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Value creation in relationships between Australian wineries and their winegrape suppliers

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Abstract

Increasingly, business success in today's highly competitive and dynamic Australian grape and wine industry has become reliant on working with the right partners and being able to develop and manage these relationships. In order for business relationships to prosper, each party must achieve some value beyond that which they would receive if they were to operate independently. The higher the value expected or received, the stronger the motivation for partners to continue the exchange. Still, while customer and supplier firms are deeply conscious of the value of their relationships with trading partners, knowledge as to which elements of the relationship confer value and the extent of that value can be difficult to clarify due to the multidimensional, intangible and often indirect nature of the concept. This lack of clarification becomes problematic for firms when they attempt to build a coherent customer or supplier relationship management strategy.

This comprehensive study of 575 Australian wineries and wine grape suppliers in South Australia, New South Wales, Victoria and Western Australia has gained a better understanding of how partner attributes such as the willingness and ability to resolve conflict, communicate effectively, provide performance satisfaction and the propensity to trust and cooperate can enhance the value of customer and supplier relationships. Furthermore, it was revealed that the extent and means by which value was created for wineries and independent wine grape suppliers were significantly different.

The resultant framework provides a link between the problems encountered in creating relationship value and identifying solutions which are current, relevant and appropriate to the Australian grape and wine industry. The framework can be applied by wineries and wine grape suppliers at multiple levels of analysis: individuals, firms and populations.

Executive summary

The following research uses an exploratory and confirmatory approach to explain relationship value within the grape and wine industry in Australia. Specifically, the study develops and empirically captures and compares winery and grape supplier perceptions pertaining to relationship value. Relationship value is most often defined in terms of the benefits and costs realised through being in an ongoing trading relationships. Over time, business relationships can become instruments by which to understand, create and deliver value. Nevertheless, developing and maintaining customer–supplier relationships is resource-intensive and only worthwhile when the positive value components (benefits) exceed the negative value components (costs).

A structural equation model was developed from a comprehensive literature review and further enriched through a qualitative field study involving sixteen in-depth interviews with wineries and their grape suppliers in Western Australia. The model was tested using data gathered from a survey of 175 wineries and 400 wine grape suppliers located in South Australia, Victoria, New South Wales and Western Australia.

Findings in relation to the five research objectives highlight the similarities and differences in value creation and value outcomes in working relationships for wineries and wine grape suppliers:

- **Objective 1: Determine the relationship between the relationship-specific constructs and relationship value constructs to identify those that confer value and the extent of that value** It was evident from the business relationships studied that partner attributes such as the willingness and ability to resolve conflict, communicate effectively, provide performance satisfaction and the propensity to trust and cooperate all made an important contribution towards increasing relationship benefits for wineries and for grape suppliers. A restrained use of winery power was found to be critical to avoid a reduction in the ability to resolve conflict, the level of performance satisfaction and trust in the relationship.

  What are the similarities and differences between winery and grape supplier's perceptions towards the selected relational constructs and value outcomes? While both parties share these same key relational elements (conflict resolution, communication, power asymmetry, performance satisfaction, trust and cooperation) in order to optimise relationship benefits (profitability, innovation and market/scout benefits) and reduce relationship costs, the means by which relationship value is conferred was significantly different. For customers, satisfaction with a supplier's performance enhanced perceptions of the value of that relationship due to the potential to increase profitability. Also, customer perceptions of relationship value increased

through trust and cooperation. In contrast, suppliers in a trusting and cooperative relationship with a customer have the opportunity to increase the value of their relationships to the extent that they are willing to innovate to build strategic position, reduce costs and improve wine grape quality to increase profitability.

- **Objective 2: Examine customer and supplier perceptions of the main components of relationship value in the grape and wine industry.** Separate analysis of the different dimensions of relationship value confirmed that the critical dimensions for both parties were profitability benefits, innovation and relationship costs. The main value outcomes in business relationships were derived from the optimisation of those elements which have a direct impact on the firm's profitability and competitive advantage. The adoption of innovative business practices including jointly setting strategic directions and the long-range planning of wine grape varietal supply to meet changing consumer preferences were shown to further increase customer and supplier perceptions of relationship value. Although maintaining a business relationship requires time and money to continuously preserve and improve inter-firm linkages, relationship costs were perceived by wineries and wine grape suppliers as being relatively low.

- **Objective 3: How does the extent of relational collaboration influence relationship value for wineries and for grape suppliers.** Study findings revealed there were those firms with a high relational orientation and others with a low relational orientation within both winery and grape supplier groups. Specifically, those wineries and grape suppliers with higher levels of conflict resolution, communication, performance satisfaction, trust and cooperation were able to realise superior value from their trading relationships. The presence of high and low relational orientations gives support to the existence of those who strive to build value into their business relationships and those who will tend to rely on the efficiencies of the market exchange to maximise their profits, satisfaction and value.

- **Objective 4: How do buyers and sellers share the value created in the relationship?** Overall, the majority of winery respondents perceived the value appropriation to be equal in the relationship, however, grape suppliers did not agree. Instead, the majority of wine grape suppliers considered the wineries had a greater share of benefits and a lesser share of relationship costs and relationship risk.

- **Objective 5 What are the managerial implications of the findings for business-to-business relations in the grape and wine industry in Australia?** The practical implications to be drawn from this research relate to the manner in which partners attempt to optimise the value created in their trading relationships. When managerial attention is given to improve critical relational behaviours in working relationships,

competitive advantage is enhanced through the increased effectiveness of the interaction, coordination and adaptations.

The structural equation model has been designed to meet this challenge with a framework of relationship value that can be operationalised. Drawing on the findings from the present study, practical implications for buyers aiming to optimise the value of their relationships through cooperative strategies include the need to:

- *adopt a long-term orientation with preferred suppliers in order to optimise value potiential*
- *jointly address and resolve problems as they arise*
- *avoid using power coercively – negotiate rather than enforce*
- *maintain a strong focus on service and wine grape quality*
- *clearly specify and articulate grape quality specifications and be more transparent about how quality is assessed*
- *develop network relationships where appropriate to access information and business contacts*
- *include the supplier in innovations – setting strategic directions, long range planning of supply, the joint development of production processes and technical matters*
- *periodically revise the firm's understanding of the supplier's requirements or expectations.*

Practical implications for cooperative strategies for grape suppliers seeking to optimise relationship value include to:

- *uphold realistic and reasonable price expectations*
- *maintain a strong focus on the provision of good service and wine grape quality*
- *follow the advice from wineries*
- *maintain frequent face-to-face communication*
- *seize all opportunities to work with the customer and stay ahead technically*
- *constantly seek to reduce costs and improve grape quality*
- *periodically revise the firm's understanding of the customer's requirements or expectations.*

Relationship strategy formulation and implementation processes can address the specific relational behaviours identified in the model that are needed to achieve the desired value outcomes. Additionally, each firm needs to periodically address the present strengths and shortcomings in these relationships and revise the firm's understanding of the requirements or expectations of both parties. This understanding is fundamental to responsive management programs and systems that enable the partnership to be mutually satisfying over time.

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1. Introduction

1.1. Introduction

Over the past twenty years, the once largely domestic focus of the Australian grape and wine industry has changed to an outward looking international export industry (Anderson, Francois, Hertel, Hoekman and Martin 2000) too achieve strong sustained growth and international competitiveness across all price points on quality-for-money (AWBC 2003, Stanford 2005b). However, as the world's fourth largest wine exporter and the largest New World exporter (AWBC 2005a), Australia's position in the global wine market has meant considerable exposure to changes in the competitive environment and price pressures that are being experienced throughout the world. The global and domestic oversupply of wine, consolidation in the industry supply chain and tough environmental challenges including drought and frosts have had serious implications for the profitability of wine business in Australia. Declining returns in the Australian wine industry have threatened the financial viability of many wine (Deloitte 2006) and grape producers (PIRSA 2005, RRATRC 2005, PIRSA 2006).

Substantial changes in many aspects of wine production and marketing have provided a necessary response to this volatile market environment. Competitiveness among winemaking firms is constantly challenged as the number of wine brands increases, customer preferences for wine styles change and wine product lifecycles grow shorter. In such markets those firms involved in the business of making wine need to have the ability to anticipate customer needs and be responsive in the development of competitive products.

Within the context of such a dynamic and competitive environment, many winemaking firms are seeking to adopt a more collaborative relational orientation with key trading partners in order to reduce the risk and uncertainty of supply, optimise the allocation and use of their resources, and better respond to future market changes. Increasingly, business success has become reliant on working with the right partners and being able to develop and manage these relationships to improve economic outcomes. While customers continue to increase their expectations from supplier relationships, suppliers too are seeking viable and sustainable economic outcomes from their customer relationships. Through becoming closer to customers and better understanding and satisfying customers needs, contract wine-grape suppliers can achieve greater customer loyalty, more consistent returns, an increase in the production of higher quality grapes that meet the wineries specifications and a higher level of technical assistance. Furthermore, suppliers can potentially benefit from being able to better plan and forecast production schedules, optimise operations processes and coordinate deliveries. Close trading relationships provide greater long-term benefits that make it more difficult for competitors to enter the market. The greater the benefits or the value expected or received, the

stronger the motivation to establish and continue the exchange (Ulaga and Eggert 2003). Furthermore, when both parties know they are in an extended arrangement, they are more willing to accept short-term disadvantages because they believe that things will even out in the long-term.

Nevertheless, in order to prosper, these customer–supplier relationships must achieve the desired benefits and a fair value appropriation for both parties. This does not imply that value appropriation is equally shared or that it is even linked to the relative contribution each partner makes towards the creation of value (Pardo, Henneberg, Mouzas and Naude 2005). Essentially, each party must be clear about their specific value focus in the relationship in order to optimise activities and resource allocation (Iacobucci 1996). If the relationship is to be sustainable, each party must achieve some value beyond that which they would receive if they were to operate independently (Wilson 1995).

Although customer and supplier firms are deeply conscious of the value of their relationships with trading partners, knowledge as to which elements of the relationship confer value and the extent of that value is often difficult to clarify. In practice, few firms have the knowledge and capability to actually assess relationship value and to gain an equitable return for the value that they deliver to trading partners (Ford and McDowell 1999). This lack of clarity becomes highly problematic when firms attempt to develop a coherent relationship strategy. To further complicate matters, different relational strategies are often needed to have an effective relationship portfolio (Bensaou 1999, Ford and McDowell 1999, Ford et al. 2003). Therefore, more conclusive information is required to assist with the firm's decision making in the formulation of relationship management strategy.

There has been a dearth of empirical research on what the antecedents and outcomes of value in business relationships are (Walter et al. 2002). No account has been taken of the value created through trading relationships between wineries and wine-grape suppliers and this can be seen as a critical deficiency in the B2B relationship knowledge required of industry managers in order to understand, create and deliver value to targeted business markets and customers. Empirical studies therefore continue to have an important role in increasing knowledge of the value-creating dimensions of business relationships; to identify how relational behaviours confer value; and how to measure the specific contribution relational constructs make towards achieving relationship value outcomes (Anderson 1995).

In this research, a structural equation model was developed to capture buyer and seller perceptions of the factors that are instrumental in the creation of relationship value in the grape and wine industry. Development of the theoretical framework has entailed the selection of model constructs which reflected the manner in which customers and suppliers interrelated,

conducted relational exchange activities and used their resources. Moreover, the study focused on those dimensions that reproduced behaviours and expectations of value optimisation in a trading relationship. The model has examined parallel corresponding perceptions from both sides – wineries and independent wine grape suppliers. This symmetrical view of dyadic relationships rests on the premise that while customers and suppliers each have different functions to perform, they are engaged in the same trading relationship with the same underlying behavioural constructs at the firm level (Anderson and Narus 1990). Both sides must manage their relationship for "clearly thought-out costs and benefits" (Ford et al. 2003, p. 197). Hence, relationship value will be defined as the customer or supplier's perceptions of the estimated net benefits (benefits less costs) that are realised from their business relationship, including those realised indirectly through connected relationships.

1.2. Research aim and objectives

The aim of the research is to examine the importance of key relational constructs in explaining the value created in the the trading relationships between buyers and sellers of wine grapes in Australia. Initially, the study will seek to analyse the importance of cooperation, trust, communication, performance satisfaction, power asymmetry and conflict resolution in creating mutually beneficial business relationships. Essentially, dyadic relationships must be examined from the buyer's perspective and from the suppliers' perspective to understand and assess the value outcomes. Further analysis will identify commonalities and differences in value perceptions across and within buyer and supplier groups.

