading system and hence whether or not the quality is taken into consideration in rewarding them may influence how satisfied they will be to the price paid to them. Thus, where a good grading system is used, farmers are more likely to be satisfied with the price and vice versa.

Price reliability also influences the overall price satisfaction indicating that where prices do not change and grape growers are able to predict the price they will obtain, the grape growers are more likely to be satisfied. This result is consistent with a study by Matzler *et al*, (2006) in the Price reliability also influences the overall satisfaction dimensions to influence purchase intention in the B2C context in the banking industry.

Recommendations, conclusion and limitations

The result of the study offers a number of managerial implications for wineries.

First, the results indicate that price satisfaction is not only generated from the absolute prices that the grape growers are paid but includes the psychological aspect of the whole exchange system such as relative prices, price quality ratio and price reliability. The above therefore suggests that it is just not enough to pay high prices to suppliers in order to make them satisfied and capture their loyalty. In order to enhance suppliers' satisfaction, buyers need to understand and fulfil the psychological aspect of the price by making price comparison to what can be obtained from other wineries as well as the relationship between the price offered and quantity bought in order to let the grape grower feel that the prices they receive is reasonable and fair and takes into consideration the quality of their grapes. In this case, grape growers may be more likely to stay in the relationship with the buyers even when the actual prices are not the highest. This is particularly true in the Australian wine industry where the lowering of price offered by wineries is continuing due to industry downturn. Therefore the ability of wineries to understand the dimensions of price satisfaction and consider them when determining prices is of importance to maintaining long term satisfied grape growers. The long term satisfaction of grape growers is of further critical importance to the viability of the Australian wine industry as the quality of the wine product is generally determined by the grapes (Domine, 2000) and the Australian wine industry is moving to focus on the product and promotion of quality wines (Deloitte & WFA, 2006)

Secondly, by capturing price satisfaction, buyers indirectly avoid price asymmetry in relationships but practise mutual satisfaction in the exchange. In the wine industry, putting high farm gate price may affect consumers buying power which eventually influences the whole supply chain management. Therefore, by enhancing price satisfaction in the supply chain, price asymmetry can be reduced and grape growers psychological gratification of the price which is given to them by the wineries can be enhanced.

The aforementioned discussion has shown that like in consumer markets, price satisfaction in Australian wine industry can be considered a higher order construct with many dimensions and that each of these dimensions may influence grape growers overall satisfaction with the price.

In spite of the contribution of the article, there are some limitations that have to be taken into consideration in interpreting the results. First, we used a cross sectional data for the analysis and a cross-sectional study is limited in its ability to study concepts such as price satisfaction dimensions which involves multiple actors over time. Essentially, the attitudes of producers toward price satisfaction change with time (Campbell 1999; Munnukka 2008; Choi and Mattila 2009). Therefore capturing time series data would provide a better insight into this aspect of relationship building.

Finally, our data is also based on single sided interviews with the producers, and therefore, potentially subject to hindsight and other biases. A triangulation study between producers and buyers should be conducted to capture a better insight and research framework.

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