Five research objectives were established for this study:

1. Determine the relationship between the relationship-specific constructs and relationship value constructs to identify those that confer value and the extent of that value.[1] (Section 6.1.1)

   What are the similarities and differences between winery and grape supplier's perceptions towards the selected relational constructs and value outcomes?

2. Examine customer and supplier perceptions of the main components of relationship value in the grape and wine industry. (Section 6.1.2)

   What are the similarities and differences in value perceptions between wineries and grape suppliers?

[1] Three original research objectives were found to be appropriately covered by the first research objective: (i). "what is the nature of the exchange relationships?"; (ii) "are there any indentifiable activities that, if practised can be presented as substantive evidence of relational collaboration?"; and (iii) "how do the selected relational constructs lead to relationship value?".

3. How does the extent of relational collaboration influence relationship value for wineries and for grape suppliers? (Section 6.1.3)
4. How do buyers and sellers share the value created in the relationship? (Section 6.1.4)
5. What are the managerial implications of the findings for business-to-business relations in the grape and wine industry in Australia? (Section 7.2.2)

2. Research aims and performance targets

2.1. Planned project outputs:

Outputs and Performance Targets 2004-05

Outputs	Performance Targets
1. The selection of an appropriate agribusiness value chain for the study.	Decision was made to do the project in the Australian wine industry on 1 October, 2004.
2. A set of qualitative in-depth interview questions for wine-grape suppliers and their winery customers.	Interview format and questions reviewed by supervisors and pilot tested by 31 Dec 2004.
3. Exploratory research findings from in-depth interviews in WA.	Interviews organised and completed with 8 wineries in WA and 8 nominated wine-grape suppliers. Transcribing and analysis to be completed by 30 April 2005.
4. Further exploratory research findings from in-depth interviews in the major wine producing areas in Australia.	Interviews to organised and completed with 15 wineries and 30 nominated suppliers, transcribed and analysed by 30 June 2005.[2]
5. Identification of the major variables that impact and influence the long-term relationships present in the wine industry.	These findings will be used in the construction of an industry specific questionnaire and need to be completed by 31 July 2005

Outputs and Performance Targets 2005-06

Outputs	Performance Targets
1. Publication of results	Contribute to authorship of one article published by December 2005
2. Research survey instrument – 2 quantitative questionnaires - for wine-grape suppliers and wine makers.	Survey instrument to be completed and reviewed by supervisors by 30 August 2005 and pilot tested by 15 September 2005.
3. Completed quantitative surveys to fulfil the information requirements of the project objectives.	Conduct 600 telephone surveys The sample to consist of equal numbers of wine-grape suppliers and their winery customers and to be completed by Jan. 2006.[3]
4. Findings from SPSS quantitative data output, statistical analysis and model testing	Descriptive and multivariate statistical analysis. Structural modelling to be completed by 30 June 2006.[4]

Outputs and Performance Targets 2006-07

Outputs	Performance Targets
1. Publication of results	Results prepared for publication in an academic/ wine industry journal by 30 September 2006
2. Final report with industry specific managerial recommendations to both the buyers and suppliers of wine-grapes to facilitate greater value creation for both parties through the mutual development and maintenance of more collaborative long-term relationships.	Final report to be submitted by 28 June 2007.

[2] Due to length of time taken to complete the WA pilot study and the extensive amount of data collected, a second national pilot study was not required.

[3] Surveys were not completed until 30 June 2006. The delay occurred as there was no database for independent wine grape suppliers and the sample had to be collected through a range of alternative methods.

[4] As a result, there was a subsequent 6 month delay in the completion of the statistical analysis (31 Dec 2006), submission of academic paper for publication (20 Dec 2007) and the final report (20 Dec 2007).

3. Preliminary research methodology and findings

3.1. Chapter outline

As theoretical development of a customer or supplier relationship structural equation model must give consideration to environmental influences (e.g. the current market for grapes and wine) on dyadic exchange behaviour (Håkansson 1982), a series of preliminary exploratory interviews with winery purchasing managers and independent grape suppliers were conducted to ensure that the selected relational constructs were relevant to trading relationships in the Australian grape and wine industry.

The first part of this chapter will describe the exploratory research design, research objectives, sample selection and the interview format. The remainder of the chapter reports the analysis and findings of the interview data, together with the limitations of the study and research conclusions.

3.2. Research design

Of foremost importance, the qualitative research information was fundamental in learning the right questions to ask and the most meaningful way to pose questions in the second major research stage, the quantitative survey. Measurement quality was needed to ensure valid research conclusions could be drawn. Tentatively, the research findings would also be used to ascertain whether the constructs provided a good dyadic "fit" within the selected industry context. Furthermore, the results would be useful in highlighting aspects of the model for improvement or modification.

In-depth interviews and a structured set of open-ended questions were the chosen instruments for data collection. In-depth interviewing involves conducting individual interviews with a small number of respondents to explore their perspectives on particular issues. As previous studies have found that buyers and suppliers have significant differences in perceptions about their relationships (Spekman et al. 1998, Werani 2001), the study focused on the dyadic relationship with a "matched dyadic pairs" interview approach (Storer, Soutar, Darrington & Rola-Rubzen 2002). Particularly with a small sample size, it was more appropriate to capture the buyer and supplier perspective of the same dyadic trading relationship.

Initially, a winery sample of eight was selected for the first round of interviews. Prior to the commencement of interview questions, each winery respondent was required to choose a wine grape supplier about whom the interview questions and discussion would pertain. Shortly after the interview completion, the nominated suppliers were then contacted by the winery and invited to participate in an interview to answer similar questions from a supplier perspective.

Due to the time and expense involved in the collection of primary qualitative data, the preliminary study was restricted to two important wine and grape zones in Western Australia. The interviews were carried out between January 2005 and March 2005.

3.3. Preliminary research objectives

The preliminary study was designed to seek answers in relation to four questions in order to verify, improve and operationalise the proposed model:

1. What impact have the recent industry changes over the past five or six years had on the trading relationships between Australian buyers and suppliers of wine grapes
2. What are the main features of the interaction and coordination links between buyers and sellers of wine grapes? How have the resources of these two groups been used in response to industry change?
3. What are the main characteristics of the trading relationship in terms of each construct in the theoretical model from a buyer's perspective and from a supplier's perspective? What are the similarities and the differences?
4. What are the measures of relationship value for suppliers of wine grapes and their winery customers? What are the similarities and the differences?

3.4. Sample selection

An important task in setting up the in-depth interview was the selection of the participants. Although the results of in-depth interviews are not generalisable due to the small sample size, every effort was made to maximise the representativeness of the interview sample to that of the grape and wine industry population. Therefore, the interview sample was selected on the basis of the winery's processing capacity and geographic location. The names and contact details of potential wineries were obtained from the Australian and New Zealand Wine Industry Directory (Winetitles 2004). As information on winery size is included in the directory it was possible to achieve a good representation of wineries in each processing category between 100 and 19,999 tonnes per annum.

Geographically, there are warm and cool climate grape growing regions in Australia and each tends to produce grapes for different end price points. Based on the assumption that the nature of relationships may potentially vary between warm and cool climate regions, the winery sample comprised respondents from Greater Perth (warm climate) and from the South West of Western Australia (cool climate).

Winery respondents were recruited by telephone to secure the most suitable person in the firm for the interview. The purpose of the interview, why the stakeholder had been chosen, the

expected duration of the interview, how the information would be kept confidential and the use of a voice recorder were discussed at that time. Wine grape buyers from all the wineries approached readily agreed to participate in the research. Interviews were arranged at a time and place which was convenient to the interviewee.

The winery interviewees had a number of roles in the purchase decision-making process for grapes including winery owners, winemakers, winery vineyard managers and grower liaison officers.

Step 1 Initial sample selection criteria for wine grape buyers included:

- The respondent must have a pivotal role in the winery's purchase decision for wine grapes and personal contact with the winery's independent grape suppliers.
- The buyer must have at least one year's personal experience of the trading relationship in order to be well informed about the issues to be discussed.
- Respondents must be fairly representative of the study population.

Step 2 Buyer selection criteria for wine grape suppliers included:

- The supplier must be significant enough to warrant relational exchange behaviours.
- The person in the supplier firm must have significant experience of the trading relationship.
- Respondents must be fairly representative of the grape supplier population.

The wine grape supplier sample comprised vineyard owners, managers and viticulturalists.

3.5. Interview format

Following the initial introduction, the purpose of the interview was explained, why the person had been chosen, the expected duration of the interview, and use of a voice recorder (re-explained). After explaining how the information would be kept confidential, the interviewee was asked for informed consent of the interview, the use of the voice recorder and whether they required a signed confidentiality agreement in accordance with Curtin University ethics procedure. Consent to the interview and the use of the voice recorder was unanimous in all sixteen interviews. The duration of each interview ranged between 60 and 120 minutes.

The questionnaire was divided into six sections.

Section One Introduction to the interview

The introductory protocol was designed to clarify the topic, the purpose of the research and to ensure informed consent and confidentiality of the interviewee.

Section Two Business and respondent profile, then selection of a trading partner

Following on from the introduction, the respondents were asked some general questions about the business and their position and role within the firm. Interviewees were then asked to choose a trading partner and the basis for the selection was explained.

Section Three Exploration of the impact of recent industry changes on the trading relationships between Australian buyers and suppliers of wine grapes

Section three was an exploration of the changes in the industry from the perspective of Australian buyers and sellers of wine grapes and the impact of these changes on their trading relationships.

Section Four Relationship connectedness — interaction, coordination and adaptation

The relationship connectedness section of the interview was designed to explore the ways in which the two parties were connected or linked through interaction and in the way they synchronised their activities and resources to achieve value benefits. Resource adaptations made by buyers and sellers were identified and examined.

Section Five Nature of the relationships between buyers and sellers of wine grapes

Questions in Section five was designed to explore the main characteristics of the relationship in terms of the selected constructs in the theoretical model, in particular the level and nature of cooperation between wineries and grape suppliers. In addition, the researcher was keen to identify any other aspects which may influence the ability of the two parties to create value through being in the relationship.

Section Six Relationship value

Questions in the relationship value section were designed to explore the measures of relationship value for both suppliers of wine grapes and their winery customers. Measures from the literature were used as a guide to examine the benefits and costs (Werani 2001) and direct and indirect relationship value functions (Ryssel et al. 2000, Walter et al. 2002).

3.6. Transcription procedure

Interview files were transferred from the voice recorder to the personal computer (PC), then transcribed using Power Voice 11 with foot, speed, volume and tone controls. Transcriptions were entered into three separate files. Winery interviews and wine grape supplier interviews were each entered into two separate files to enable “aggregate” and “within group” data comparison. In order to make “across group” analysis easier when analysing relationship characteristics and relationship value, the interview content on these questions was copied and rearranged in matched pairs in a third Microsoft Word file under the relevant cue questions in the interview outline.

Cavana et al. (2001) propose that the cue questions in structured interviews automatically provide themes for investigation and subsequent analysis of the data. Therefore, the pre-planned questions were used as the analytic 'blueprint' for broad themes within which further sub-themes were identified within the variety of responses. All data had a source code for future reference back to each piece of raw data in the transcribed files. The transcription process for sixteen interviews and the compilation of the preliminary findings were completed within two months.

3.7. Data analysis

The analysis of the data collected in the sixteen interviews has been approached at two levels. The data is compared at both the aggregate level (all buyers and suppliers interviewed) and at the group level (buyers and supplier interviews separately). At the group level, the data was analysed for similarities and differences between respondents within customer groups and supplier groups; or, across groups to examine the similarities and differences in responses between the two groups. The level of analysis was selected to suit the nature of information required for each research question.

The first research question on industry change was analysed within each group to investigate winery and wine grape supplier perceptions of industry change over the last five or six years. It involved a separate examination of the eight winery interviews and eight supplier interviews. Then, the impact of the industry change on trading relationship between buyers and sellers of wine grapes in Australia was analysed at an aggregate level as both shared very similar viewpoints to that question. The second research question, which examined the relationship linkages, was analysed at the aggregate level for interaction and coordination in the trading relationship, and at the group level to determine the key customer and supplier adaptations that had made.

Information on the final two research questions was critical to verify the theoretical assumptions in the proposed model. The purpose of the analysis was to clarify similarities and differences "within each group", and "across each group". The identification of important differences could challenge the underlying assumptions within the model which hypothesised that both customer and supplier relationships shared the same constructs. "Within group" analysis of the dyadic relationship characteristics and relationship value gave a detailed insight into the variation across respondents' perceptions of these concepts in customer and supplier groups. Collectively, the responses provided a rich and meaningful description of each construct. Then, the data was analysed across groups, which enabled comparison of perceptions of customers and suppliers on the selected characteristics and outcomes of their business relationships. This dual approach

enabled qualitative conclusions to drawn on the preliminary research questions and the scope of the proposed model to be finalised.

3.7.1. Explaining the impact of industry change in the last five or six years on trading relationships between Australian buyers and sellers of wine grapes

Interview results showed that participants were able to substantiate the industry changes as reported in the Introduction in Section 1.1 (page 10), with information from their own personal experience. According to respondents, over the past five or six years, the Australian wine and grape industry had experienced dramatic change as a cumulation of events unfolded.

At the time the interviews were conducted, the grape and wine market was described as being

> "volatile and ever-changing" [W4].

There was a shared view that most grape varieties were either in short supply or balanced at the turn of the 21st century, but since then, many grape varieties were significantly oversupplied. The global and domestic oversupply of wine was impacting on the supply chain at all levels and was driving the need for industry stakeholders to improve competitiveness in domestic and export markets.

Industry change from a winery perspective

Reference to Australia's strong growth in wine exports were mixed with some reservations on future growth in key markets. It was thought that the high value of the A$ dollar had made the country's exports less appealing and less price competitive. According to one respondent:

> "export is the growth market and competition on the world market can be very fierce on price…" [W3].

Another respondent commented that in today's market:

> "…there are many other places in the world that can produce good quality wines at a fairly low price. It's a challenge to get into export markets, but it is even more difficult to get export sales at a good price. The United Kingdom and United States of America want good quality wine at a bargain price" [W2].

In addition to strong price competition in key export markets, there was strong competition for wine sales in the domestic market through increasing pressure from imports [W4].

Winery interview results reported strong competition for wine sales as a result of the increased buying power from consolidation in distribution and retailing. Strong price–value pressure from these customers, the concentration of buying decisions, and demands for big price discounts, listing fees and promotional offers were squeezing the wineries' margins.

Affordable capital for start-up or expansion in grape and wine enterprises had become difficult to access in more recent years. The banking and financing sector had become more difficult due to some failures among listed wine companies.

According to a CEO at a winery in the South West of Western Australia:

> "Wineries and vineyards have particularly intense capital and credit requirements, reflecting the unusual time flow of costs and revenues and the combination of agricultural and consumer market risk. Some parts of the winery and vineyard sectors may be under-capitalised as well as under-served by credit and other financial institutions. Relatively few credit and other financial institutions understand the business of wine and wine grapes and are comfortable with its financial requirements. Consequently, both growers and wineries in many parts of the country have difficulty securing adequate financing for their operations" [W4].

Overall, interview results for wineries revealed significant changes and challenges since the turn of the century. These included: (i) global and domestic oversupply of wine; (ii) a volatile and ever changing market for wine grapes and wine styles; (iii) increasing competitiveness between countries in the export market for bulk wine and branded wine; (iv) increasing competitiveness from imports; (v) price–value pressure due to the increase in distribution and retail power in global and domestic markets; (vi) lack of access to affordable capital for start-up or expansion; and (vii) the scarcity of skilled labour in all areas of the industry.

Winery interview results revealed that the need to be competitive in the wine market had led wineries to renegotiate their fruit contracts with growers in the form of tightening quality parameters, lower base pricing, bonuses for quality and shorter contracts as there was too much uncertainty about the future to retain the ten year contracts that had been around before the turn of the century.

Industry change from a wine grape supplier perspective

Wine grape supplier interviews tended to focus on the adjustments they had made. Responses focused on the grape oversupply, which had been accelerated by the huge investment plantings that took place in the latter years of the last century. Now, as all the vines had come into production, many growers had difficulty selling their fruit.

In a buyers' market, with plenty of available grapes, the winemakers could afford to be both particular and demanding in terms of quality. Wine grape growers were being forced to spend more money on their crops to achieve the specified quality. A number of these growers were being forced to absorb these costs without being compensated through higher grape prices. If anything, prices for wine grapes had come down in recent years. As one grower commented:

> "when I started my vineyard seven years ago there was an acute shortage of red grapes so everybody planted reds, shiraz and cabernet etc., so that has all come into production now and caused the oversupply everywhere…When I sold my first crop [of Shiraz] the price was A$1200 per tonne and seven years later it is A$700 per tonne" [S2].

With alternative sources available, independent grape suppliers were without recourse. In a buyers' market, some grape suppliers felt as though they were at the wineries' mercy.

The interview results reflected the importance of having a contract in times of oversupply.

According to one wine grape supplier:

> "if you haven't got a contract in this market you are doing it tough and believe me there are a lot of people out there who don't have contracts. Last year [2004] a lot of grapes had to be dumped on the ground" [S8].

As another wine grape supplier explained:

> "six years ago you could sell your fruit on the spot market, whereas today you have to have a contract to stay in business" [S5].

Those respondents with contracts were pleased to be locked in with a winery as they realised that it would be difficult to sell their fruit. However, the current trading environment was not acceptable to all grape suppliers.

One grower commented:

> "we are grateful for the contract so we are letting a few things slide, and just waiting … when our contract does expire in 2006 we are hoping that things will have turned around a little bit and there is a little bit more movement in the industry and we can look at other options" [S6].

Winery rationalisation in terms of what was purchased (preferred grape varieties from preferred grape producing regions) and larger volumes (with a minimum tonnage from preferred suppliers) also drew comment. Winery consolidation and expansion had led to a reduction in the number of grape suppliers, and a preference for high volume, cost efficient grape suppliers. For example:

> "… with the smaller growers, the wineries have to organise fruit delivery on the same day because they need about 25 tonnes for processing. So it is a lot more difficult to coordinate delivery with smaller growers. Being a larger producer most of my deliveries are in good size batches anyway — it hasn't really affected me" [S3].

> "The rationalisation of supply has caused bitterness amongst those smaller producers who had been deemed either uneconomic or not regionally attractive" [S5].

One small supplier still supplying to a large winery explained his situation:

> "I received a letter in the last 12 months saying that they wouldn't be renewing the contract in future but it didn't say that they wouldn't be taking the fruit … they just didn't want to be tied down to contracts … it probably just gives them more options" [S2].

> "I think there has been a process over the last few years where the wineries have had a number of producers and they have come down to the ones that they know can give them the product that they want. It is critical to a winery's competitive position that they get it" [S3].

Overall, interview results for wine grape suppliers revealed many significant changes for them since the turn of the century. These included: (i) an oversupply in wine grapes; (ii) a change from a suppliers' market to a buyers' market; (iii) supply contracts; (iv) a quality focus and a trend towards the use of quality linked payment systems for grape price determination; (v) downward pressure on grape prices; (vi) changes in varietal demand; (vii) strengthening of

regional preferences for grapes; (viii) a skilled labour shortage; (ix) fewer, preferred suppliers for larger wineries; (x) greater reliance on technology in the vineyard; and (xi) better relationships with winery customers.

Clearly, the dynamic nature of the wine and grape market has produced extensive far-reaching change. From the results of the wine grape supplier interviews, this single comment seemed to summarise the prevailing view of respondents:

> "compared to five or six years ago, it's all contract and quality driven … we have gone from a chronic shortage to an oversupply … that's the biggest change and it has changed every aspect of how we trade" [S7].

Implications for relationships between wine grape suppliers and wine makers

Jointly, respondents in the wine and grape industry in Western Australia indicated that the relationships between wineries and their grape suppliers were still very good. For the most part, both parties were working together to produce top quality fruit in order to achieve top quality wines. Interview responses showed that the majority of wineries had worked hard on developing and improving their trading relationships with their suppliers in recent times. Wineries had become more professional in their efforts to promote two-way communication. Nevertheless, the quality and extent of communication varied and was obviously better where grower liaison personnel were employed which was usually in the larger wineries that had more resources.

Where resources permitted, wineries had formalised vineyard reports, made information available via a growers' website, held growers' meetings and wine tastings and appointed personnel to improve communication with their grape suppliers. For example, one grape supplier commented on the improvement in communication and spoke of regular emails from the vineyard manager, and technical or price information posted on the website on matters that were relevant to their needs.

At the same time, more informative feedback was required from grape suppliers. One respondent commented:

> "while the winery requires more information such as written documentation of spray programs and the use of chemicals, bunch weights and crop estimates and all that sort of thing, they help us too … it is not a one way thing … they require the information but they help us to provide it [S8].

Collectively, there was a general feeling that both parties were working in partnership to increase cost efficiency and grape quality.

The interview results revealed hearsay of less fortunate circumstances within the industry. At its worst, the industry changes had led to often strained relationships between grape suppliers and wineries where the survival tactics of some wineries has meant terminated contracts, bought out contracts, or renegotiation of lower prices in contracts.

Most independent wine grape suppliers acknowledged that they had been making significant profits up until this turnaround, but now, more realistic risk/reward parameters needed to be struck for both trading parties. In the current market, many wineries risked being choked by working capital demands. Wineries pay for the grapes within six months of harvest but they don't get paid for the wine they made from those grapes for, at best, twelve months (early drinking white wine styles) to between three and four years (red styles) Thus wineries carry significant stock and to improve cashflow/profit they need to sell more. For the winery, it can rapidly become a vicious circle.

Just as the winery was responsible for the risk associated with wine production, grape suppliers carry the risk associated with grape production, harvest and delivery, including the inherent climatic risks of any agricultural industry. In general, strong competition between grape suppliers has put more pressure on growers to increase their viticultural knowledge and crop management skills to supply top quality fruit. If the fruit is not up to minimum specification, it will not be purchased and there was always another supplier to take their place.

> "It has certainly sorted out the most serious grape growers and the person who doesn't try to meet customer requirements will fall by the wayside" [W8].

Obviously, the response to industry change in recent years has to be two-sided. The need to be competitive in such a dynamic market has been the driving force behind the rapid progress in adopting quality-based agricultural practices, the wine industry's increased professionalism and efficiency; and the improvements in grape and wine quality through higher communication and cooperative involvement in trading relationships has helped to achieve the desired value outcomes.

3.7.2. Explaining relationship connectedness in terms of interaction, coordination and adaptation

The primary objectives of the preliminary research were to explore and explain the nature and value of the trading relationships between Western Australian buyers and suppliers of wine grapes. In these trading relationships, both parties are connected or linked through interaction, coordination and adaptation (Ford et al. 2003). The three processes provide the means to create value between trading partners through activity, resource and actor relationship dimensions (Håkansson and Snehota 1995). Thus an understanding of the potential to create value in these business relationships begins with an examination of: (i) the interaction points between individuals from buyer and supplier firms; (ii) the coordination of trading activities between the two firms; and (iii) adaptations in the utilisation of resources to meet the specific needs of the relationship.

Interaction between wineries and their wine grape suppliers

Collectively, participant responses highlighted the need for interaction with trading partners in the following critical stages of the grape purchasing process: (i) negotiation of the conditions of the purchase agreement; (ii) discussion of crop management and quality issues; (iii) making harvest and delivery arrangements; and (iv) feedback on grape quality on receival at the winery and the resultant wine quality of the grapes (Table 5.1).

The following comments from one CEO/winemaker are representative of interview responses:

> "Well, I talk initially about purchase terms … I interact with my suppliers at pruning time … I interact with them in terms of irrigation, soil management, disease control and any other things that come up in visits to the vineyard …then it's basically maturity analysis … and harvest and delivery" [W1].

Table 3.1: Interaction between winery and supplier

Basis for interaction between winery and wine grape actors
• Negotiation of contract/contractual details or verbal purchase conditions
• Crop management and quality issues — pruning, irrigation, soil management, disease control, maturity analysis
• Harvest at targeted Baume and delivery schedule
• Feedback on grape quality assessments
• Conflict resolution (when applicable)

Terms and conditions for the purchase and supply of wine grapes are made either verbally or written into a grape purchase agreement. The focus of discussion on the conditions of grape purchase is usually concerned with the negotiation of grape prices and grape quality parameters in terms of the quality control requirements and specifications (grape maturity, purity, condition and tolerances). Discussion and understanding the expectations of trading partners was necessary to ensure cooperation in working together towards achieving the desired outcomes. As one winery manager commented:

> "I think having sat down and negotiated the contract and talking over a lot of important issues about what we were looking for and what they were looking for actually strengthened the desire and ability to work together" [W5].

At different times of the year, the need for interaction on vineyard management practices varied according to the different growing stages through the wine grape season. A comment from a winery perspective is provided to highlight the seasonal variation in frequency of interaction:

> "How often we interact depends on the time of the year. I mean, purchasing maybe once, crop management is probably a continuing thing throughout the year, so that may be around six contacts throughout the year, then harvest generally, you know, it will involve at least three contacts and delivery probably one visit, I suppose" [W1].

Vineyard assessments by wineries through the grape growing and ripening period were directed at the development of flavour and character and the provision of grapes to specifications. More

interaction was generally necessary during ripening because the winery was interested in the progress of the grapes towards maturity. The determination of harvest time was critical for the expression of flavours and other attributes. Personal inspections of the grapes in the vineyard by the winemaker allowed the winery to batch similar parcels of grapes, thereby optimising wine quality and winery efficiency.

Since all business relationships are considered to comprise varying degrees of cooperation and conflict (Johnsen and Ford 2001), it is reasonable to expect problematic issues to arise during the course of the business relationship. The majority of interview respondents had not experienced any significant problems in their relationships. Most problems were addressed as they arose through joint discussion. More serious problems, such as the rejection of fruit, were carried out in strict accordance with company protocol which is included in most written purchase agreements.

Post-harvest feedback from the winery concerning grape quality assessments was very important to growers, as were the recommendations for improvement. Some grape suppliers with winemaking experience were able to use the winery quality assessments to make their own improvements in grape quality in the vineyard. For example, one grower commented:

> "…I like to get all the information on the grapes when I go there — sugars, acids, pH and all that when it is at the weighbridge …this information is very useful for me because I am in a position as an experienced winemaker that I can make my own decisions about the grape quality, based on their indicators of quality … so I can say well maybe I should be doing something different if the balance is not quite correct" [S3].

Coordination of activities between wineries and their wine grape suppliers

According to the interview results, coordination takes place through interaction, through a purchase agreement, or more frequently though a combination of both (Table 3.2).

Table 3.2: Coordination of activities between customer and supplier firms

Coordination of activities between customer and supplier firms
• Verbal communication between winery personnel and the grape supplier
• Purchase agreement specifies conditions of purchase arrangement including crop management issues pertaining to quality which include yield and Baume restrictions, pest and disease parameters
• HACCP or other quality programs to ensure the growers are using the right chemicals, are keeping spray diaries, etc.
• Feedback to growers via crop reports, growers' website, etc.
• Conflict resolution through joint discussion or protocol written into purchase agreement

In the case of verbal agreements, coordination can take the form of implicit cultural conventions and intensive interaction. Written contracts are valued because they signify a higher level of certainty which allows both parties to optimise the allocation of their resources.

HACCP or other quality programs have been used in crop management to coordinate and regulate chemical usage. These programs ensure the wine grape growers are using the right chemicals and are keeping spray diaries, etc. For example, one grower commented on stipulations as far as quality and chemical usage and the necessity for grape supplier certification to avoid problems with the export of wine products to other countries, saying this extent of record keeping has increased in recent years to meet accountability requirements [S3].

The coordination of harvest and delivery is the most critical activity between winery and supplier due to the highly perishable nature of the grapes. Spoilage between harvest and crushing at the winery through premature fermentation, oxidation and acetification is highly undesirable and can result in rejection.

According to one grape supplier, a high level of efficiency is not always achieved by winemakers:

> "...coordination of harvest has been unreliable in the past when they didn't send enough bins … we got 20 bins and we were 30 short … it was just a matter of a phone call and everything was alright. … but this was the night that we make our money and people were getting paid for just standing around waiting and costing us A$500/hr" [S6].
>
> "… coordination remains unchanged in terms of vintage which is usually reliant on high levels of cooperation at short notice from suppliers … usually under the control of winemakers … who may be good at winemaking but not experts in management systems" [S5].

Feedback to growers on vineyard assessments, on grape quality on receival at the winery and the resultant wine quality of the grapes was coordinated through the use of crop reports, a growers' website, wine tastings, or personal communication.

Adaptations in the utilisation of resources to meet the specific needs of the relationship

Both winery and wine grape supplier respondents were able to identify adaptive changes to improve cost efficiency and grape quality in recent years (Table 3.3).

Table 3.3: Resource adaptations made by wineries

Winery resource adaptations
• Personal face-to-face visits by winery staff to the vineyard during the growing season, particularly leading up to harvest
• Larger wineries may engage the services of grower liaison/technical officers
• Smaller wineries may offer technical advice through their own vineyard manager or winemaker
• Winery conducts growers' meetings to communicate winery goals and objectives and other relevant information
• Winery use of internet to provide a growers' website
• Winery provides growers with crop reports following visits to the vineyard
• Wine tastings for grape suppliers provide an opportunity to taste their wines and compare with others

Most winery respondents could identify recent improvements which had facilitated effective communications and flow of information.

In all wineries involved in interviews, there was at least one person charged with the responsibility for communication of winery grape requirements to their grape suppliers. The level of personal face-to-face contact had increased both in the vineyard with regular crop inspections and at the winery with growers' meetings and wine tastings. Communications by telephone, fax, email and an internet website for growers were being well used to provide two-way feedback. Cost efficiency was being addressed with a move by the wineries away from long-term fixed price contracts towards shorter-term contracts with annual price adjustments to market prices in response to the high level of uncertainty of grape and wine supply in the future.

Most grape suppliers have cooperated with adaptive changes to crop management practices including the implementation of quality programs and crop yield reductions for quality improvement. Increases in planting or regrafting of grapevines to more popular varieties had also been undertaken when requested by the winery (Table 3.4).

Table 3.4: Resource adaptations made by wine grape suppliers

Supplier resource adaptations
• Suppliers may plant a specific grape variety, increase plantings of an existing variety or regraft existing vines to more popular varieties on winery request
• Higher use of labour resources to reduce/manage cropping levels to meet winery grape purchasing specifications
• Yield reductions
• Require access to electronic communications such as email and internet
• HACCP or other quality programs
• Provision of timely and accurate crop estimates and grape samples as required
• Higher use of labour to hand pick grapes (rather than machine pick) on request
• Access to growers' website on the internet
• Shared use of machinery, equipment and other materials

Grape supplier responses revealed a general need to adapt production methods to suit the product required. Other adaptations have included access to the internet, particularly for grape suppliers contracted to larger wineries. A number of wineries and grape growers had a cost-efficient share arrangement with machinery, equipment, facilities and other materials.

Some wine grape suppliers had accepted a change in the responsibility for the transport of grapes to the winery. The new arrangements were becoming effective as contracts were being renewed. Instead of the winery having the responsibility and risk of arranging transport for the grapes from each supplier, the winery provided each grape supplier with a designated timeslot for the delivery of their fruit to the winery weighbridge.

Collectively, interview results highlighted the cooperative response in trading relationships to industry changes in the current market for grapes and wine. Wineries and their grape suppliers had coupled closely in operational ways with industry-specific rather than relationship-specific adaptations. A high level of winery involvement had become necessary to tighten links between customer and supplier firms in order to improve cost efficiency and communications effectiveness. Jointly, respondents acknowledged that grape quality demands from the wineries had been supported through a more professional and relational approach at key phases of the purchasing and supply process.

3.7.3. Explaining the main characteristics of each construct in the theoretical model from the perspective of buyers and sellers of wine grapes

This section considers the key relational characteristics for each of the eight selected relationships that were involved in the preliminary study. Much variation existed within the eight "matched" pairs of customers and suppliers for wine grapes. Unfortunately, more specific detail cannot be discussed due to confidentiality concerns; however, the business circumstances varied in numerous ways (Table 3.5).

Table 3.5: Variation in the preliminary interview sample of customer–supplier relationships

Variation in the sample relationships
• Written and verbal purchase agreements
• Two year to ten year purchase agreements
• Very profitable to barely profitable trading arrangements
• Long-term and medium- to short-term relationship orientation
• Owner operated and operated under management
• Long-term and relatively new working relationships
• Strong personal relationships to strictly business relationships
• Ultra premium to beverage grape suppliers
• Large volume to small volume winery and vineyard operations
• Slightly problematic to unproblematic relationships
• Warm and cool grape producing regions

This section will discuss interview results in terms of the relational constructs in the model which lead to relationship value. Each construct will be analysed for similarities and differences in findings within each construct for wineries and wine grape suppliers. Then the interview results will be analysed for similarities and differences between each construct for wineries and wine grape suppliers.

Within group analysis of winery perspective

Cooperation: The majority of winery respondents described the level of cooperation in their relationship with the selected supplier as being high. The main reason for the high level of

cooperation was to get the best quality wine grapes to suit the end wine product. Factors that strengthened the level of cooperation with the grape supplier were the grower's trust in the advice and information given by the winery and the winery's trust in the supplier gained through experience over time. Good communication was necessary for the grape supplier to understand the winery's quality expectations and the means to achieve that quality. Other factors included the ability to discuss and resolve conflict, flexibility and the presence of a bit of "give and take", good working relationships, good personal relationships, consistency and efficiency in the vineyard and having a good grower liaison officer. Factors which were considered to weaken cooperation were unresolved conflict over issues such as price and quality specifications and the process of communicating differences in winemaker's expectations in the early stages of a new relationship.

Trust: Most winery respondents said that they trusted the selected supplier in terms of being able to supply a reliable quantity of consistent quality grapes to winery specifications and designated wine style. They also felt that the trust was mutual. Factors which were thought to have strengthened the level of trust in the trading relationship varied, but included satisfaction with the grape supplier's performance and respect for the supplier's capabilities as a grower. Other factors which had increased the level of trust in the supplier included getting to know the supplier personally, which tended to improve the ability of both parties to communicate, and receiving fair grape prices. In one case, the level of trust in the supplier had increased when he had been honest about a disease problem and had gone out of his way to do the right thing by the winery. Factors which winery respondents said had weakened the level of trust were related to opportunistic behaviour.

Performance satisfaction: From the buyer's perspective, performance satisfaction relates to the ability of grape growers to supply grapes of the appropriate maturity, purity and condition as per the verbal or written grape purchasing agreement, together with compliance with mandatory reporting requirements (Table 3.6).

Most winery respondents strongly agreed that their selected suppliers were endeavouring to: (i) produce grapes according to predetermined specifications; (ii) understand the role of grape quality in positioning the winery's products at different price points in the market; (iii) achieve the desired Baume with minimal delay between harvest and delivery to the winery; (iv) comply with mandatory reporting requirements; and (v) comply with winery sampling requirements.

Winery respondents also agreed that their selected suppliers: (i) managed their vineyards with due care for the environment; (ii) managed their vineyards in accordance with quality assurance programs (where applicable); and (iii) would inform the winery of any change to the expected

grape quality or yield. Not a lot of variation in the levels of agreement was recorded between winery respondents for each variable.

Table 3.6: Winery satisfaction with grape supplier performance

Item	
In general, this grower strives to produce grapes of appropriate maturity, purity and condition as per the grape purchasing agreement.	5.50
This grower complies with mandatory reporting requirements, such as reporting of agrochemical use in the form of a spray diary and submitting crop estimates when required.	5.50
This grower seeks to understand the quality differentiation of the winery's products and the relationship of grape quality to those products.	5.17
This grower strives to harvest the grapes at the targeted Baume set by winery.	5.17
This grower ensures that the delay between the commencement of harvest and delivery to the winery is minimised.	5.17
We are confident that this grower will inform winery representatives of any information or change that could affect the expected grape quality or yield.	5.17
This grower will take reasonable steps to produce timely and accurate crop estimates.	5.00
This grower complies with winery grape sampling requirements.	5.00
This grower manages cropping levels to meet winery grape purchasing agreement tolerances.	4.83
This grower manages the vineyard in accordance with quality assurance programs where required.	4.83
This grower manages the vineyard with due care to the environment.	4.17
Average mean	5.04

where "1" is strongly disagree and "6" is strongly agree
Source: Measures are modified from Allen (2003)

Communication and information exchange: Most of the winery respondents were satisfied with the level of communication between the two parties in the relationship; however, some respondents indicated that there was still room for improvement. Respondents from larger wineries spoke of the need to rationalise the supply of grapes through transacting with fewer suppliers which had enabled better communication between the two parties via a grower liaison officer or vineyard manager. Winemakers were also involved in visits to the vineyards as crops approached maturity. It was the frequent, informal, face-to-face contact that was believed to be highly effective in communicating the performance expectations of each partner and building trust and cooperation in the relationship. However, the level of involvement varied between relationships due to the size and availability of winery resources, the length of the relationship, and the experience of the grape supplier. In situations where the winery had become confident of the grower's expertise over a period of time, less involvement was considered to be necessary. Most of the respondents thought that the relationship with the selected supplier promoted informal, personal contact.

Power asymmetry: Winery respondents were well aware that they held the balance of power in the relationship, but they indicated a preference to use it collaboratively rather than coercively to achieve grape quality objectives. Nevertheless, the interview results showed that it was the winery that had the final say on important aspects of the purchase including the quality parameters, the method of price determination and the price per tonne, the type of contract and the contractual terms. Some respondents said the selected suppliers were essential to their operations. The extent to which the winery depended on the supplier varied according to the importance of the supplier's contribution to the wine products through volume, level of quality, a particular grape variety, or preference for a particular grape growing region. Nevertheless, it was recognised that no one was irreplaceable as there were alternative grape suppliers available in the present market. Some respondents expressed their reluctance to source a new supplier given the time and effort to build a relationship with a new trading partner.

Conflict resolution: All winery respondents thought that their relationship with their selected wine grape supplier had led to joint problem solutions; and that the relationship enabled better conflict resolution. Some winery respondents had experienced problems with the selected suppliers, but both parties had managed to work through these issues together. In all cases, the problems were associated with quality concerns. With one exception, the problems had been resolved. One winery respondent was still in the process of resolving problematic quality issues through continued discussion with the supplier. The interview results showed that following conflict resolution many important aspects of the relationship including communication and trust had improved.

Within group analysis from the supplier perspective

Cooperation: The majority of wine grape suppliers considered that they were very cooperative with their winery customers. Time was thought to be an important factor in strengthening cooperation, particularly if there was a long-term orientation to the future of the trading relationship. Over time, the level of cooperation was said to increase as good working relationships and mutual trust had developed between the two parties — trust in the technical advice given by winery personnel and in the winery's assessment of grape quality and also the knowledge that the supplier had the respect and trust of the winery. Other factors that had strengthened the level of cooperation from the supplier included the desire to make the relationship work, good understanding of winery's expectations, flexibility and the presence of "give and take", winery recognition of the grower's efforts through positive feedback on grape quality, family connections, increased level of face-to-face contact from winery personnel and the dependence on the winery for the renewal of the contract. Most suppliers considered their winery customer to be responsive to their requirements. Some thought the responsiveness was less during busy periods and greater at an operational level than at higher management levels.

Factors which had weakened cooperation pointed to a change in winemaker, a lack of direction provided by the winery in terms of how to achieve quality expectations in the vineyard, and very late payment for grapes

Trust: The interview results showed that all suppliers trusted the winery to do the right thing by them when making important decisions; they also felt the trust was mutual.

One grower commented:

> "I just think the further that you get into a relationship the more you know what you need to do, what the customer wants, what the customer is like, it gives the opportunity to build trust — as you get further into it you become more relaxed and trusting of what they are doing. I think you have to be trusting about the whole thing because once the grapes leave this property, the fruit is in their hands and what they do with it determines what I will get for it, so you have to have a fair amount of trust" [S4].

All grape supplier respondents also felt that time had built loyalty in the relationship. Factors which had strengthened the level of trust in the relationship were related to the continued goodwill shown by the winery in recent times when they could have taken advantage of the supplier's vulnerability in a buyers' market. Respondents mentioned the importance of communication in building trust. Factors which were considered to weaken trust included opportunistic behaviour in winery grape quality assessments and unacceptable time delays in the payment of quality bonuses.

Wine grape supplier's satisfaction with winery performance: In reviewing their trading relationship, most grape growers were very satisfied with the winery protocols and decision procedures for disease detection and response (Table 3.7). However, and quite understandably, growers were seldom overjoyed when product was downgraded, penalties were applied, or the product rejected.

From the grape grower's perspective, satisfaction occurs when they are adequately rewarded for a reliable supply of consistent quality grapes provided to winery specifications and designated wine style. The majority of grape suppliers agreed that their trading relationship with the winery was profitable and that they were satisfied with the price they received from their winery customers for the grapes they supplied.

In order to achieve this end, other aspects of the winery's performance were also important. Most grape suppliers agreed that the winery's ability to communicate their quality expectations and the competency and timely support of viticultural staff with seasonal vineyard management and load assessments prior to harvest were to their satisfaction.

As one grape supplier commented:

> "… it was very invasive originally, they used to turn up like the mafia — there would be three car loads of people — all traipsing around the vineyard and it was like you are not doing it properly … the relationship is more targeted now on achieving the best quality … the winery's vineyard manager writes a report following every visit and we get a copy, they have a consultant who comes three times a year and the winemaker comes when the grapes are getting close to ripening. They do everything they can to make sure you produce quality fruit and if you don't follow what they say and the quality is down then you get into trouble with them. If you try to do the best you can under their instructions then you will almost certainly be alright" [S8].

Table 3.7: Grape supplier satisfaction with winery performance

	Winery
Wine grape specifications and tolerances are not changed by the winery prior to harvest without reasonable notice and not so soon before harvest that I cannot take appropriate action.	5.33
I always have time to seek alternative arrangements and/or prevent further loss upon receiving notification for possible downgrading, penalties or rejection.	5.00
Where vineyard assessment results in disease detection, a formal assessment is made as early as possible.	4.83
The winery provides me with constructive feedback on the resultant wine quality of the grapes	4.75
Wine grape specifications and tolerances are written, clear and understandable.	4.69
Where vineyard assessment results in disease detection, I am given the option to be involved in a formal assessment of the block:	4.67
I receive quality, timely support from winery viticultural staff to assist with seasonal vineyard management.	4.56
Winery assessment staff are technically trained and competent in vineyard and/or load assessment and all blocks are assessed prior to harvest. If there is a problem, I am consulted to discuss and agree on an outcome.	4.53
The winery works with me to make the quality linkage between grapes and end products clear and understandable.	4.50
The winery provides me with constructive feedback on any recommendations to assist with improvement	4.38
I feel that I am rewarded appropriately and sustainable for a reliable supply of consistent quality grapes that meet the winery's specifications and designated wine style expected within the region.	4.31
The winery provides me with constructive feedback on the vineyard assessments	3.86
N = 16	4.62

where "1" is strongly disagree and "6" is strongly agree
Source: Measures modified from Allen (2003)

Grape growers tended to agree that they were satisfied with the level of constructive feedback on the resultant quality of the grapes, recommendations to assist with improvement and vineyard assessments.

Communication and information exchange: Most suppliers were satisfied with the level of communication in the trading relationship, although there were comments on the lack of

timeliness. From a grape supplier's perspective, a winery that has good communication with their grape suppliers is one that has a very proactive role in the grape growing process to help both parties realise mutual quality objectives. Good communication was particularly beneficial to those suppliers with quality linked payment systems, who stood to earn a much higher return for grapes of higher fruit quality.

Good communication with liaison personnel were common and tended to improve as personal relationships developed over a period of time. Grape suppliers indicated a strong desire to deal with a familiar winery contact who had accumulated a good knowledge of their trading relationship and the quality potential of their vineyard through personal experience. In one case of a new relationship between an existing supplier and a new winemaker, there were initial problems with the reconciliation of partner roles and expectations. Over time, these differences were being successfully worked out through continued face-to-face discussion between the two parties.

Trading with a winery that had skilled management with good relational capability was found to be important to suppliers.

Power asymmetry: At the end of the day, the wineries had the final call and grape suppliers were very well aware of this. In an effort to even the balance more in their favour, the selected grape suppliers were making considerable effort to meet winery quality expectations in order to increase their value and importance to the winery. However, the grape supplier interviews found no evidence of the use of coercive power by the wineries. Where a strong influence had been exerted by the winery, the wine grape suppliers had found it to be justifiable and even beneficial. For example, one grape supplier commented:

> "we haven't found any changes in the relationship that have not been beneficial to us — this used to be a dry vineyard and Winery X said that we should put irrigation in and it has been better for us at the end of the day. All Winery X was trying to do was to get us to produce the best quality that we can which is only going to benefit us" [S4].

Based on this, grape suppliers trust the winery to do the right thing and it was his opinion that the winery was not taking advantage of a strong bargaining position. After all, it is not unreasonable for wineries, as the customer, to stipulate purchase specifications and to expect supplier compliance providing it is beneficial for the supplier to do so.

Conflict resolution: Interview results showed that problems could arise through the lack of communication and a lack of timely information exchange with the supplier. However, this type of problem was more likely to arise where resources were stretched during busy periods for winery staff. Other factors which had been problematic for grape suppliers included: (i) the inefficient coordination of harvest which could have potentially threatened fruit quality; (ii) the

extremely late payment of quality bonuses for grapes; (iii) the subjectivity of quality-linked payment systems; and, (iv) the lack of experience and knowledge of winery technical personnel.

Some wine grape suppliers had not encountered any problems through the relationship, while others mentioned problems or complaints which they had successfully resolved or were in the process of resolving through discussion with the winery liaison personnel. A couple of growers had found that while the winery was quick to resolve operational problems as they arose, it was more difficult to resolve problems at a higher management level. One grape supplier explains:

> "… my only real drag with them goes above the liaison officer to the corporate level where the financing and selling of the fruit takes place — I just need a clear answer on what is happening about quality bonuses — I just don't know and that's my biggest headache" [S6].

Across group analysis of winery and supplier perspective

Results from the study indicated that wineries and their wine grape suppliers in Western Australia were cooperating to meet industry-endorsed best practice expectations relating to wine grape maturity, purity, specifications and tolerances. Levels of mutual performance satisfaction show that these firms understand what their trading partner requires and were willing to meet these needs. Evidently, wine grape specifications are normally outlined in grape purchasing agreements so both parties understand what is expected and have a commitment to ensure product specifications are met. Overall though, performance satisfaction was higher from a winery perspective than from a supplier perspective.

Interview findings indicate that there was a significant amount of communication and information exchange between wineries and grape suppliers, depending upon their individual needs. The communication tended to focus on achieving performance satisfaction and addressing problems and complaints as they arose through joint conflict resolution.

Clearly, the power asymmetry construct held different characteristics for wineries and their wine grape suppliers. In a buyers' market for wine grapes and many alternative sources of supply, the balance of power was very strongly in the wineries' favour. Furthermore, as the customer, the wineries had the final say on many aspects of the purchase process including purchase conditions such as whether the purchase agreement would be written or verbal, length of contractual period, method of price determination, the level of involvement in the relationship in matters pertaining to crop management, harvest and delivery. This power was used collaboratively at an operational level to ensure good working relationships, at least in the selected cases for the preliminary study.

3.7.4. Explaining the measures of relationship value for wineries and their selected grape suppliers

Within group analysis of winery perceptions of relationship value

Winery interview results showed that the respondents' main objectives in their trading relationship with selected grape suppliers was the ability to source a consistent supply of quality fruit for designated price points. In the respondents' own words:

> "…our objectives with supplier X is basically to purchase fruit that is suited to the product that we are trying to produce … it's a quality objective, but I mean it is so linked with everything because at the end of the day our consumer wants to drink a certain product and we need to take that into reverse and go all the way back to the vineyard and make sure the supplier is meeting that objective … they are the most important part because grapes are the primary resource for our wine product … if they can't meet the specification, then we can't produce what we need at the end of the day" [W1].

> "…the winery is prepared to work out a plan to get the growers' grapes into the nominated price point and performance objectives will be linked accordingly" [W3].

Other winery respondents also discussed growth objectives with those suppliers where the relationship had a long-term orientation.

Interview results showed that all respondents thought that it was more beneficial to be in a trading relationship with the selected supplier, than to purchase grapes on the open market. There were a wide range of benefits that they had achieved through being in a trading relationship with the selected supplier (Table 3.8).

Table 3.8: Relationship benefits and costs specific to wineries

Relationship benefits	
Consistency in quality	Reduction in risk/uncertainty in grape supply
Winery has a good historical knowledge of the vineyard and the production capability	Secure access to a good selection of grape varieties
Better production planning	Well balanced mix of red and white grape varieties
Helps to fulfil customer requirements better	Secure access to a large volume of grapes
Good source of viticultural knowledge	Secure access to quality grapes at a very reasonable price
Proactive in technical developments in the vineyard	Secure access to a reliable source for wine grapes
Professional approach to crop management	Willing to regraft vines to popular grape varieties
Located in a preferred grape growing region	Good logistically
Ongoing improvement in grape quality	
Relationship costs	
Leads to increased costs of relationship maintenance	Causes additional coordination costs within our firm
Opportunity cost of being in unprofitable existing long-term contracts	Causes additional coordination costs between our company and the supplier

Relationship benefits that were specific to the wineries were mainly product-related benefits. Otherwise, the benefits made an important contribution towards the achievement of the winery objectives for the resultant wine quality and designated wine style expected from the region.

In the current market, these relationships were able to secure access to a reliable source of consistent quality grapes. Wine in branded wine products must be of consistent taste and quality. Consumers want the same product each time they buy a specific brand of wine. Therefore, consistency of supply is optimised through long-term purchasing relationships. Nevertheless, the risk is not entirely eliminated because of the inherent climatic risks in any agricultural industry which may contribute to vintage variations.

Around half the winery respondents revealed that the relationship with the selected supplier had increased costs of relationship maintenance for various reasons, i.e. the cost of employing a winery liaison officer. However, these costs would be spread across all suppliers and are not necessarily incurred by one grape supplier. Another winery respondent mentioned the cost of being in a long-term fixed price contract which was negotiated in times when grape prices were much higher. In the current market, the relationship was unprofitable unless this supplier's resultant wine quality was very high.

Within group analysis of wine grape supplier perceptions of relationship value

Interview results for grape suppliers showed that the main objectives for their relationship with the winery were: (i) to make a profit; (ii) to increase grape sales to the winery; (iii) to have a long-term orientation in the relationship; (iv) to provide performance satisfaction; and, (v) to have a good working relationship. In view of the competitiveness in the current market for wine grapes it was not surprising that all grape suppliers thought that it was more beneficial to be in a trading relationship with their customer than to sell grapes on the open market. There were a wide range of benefits specific to grape suppliers that were being achieved through the relationship (Table 3.9).

Table 3.9: Relationship benefits and costs specific to wine grape suppliers

Relationship benefits	
A secure buyer for the grapes	A reduction in risk and uncertainly about the sale of the grapes
Well paid for wine grapes	Contract secures bank finance
Consistent financial returns	Access to good advice and know-how
Allows better business planning and management	Can deal with one winery
Winery has a wide range of products at different price points which gives the supplier the opportunity to optimise his profitability	Winery takes the responsibility of crop spraying, harvest and delivery
Sharing of machinery, equipment etc.	Winery accepts risk from farm gate
Offers convenience	Winery has strong growth in wine sales

Of foremost importance to all grape suppliers was the benefit of a secure buyer for the grapes. Most of the other benefits were also related to maintaining the sustainability and financial security of the supplier's business.

There were no relationship costs that were specific to wine grape suppliers.

Across group analysis of the benefits and costs of the relationships

Collectively, the relationship benefits for the wineries and their wine grape suppliers far outweighed the relationship costs (Table 3.10).

Table 3.10: Mutual relationship benefits and costs for wineries and their grape suppliers

Mutual relationship benefits	
Reduction in risk and uncertainty	Increases our profitability
Can produce for specific price points	Leads to increased loyalty
Close proximity to the winery	Leads to joint problem solving
Creates mutual trust	Long-term orientation
Enables better conflict resolution	Lowers transactions costs
Good working relationship	Potential to expand
Realistic about grape prices	Promotes informal, personal contacts
Increased operations efficiency	Promotes a joint approach to quality issues
Leads to a sustainable competitive advantage over others	Strengthens the strategic position in the industry
	Trading partner has a good reputation
Mutual relationship costs	
Additional expenditure of time	

Over and above the relationship benefits specific to wineries and to their grape suppliers were a range of relationship benefits that were common to both groups. These benefits were vital in order to: (i) build the firms' strategic competencies; (ii) to improve profitability; and, (iii) to continue to build and maintain successful working relationships with trading partners.

Half of the winery respondents had found that the relationship with their selected grape supplier had incurred an additional expenditure of time; e.g. being in a new relationship and having to spend more time initially building the relationship. Conversely, only two grape suppliers considered that the relationship incurred any.

In conclusion, the interviews with wineries and grape suppliers revealed both shared and group specific items contributed to relationship value. The wineries were primarily focused on achieving a consistent supply of grapes for designated product lines at different price points. Those suppliers in long-term relationships were also taken into consideration in long range planning of supply. As one winery respondent explained, it is much easier to expand with an

existing supplier that to increase the number of suppliers and the time and effort required in relationship building and maintenance [W5]. On the other hand, the relationship objectives for grape suppliers were concerned with increasing the profitability of their business by working cooperatively to achieve quality performance objectives with the wineries. On this basis, the two groups sought and received different benefits from the trading relationship. Both customers and grape suppliers had different benefits specific to the group and the wineries had a specific relationship cost.

However, there were also a significant number of relationship benefits and costs that were shared by both groups. Of foremost importance was the reduction in uncertainty that these relationships offered in the purchase and sale of wine grapes in an extremely competitive grape and wine market. Jointly, both customers and suppliers have been able to build strategic competencies, achieve economic efficiencies and profitability and a highly relational capability. All customers and grape suppliers agreed that informal, personal contact, mutual trust and loyalty and the ability to resolve problems together were highly valued characteristics of their relationships.

3.8. Review and implications

A global oversupply of wine, international and domestic retail consolidation, and decreasing returns for wineries and grape growers are key challenges currently facing the Australian wine industry. Addressing these concerns, both wine grape growers and the wineries are adopting a cooperative, value-driven relational approach to profitably grow the demand for Australian wine. Preliminary research results showed strong evidence that wineries have developed close relationships with their selected grape suppliers in a collaborative effort to achieve efficient production of grapes and wine styles to meet market demands.

Wineries are seeking relationships and contracts with those grape suppliers with the resources and capabilities to add value to their product offerings through the consistent supply of quality grapes which meet specifications, while the suppliers want to be guided technically and rewarded adequately for their contributions in this process. These tasks call for the two parties to work closely together. The main issue facing winery purchasing managers is no longer about buying the right grapes at the right price, but of developing and maintaining cooperative relationships with contracted suppliers to achieve mutual benefits over the medium to long term.

One of the main objectives of the preliminary exploratory study was to confirm that the constructs which comprise the theoretical model were relevant to the trading relationships between Australian wineries and their grape suppliers. The results from the preliminary research supported the selection of relational constructs that were derived from the customer-supplier relationship literature.

Furthermore, the preliminary results highlighted the importance of adaptative behaviours for the buying and selling firm. Adaptations have occurred in many aspects of the buying and selling of wine grapes across all levels, particularly operational levels. These adaptations have taken place to realise a more efficient and effective match between customer and supplier firms as they seek to respond to changes within the industry in which they operate together. Combining their resources and activities more successfully than their competitors ensures the wineries and their grape suppliers are able to offer competitive value and so enjoy a stronger position in the market.

Preliminary research findings revealed an enormous variety of adaptive behaviour. Alterations and improvements have occurred in processes and procedures and in linkages between customer and supplier firms. Adaptations were found to have occurred in key aspects of inter-firm operations which included: (i) technical — production procedures and processes; (ii) logistical — delivery systems; (iii) administrative — reduction in suppliers, joint planning and scheduling systems; (iv) financial — price determination and terms of payment; (v) knowledge — information sharing on grape and wine quality issues, acting together in technical matters; and (vi) mutual orientation to individual and relationship goals.

Preliminary interviews suggested that adaptations (e.g. internet websites which required compulsory access facilities by growers) were undertaken to improve communication quality for both partners, which in turn would lead to higher performance satisfaction. However, some adaptations, such as the adoption of quality systems, yield reduction, sharing of equipment were designed to have a direct impact on performance satisfaction. Trading partners may reciprocate adaptations as part of a trust building exercise to increase credibility (Hallen, Johanson and Seyed-Mohamed 1991, Ganesan 1994).

Based on strong theoretical and atheoretical support, the adaptation construct was included in the model.

3.9. Limitations of the preliminary study

The preliminary study provided the desired information on the dyadic relationships between wineries and their wine grape suppliers in Western Australia. However, the underlying assumption in restricting the preliminary study to Western Australia is that the wine and grape industry in this state is representative of the major grape and wine producing areas in South Australia, New South Wales, and Victoria. Therefore, feedback on the quantitative survey instrument from several key industry experts who were involved in the administration of the major grape and wine regions in the eastern states of Australia was a critical step in validating these assumptions in the selection of the construct measures for a national study.

4. Main research methodology

4.1. Quantitative research method

A structured research design was planned for this main study to achieve conclusive research outcomes for each of the research objectives. Conclusive results are achieved through model testing using structural equation modelling (SEM), and thus, by necessity a quantitative study is needed to test the models.

A cross-sectional research design has been chosen to collect the information in a single national survey of each target population. The survey method is an appropriate means to collect the large number of responses that are needed for the multivariate data analysis and hypotheses testing. The survey instrument, a structured questionnaire, consisted of questions in a prearranged order. For the purposes of this study, the comparability of data collected through two similar survey instruments is critical to the research outcomes. Direct comparisons of variables between winery and wine grape supplier respondents "within group" and "across groups" allows for exploration of differences and associations in order to determine if naturally occurring patterns or trends can be detected.

4.2. Data collection

Prior to the development of the questionnaire, a significant amount of time was spent on examining background literature and the preliminary research results to ensure that the item measures developed were valid and reliable. The model constructs were operationalised using multiple measures that had performed well in previous studies.

Survey instruments were revised several times to improve the question content and wording effectiveness. A review exercise involving key experts in the grape and wine industry proved to be invaluable in the practical execution of the questionnaires. Research supervisors and the Curtin University of Technology Human Ethics Committee reviewed both questionnaires prior to being administered. Pilot testing of the questionnaires, which was conducted with twenty winery and wine grape respondents, found that the respondents understood the questions and successfully completed the questionnaire.

4.2.1. Survey process and sample size

The two survey populations were: (i) wine producers with an annual wine grape crush of 50 tonne or more that outsourced wine grapes from independent grape suppliers; and (ii) independent wine grape suppliers currently supplying grapes to a winery. For the purposes of the study, wine producers are defined as companies selling wine commercially (Winetitles 2005, p. 20). The survey populations were limited to the four main wine producing states in Australia which included South Australia, New South Wales, Victoria and Western Australia.

The data collection was designed to obtain information about the characteristics or parameters of these populations (Cavana et al. 2001, Malhotra et al. 2002, Hair et al. 2006).

Winery survey sample

Statistics on the number and size of wineries that outsource for wine grapes and the volume of grapes purchased are not readily available in Australia (pers. comm., ABARE economics, ABS, AWBC). However, the most current data available from the National Utilisation and Pricing survey (AWBC 2005b) showed that the percentage of wineries that outsourced wine grapes varied by winery size. While only 24 per cent of wineries with an annual grape crush of less than 50 tonnes purchased grapes, 68 per cent of the wineries that processed 50 tonnes or more of wine grapes purchased grapes. Due to time and cost constraints, the target population was limited to those wineries most likely to purchase grapes in the 50 tonnes or more size category. Of the 1,824 wineries in the selected states, 859 wineries (47%) have an annual grape crush of 50 tonnes or more (Winetitles 2006, information by request). As an estimated 68 per cent of those wineries outsource wine grapes, the target population was comprised of approximately 584 wineries.

Information from the target population was obtained by taking a sample of the whole population. Due to the relatively small size of the target population, all those wineries listed in the selected states in the 2005 edition of the Australian and New Zealand Wine Industry Directory (Winetitles 2005), with an annual grape crush of 50 tonnes and over, were personally contacted. Unexpectedly, the survey proved to be extremely time consuming. The original six month time period allocated for data collection was extended to ten months as the census was personally administered and considerable follow-up was required. Nevertheless, the survey method used did maximise the response rate.

Wine grape supplier sample

The target population comprised independent wine grape suppliers including: (i) large investor owned vineyards, i.e. managed investment schemes; (ii) small investor syndicates; (iii) small part-time producers; and (iv) traditional long-term grape producers operating family owned vineyards (PIRSA 2005).

Whereas a census was employed for the wineries, a sample was used to obtain responses from wine grape suppliers as samples are generally used when the population is too large to study in its entirety and prohibitively expensive in terms of time, costs and human resources. In 2005, the Australian Bureau of Statistics (ABS 2005b) reported 8.347 individual grape growing establishments supplying grapes for use in winemaking, drying and fresh fruit consumption in Australia (ABS 2005a). A further breakdown of the number of establishments that specifically grow wine grapes was not available from the Australian Bureau of Statistics (pers. comm., ABS 2005), however, winemaking operations are believed to account for 90 per cent of grape

production. Furthermore, wine grape vineyards are owned by both wineries and independent grape suppliers, and it is the latter that are the target population of this study. While these factors reduce the size of the target population, due to the dearth of relevant published statistics, it was not possible to ascertain the number of independent wine grape suppliers in South Australia, New South Wales, Victoria and Western Australia.

Unlike the wine industry, the wine grape industry does not have a database and contact with the target population was only possible indirectly through the Phylloxera and Grape Industry Board of Australia (PGIBSA), the Department of Primary Industries in Victoria and New South Wales and national government industry organisations (The Australian Wine Research Institute), and regional grape and wine organisations. By necessity, the survey had to rely upon the drawing of a non-probability sample.

Nevertheless, achieving a representative sample of the wine grape suppliers in terms of size and geographic location was of foremost importance to ensure that vineyard enterprises in the selected states were fairly represented (Table 4.1).

Table 4.1: Distribution of wine grape production by state and zone

State/Region	% Wine grape prod'n 2003–04
Barossa	5.4
Mt Lofty Ranges	3.8
Fleurieu	7.2
Limestone Coast	8.6
Lower Murray	23.4
South Australia	**48.4**
Big Rivers	19.0
Central Ranges	2.9
Southern NSW	0.9
Hunter Valley	1.6
Other NSW	0.4
New South Wales	**24.8**
NW Victoria	16.0
NE Victoria	1.9
Central Victoria	1.3
Port Phillip	1.6
Other Victoria	0.4
Victoria	**21.2**
SW Australia	4.1
Greater Perth	0.7
Western Australia	**4.8**
Other states	**0.8**
Australia	**100.0**

Winetitles: information by request on wine grape production by region 2003–04

To ensure the sample was representative of the regional contribution made towards the total national wine grape production, quota sampling was employed. Quotas were based on the percentage grape production contributed by each grape and wine region towards national grape production (Winetitles 2005). The quotas were assigned so that the percentage of sample elements in each region was the same as the percentage of population elements.

Generally, wine grape grower associations were willing to provide assistance, but were not willing to provide direct access to their distribution lists. The preferred methods of assistance were to distribute the questionnaire electronically to all members or to distribute the questionnaire by mail in conjunction with a newsletter. In the three major wine grape producing regions (Riverland, Murray Valley and Riverina), the regional associations helped with the collation of a covering letter endorsing the questionnaire and a return paid envelope for distribution to their members. This assistance ensured good regional representation together with a good representation of warm and cool climate wine grape suppliers. This was considered to be very important as trading relationships in warm and cool growing areas were expected to influence the relationship and value variables in different ways. The wine grape supplier survey was completed within three months.

4.2.2. Administration of the survey instrument

For this study, several survey methods were used in order to optimise the number of responses. The main survey method was a two-step combination: (i) person-to-person contact over the telephone; then (ii) self-completion of the questionnaire. First, the researcher would telephone the selected business in order to ensure that the person was the most knowledgeable one to report on the constructs being investigated. The identified key winery participants typically held the position of CEO, winemaker, grower liaison officer or winery vineyard manager. Key grape supplier participants were usually either the owner or vineyard manager. Those willing to participate in the survey were asked to choose their preferred means for self-completion of the questionnaire: email, post or fax. In most instances, respondents chose to complete the questionnaire by email for its convenience and low cost. At best, completed questionnaires were received within an hour after despatch. The only disadvantage with email occurred when some respondents omitted to save the completed questionnaire before return.

Administration of winery census

Winery contact details were obtained from the 2005 edition of the Australian and New Zealand Wine Industry Directory (Winetitles 2005). Details were entered into an Excel spreadsheet as each winery was contacted: (i) the name of the winery and telephone number; (ii) the contact's name; (iii) the nature of the response — whether the contact had agreed to participate, declined to participate, or was ineligible as the winery did not outsource wine grapes; and (iv) the date of contact. If the respondent agreed to participate then the respondent's email, fax or postal address

was recorded. The questionnaire was immediately despatched with a cover letter. A follow up reminder for questionnaire completion was issued one week apart for the next two weeks, if required, and a record of each reminder was entered into the spreadsheet.

In an effort to increase the response rate and avoid non-response error an incentive was offered. A monetary incentive ($500) was offered for both surveys in order to motivate respondents to return completed questionnaires. The researcher considered an incentive was necessary to increase the response rate because of the length of the questionnaire and the fact that the wine industry, in particular, had been extensively surveyed. As completed questionnaires were returned, the name and contact details of the respondent were entered into an Excel spreadsheet for the relevant winery or wine grape supplier prize draw.

Administration of wine grape supplier sample

The wine grape supplier questionnaire was administered through government departments and regional grape and wine associations (Table 4.2).

Table 4.2: Government departments and regional associations that provided assistance with wine grape survey

Mail-outs	**Regional assistance with wine grape survey sample**
Australian Wine Research Institute	Adelaide Hills Wine Region
Griffith Wine Grapes Marketing Board	Adelaide Plains Wine Region
Murray Valley Winegrape Growers Association	Broke Fordwich Wine Growers Association
Phylloxera & Grape Industry Board (South Aust.)	Coonawarra Grape Growers Association
Riverland Winegrowers Association	Currency Creek Wine Region Association
	Goulbourn Regional Association
	Griffith Wine Grapes Marketing Board
	Hunter Valley Vineyard Association
Survey publicity in newsletter and flyers	King Valley Vignerons Association
Australian Viticulture	Margaret River Wine Industry Association
Dept. of Primary Industries “Grapecheque”, Vic.	McLaren Vale Grape, Wine and Tourism
Dept. of Primary Industries, NSW	Murray Valley Winegrape Growers Association
Murray Valley Winegrape Growers Association	Padthaway Grapegrowers Association
	Riverland Winegrowers Association
	Southern Fleurieu Vignerons Association
	Southern Flinders Vignerons Association

Two thirds of the sample of wine grape suppliers was achieved through mail-outs with regional assistance from the Murray Valley Winegrape Growers Association, the Riverland Winegrowers Association and the Griffith Wine Grapes Marketing Board. A mail survey in

these regional areas was a relatively low cost means of reaching a large number of growers with a wide geographic dispersion. Respondents were able to complete the questionnaire at their convenience and at their own pace. The research topic was explicitly stated in a covering letter and a pre-paid envelope was provided for return of the questionnaire. The mail-outs were successful in achieving the large regional representation required for these three regions.

Other regional associations provided assistance either by distributing the questionnaire to members by email, by emailing a flyer inviting participation, or by providing members' names and contact numbers. If contact numbers were provided, the researcher would then telephone the grape grower to seek permission to send a questionnaire. The various approaches achieved an adequate response rate in most regional areas.

4.2.3. Questionnaire design

The questionnaire was divided into six sections. The introduction provided an explanation of the research, then the grounds for respondent eligibility and a brief outline of the conditions of the prize money incentive. Sections One to Three contained questions seeking information on the nature of purchasing/selling wine grapes in Australia, the respondent's firm, and the selected supplier/customer about whom the respondent would answer the questions in Section Four. Questions in Section Four and Five were designed to collect information relating directly to the research problem, which sought to examine the nature of the trading relationship between respondents and the chosen supplier/customer and the value created in this relationship. Finally, Section Six contained questions seeking information about the respondent's background; in particular, their qualifications and experience in the workplace and the grape and wine industry. In part, the classification and basic descriptive information was needed to provide a reference base against which respondents could be compared, but more importantly, to provide potential clustering variables that might be used to explain any differences observed in the sets of metric variables.

4.3. Data preparation and data analysis techniques

Each questionnaire was checked for completeness and the open-ended questions were coded prior to data entry into the relevant "winery" or "grape suppliers" files in the Statistical Package for Social Sciences (SPSS). On completion of data entry, the two SPSS data files were screened for accuracy using descriptive statistics including frequency distributions, means and standard deviation, and graphic representations such as box plots.

4.3.1. Univariate analysis

As a first step in univariate data analysis, it is important to determine the frequency and the mean of descriptive variables and the extent of variability, the central tendencies (mean for

metric scale data, median for ordinal scale data and mode for nominal scale data), and the dispersions of the scaled metric variables. Beyond this, cross-tabulations were used to examine how variables were related to each other. With the exception of the independent t-test, the univariate analysis was performed separately for winery and wine grape supplier surveys.

4.3.2. Multivariate analysis

The multivariate techniques used for analysis included factor analysis, cluster analysis and structural equation modelling.

Structural equation modelling (SEM) is a statistical technique for building and testing statistical models on the basis of theory (Hair et al. 2006). In this study, the supporting theory for the proposed model was derived from prior empirical research and from the findings of the preliminary study.

The SEM process involves two main steps: (1) validating the measurement model; and (2) testing the hypothesised structural model (Byrne 2001). Validation of the measurement model is achieved mainly through confirmatory factor analysis, while testing the structural model is achieved through path analysis with latent constructs. AMOS 6.0 software was used to confirm the models.

Multi-group SEM analysis is used for cross-validation, as well as to compare the two groups of wineries and wine grape suppliers in a cross-sectional sample. The aim is to test for structural invariance across groups to ensure the arrows connecting the latent variables are correctly drawn the same way for each group in the analysis (Byrne 2001). Between two groups, there is model invariance only if the model can be accepted (using fit statistics) when all parameters are constrained to be equal..

Cluster analysis performs pattern recognition and grouping tasks for the purpose of developing meaningful subgroups of variables based on the similarities they possess (Hair et al. 2006). In the present study, cluster analysis was undertaken with the aim of testing the heterogeneity of the wineries and grape suppliers in their perceptions of relational attitudes and behaviours pertaining to the antecedents of relationship value. This information combined with the variables from the cluster analysis was used to name and describe the two “high relational orientation” and “low relational orientation” clusters.

4.4. Review

This chapter outlined the research design and methodology for the main quantitative study. Data collection for the two target populations involving the winery census and the wine grape survey were discussed with reasons for using the different approaches and important administration aspects.

Undertaking a survey in the wine grape industry presented a major challenge in the absence of any database from which the sample of potential grape suppliers could be randomly selected. As a result, the option to choose between non-probability versus probability sampling methods was not available. Subsequent use of mail-outs and telephone/email to collect a non-probability sample may have introduced some sample bias, without a mean to establish sample error (Malhotra et al. 2002). Nevertheless, the quota system did allow a representative geographic sample of cool and warm grape growing regions. Grape production in these two regions is quite different in terms of required quality outcomes and the level of involvement that is required between wineries and their grape suppliers. Hence, vineyard location was considered to be an important variable in terms of the nature of trading relationships for wine grapes. Probability sampling techniques may not have drawn a representative sample in terms of important geographic attributes.

In the administration of the winery census, the target census population was limited to those wineries crushing 50 tonnes or more size per annum. This decision was made on statistical evidence that smaller wineries processing less than 50 tonnes seldom outsource wine grapes. Nevertheless, approximately thirty phone calls were made to wineries in this category to provide further evidence to support their exclusion. Of those wineries that were contacted, 86 per cent did not purchase wine grapes. Therefore, it was appropriate to proceed with a census of those wineries crushing 50 tonnes or more.

In the development of the questionnaire there was a measuring decision between forced-choice and non forced-choice attitude scales. For this study, the choice was between a six point and a seven point scale. The 7-point non forced-choice scale was selected as it was thought to be more accurate as it had a specific “neither agree nor disagree” category for those respondents who were undecided, neutral or preferred the middle-ground. The accuracy of the data was improved; however, there was some risk that if a sufficient proportion of the respondents did not have opinions on the topic, marking the middle position would distort measures of central tendency and variance (Malhotra et al. 2002). Therefore, in the pilot survey the frequency of use of the mid-point in the completion of the survey was explored and was found not to be problematic.

5. Descriptive results of survey samples

5.1. Chapter outline

Chapter Seven begins the presentation of results collected from the main quantitative study. It comprises two parts: winery and wine grape supplier sections for ease of presentation and the discussion of the descriptive survey results.

5.2. Winery profile

The winery profile comprises three sections: Section 1 provides a description of the winery respondents; Section 2 describes the firms and in Section 3, the responses of the population of wineries, listed in the Australian and New Zealand Wine Industry Directory for 2005 (Winetitles 2006), are compared with geographic location (state and zone) and winery size to validate the sample.

5.2.1. Winery respondents

Table 5.1: Current position in the organisation

Position in firm	Frequency	%	Cumulative %
Winemaker	63	36.2	36.2
Viticulturalist/Grower Liaison Officer	26	14.9	51.1
Director or owner	24	13.8	64.9
CEO or general manager	21	12.1	77.0
Vineyard manager	16	9.2	86.2
Group viticulture manager	9	5.2	91.4
Winery manager/winemaker	7	4.0	95.4
Grape purchasing manager	3	1.8	97.2
Finance & administration manager	2	1.1	98.3
Group agribusiness manager	2	1.1	99.4
Production manager	1	0.6	100.0
Total	**174**	**100.0**	

The winery respondents were winemakers (36%); winery managers including directors, owners, chief executive officers (CEOs) and general managers (35%); viticulturalists, grower liaison officers and vineyard managers (24%); and, specialist executive managers in large wineries such as group and regional wine, viticulture and agribusiness managers (5%) (Table 5.1). These respondents represented all levels of winery management — strategic, tactical and operational — in relevant organisational functions including finance, production control, purchasing, quality control and finance.

Most winery respondents had been in their current position for more than one year (93%). Most respondents had been in their position for between 1–5 years (49%); 6–10 years (26%); or more than ten years (19%) (Table 5.2).

Table 5.2: Time period in current position

Years in current position	Frequency	%	Cumulative %
< 1	12	6.9	6.9
1–5	84	48.3	55.2
6–10	45	25.9	81.0
> 10	33	19.0	100.0
Total	**174**	**100.0**	

Most winery respondents (63%) had at least ten years' work experience in the grape and wine industry (Table 5.3).

Table 5.3: Years of experience in the wine industry

Years in the industry	Frequency	%	Cumulative %
< 1	0	0.0	0.0
1–5	11	6.4	6.4
6–10	53	30.6	37.0
> 10	109	63.0	100.0
Total	**173**	**100.0**	

All respondents met the requirement for respondents to have at least one year's experience in the industry.

Most winery respondents had a tertiary qualification at either the undergraduate level (45%) or postgraduate level (25%) (Table 5.4).

Table 5.4: Highest level of education of respondents

Level of education	Frequency	%	Cumulative %
Undergraduate degree	78	44.8	44.8
Postgraduate degree	44	25.3	70.1
High school diploma	27	15.5	85.6
Technical qualification	25	14.4	100.0
Total	**174**	**100.0**	

The remaining respondents had achieved either a high school diploma (16%) or possessed some technical qualification (14%).

5.2.2. Description of winery businesses

Winery businesses in Australia are very diverse. ACIL (2002) classify five different types of ownership. First, there are the new entrants who include existing agricultural producers who have diversified into grape growing and winemaking. Then, there are the city professionals who want a career or lifestyle change, or an adjunct to their existing business. Third, there are the well-established grape growers who have either value-added by becoming winemakers and direct sellers to the public via cellar door outlets as a preferred alternative, or they have become contract grape suppliers to larger firms. The fourth group are the managed investment vineyards and wineries and finally, the wineries (all sizes) that have increased their investment in vineyard and winemaking assets in recent years.

Winery processing size invariably influences the firm's production, market and business approach (ACIL 2002). Therefore, the descriptive analysis will report on a range of variables where winery size can be seen to be an important moderating factor. The wide diversity among Australian wineries will be examined using characteristics such as: (i) the processing size; (ii) annual revenue; (iii) whether the firm is a sole operation or a division/subsidiary of a large wine producing organisation; (iv) the retail price segments for the range of wines producted; (v) the number of employees; and (vi) the number of years since the firm was established.

Four categories were used to classify the winery annual processing capacity ranging from 50 tonnes up to 10,000 tonnes and over per annum. Size classifications used in previous industry studies (ACIL 2002, Sellito and Martin 2002, Davidson 2004) have been modified to suit the purposes of the research. Size categories used by ACIL (2002) were modified from small (20–249 tonnes), medium (250–999 tonnes) and large (1000+ tonnes) wineries to size groups more suited to study requirements. As the sample population started at 50 tonnes, the size range for small wineries was adjusted accordingly (50–249 tonnes). Then, the economic importance of those wineries with an annual grape crush of 10,000 tonnes and over required an additional category. Therefore, there are two new processing size categories for large wineries (1000–9999 tonnes) and very large wineries (10,000+ tonnes). In order to simplify the discussion of tables, the four categories will be referred to as small, medium, large, and very large wineries.

One third of the responses were from large wineries (34%) (Table 5.5). One half of responses were from the small and medium wineries, and very large wineries accounted for 15 per cent of responses.

Table 5.5: Winery size by tonnes processed per annum

Size category	Tonnes crushed p.a.	Frequency	%	Cumulative %
Small	50–249	53	30.3	30.3
Medium	250–999	37	21.1	51.4
Large	1000–9999	59	33.7	85.1
Very large	10000+	26	14.9	100.0
Total		**175**	**100.0**	

Five annual revenue categories (Deloittes 2005) were used to report the annual revenue of participating wineries: (i) A$0–$1m; (ii) A$1m–$5m; (iii) A$5m–$10m; (iv) A$10m–$20m; (v) $20m and over. The majority of the participating wineries had annual revenue greater than A$1 million (78%), most of which were in the A$1–5 million (33%) annual revenue range (Table 5.6).

Table 5.6: Firms' annual revenue

Annual revenue (A$)	Frequency	%	Cumulative %
$0–$1m	39	22.4	22.4
$1m–$5m	58	33.3	55.7
$5m–$10m	29	16.7	72.4
$10m–$20m	16	9.2	81.6
$20m+	32	18.4	100.0
Total	**174**	**100.0**	

Nevertheless, 27 per cent of the participating wineries had annual revenue exceeding A$10 million. This result was consistent with the large proportion of smaller sized wineries compared to large wineries that characterise the wine and grape industry in Australia. As expected, the survey results showed that winery revenue increased with winery size (tonnes processed per annum). The majority of small wineries (66%) had annual revenues up to A$1 million, but 32 per cent had annual revenue between A$1 and A$5 five million dollars (Table 5.7).

Table 5.7: Annual revenue by winery size

Type of transaction (A$)	Small wineries (%)	Medium wineries (%)	Large wineries (%)s	Very large wineries (%)
$0–$1m	**66.0**	5.4	3.4	0.0
$1m–$5m	32.1	**73.0**	24.1	0.0
$5m–$10m	1.9	18.9	**36.2**	0.0
$10m–$20m	0.0	0.0	17.2	23.1
$20m+	0.0	2.7	19.0	**76.9**
	100.0	**100.0**	**100.0**	**100.0**

Seventy three per cent of medium-sized wineries had annual revenue between A$1 and A$5 million, and 19 per cent had revenue between A$5 and A$10 million. There was greater variation in the annual revenue among large wineries, however, the largest group (36%) had annual revenue between A$5 and A$10 million. Very large wineries received the high annual revenue of between A$10 and A$20 million (23%), or A$20 million and over (77%).

The majority of wineries in the sample were sole operations (69%) (Table 5.8). The remaining 31 per cent were a division or subsidiary of a large wine producing company.

Table 5.8: Sole operation or division/subsidiary of a larger organisation by winery size

Type of operation	Small wineries (%)	Medium wineries (%)	Large wineries (%)	Very large wineries (%)	Total (%)
Subsidiary	7.5	27.0	46.6	50.0	31.0
Sole operation	92.5	73.0	53.4	50.0	69.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Small (92%) and medium (73%) sized wineries were more often sole operations, while large (47%) and very large (50%) wineries were more likely to be a division or subsidiary of a large wine producing organisation.

Survey results across six retail price segments revealed that two retail price segments dominated the wine sales of participating wineries: the A$15–$24.99 retail price range (46%), followed by wine sales in the A$10–$14.99 price range (22%) (Table 5.9).

Table 5.9: Percentage of winery sales in each price segment by winery size

Tonnes crushed	< A$7.00	A$7–$9.99	A$10–$14.99	A$15–$24.99	A$25–$39.99	A$40+
Small	0.0	0.0	15.2	63.1	15.8	5.9
Medium	1.9	2.2	22.2	50.4	16.4	7.0
Large	4.4	10.3	26.6	39.9	12.3	6.6
Very large	21.7	33.5	29.2	11.7	3.0	0.8
Total	**4.8**	**8.4**	**22.4**	**45.7**	**13.1**	**5.7**

Small, medium and large wineries indicated that the majority of their wine was destined for three price segments: A$10–$14.99, A$15–$24.99, and A$25–$39.99 with the largest percentage of wine sales in the A$15–$24.99 price segment. In comparison with actual domestic wine sales in 2004–05, it appears that the lower-priced segment of the wine market for cask wine and unbranded still bottled wine is underrepresented.

Very large wineries had the highest percentage of wine sales in each of the three price segments at the lower end of the price scale and the lowest percentage in each of the three highest price segments. Overall, the A$15–$24.99 price segment was shown to be the most competitive with all wineries competing for wine sales (followed by the A$10–$14.99 price segment).

Staff numbers employed by wineries were grouped into five categories ranging from fewer than 5 employees up to 30 staff and more. Thirty one per cent of participating wineries had fewer than five staff (Table 5.10).

Table 5.10: Number of employees at the winery

Employees	Frequency	%	Cumulative %
< 5	53	30.6	30.6
5–9	40	23.1	53.8
10–19	31	17.9	71.7
20–29	15	8.7	80.3
30+	34	19.7	100.0
Total	**173**	**100.0**	

Twenty three per cent of wineries had between five and nine employees, 18 per cent had between 10 and 19 employees and 28 per cent employed more than 20 people.

Most wineries in the sample had been in business for a considerable period of time. Thirty eight per cent of wineries had been established for over twenty years (Table 5.11).

Table 5.11: Number of years the winery has been established in 2005

Years	Frequency	%	Cumulative %
< 2	4	2.3	2.3
3–5	25	14.4	16.7
6–10	46	26.4	43.1
11–20	33	19.0	62.1
> 20	66	37.9	100.0
Total	**174**	**100.0**	

Of the remainder, 17 per cent are relative newcomers having been established some time after the year 2000.

5.2.3. Sample validation

Validation will be approached by comparing the survey responses with statistical data from the Australian Bureau of Statistics (2005b), the Australian and New Zealand Wine Industry

Directory (some information by request: 2006) and the National utilisation and pricing survey (information by request: AWBC 2005b).

Validation by location

While there were 859 wineries with an annual grape crush of 50 tonnes and over in the selected states, only 68 per cent were outsourcing from independent wine grape suppliers (AWBC 2005b), so the survey population comprised 584 wineries (Table 5.12).

Table 5.12: Distribution of census responses based on the number of wineries selected states

State	Wineries crush 50t+ 2005*	Wineries in survey population*	% each state	No. responses	Responses as % of total	Responses as % of wineries population of interest
SA	280	190	32	62	35	33
NSW	203	138	24	27	15	20
Vic	204	139	24	51	30	37
WA	172	117	20	35	20	30
Total	**859**	**584**	**100**	**175**	**100**	**30**

*Winetitles (information provided by request) 2006
*Outsourcing averages of 68 per cent used in column 3 to determine the number of wineries in the census population were provided by request from the Phylloxera & Grape Industry Board (South Aust.) based on the 2005 National utilisation and pricing survey. The outsourcing average is intended as an approximate only as it is acknowledged that the percentage of wineries outsourcing may well vary between states.

Almost 32 per cent of all these wineries were in South Australia, followed by 24 per cent in New South Wales, 24 per cent in Victoria and 20 per cent in Western Australia. One hundred and ninety responses were received, of which 175 were usable, giving a response rate of 30 per cent. While every effort was made to draw the respondents in proportion to the winery population in each participating state, the response to the survey was higher in Victoria (37%) and South Australia (33%). Nevertheless, survey response results compare very favourably with other recent surveys conducted in the Australian wine industry. Comparable national surveys in the wine industry include: Deloittes (2005) response rate was 4.1 per cent; and Sutton-Brady and Oliphant (2005) the response rate was five per cent.

Wineries are more concentrated in wine zones such as South West Australia (17%), Hunter valley (11%), the Barossa (10%) and Port Phillip (9%) (Table 5.13).

The percentage response for each zone closely matches the percentage of Australian wineries located in each zone. This is an indication that the respondents were generally representative of the target population in terms of winery geographic location. All major wine zones were represented in the sample, most within a satisfactory response range. The largest zones — South

West Australia, Barossa Fleurieu, Port Phillip and the Hunter Valley — comprised 55 per cent of the winery population and received 58 per cent of census responses.

Table 5.13: Distribution of winery responses in participating states and major wine zones

State/Zone	Number of responses	Responses as % of total responses	% Wineries 2005 50 tonnes +	Difference in sample
Barossa	20	11.4	10.4	1.0+
Fleurieu	20	11.4	7.9	3.5+
Mt Lofty Ranges	10	5.7	6.2	0.5-
Lower Murray	7	4.0	2.0	2.0+
Limestone Coast	5	2.9	5.1	2.2-
Other smaller SA zones			1.0	1.0-
South Australia	**62**	**35.4**	**32.6**	**2.8+**
Hunter Valley	15	8.6	10.7	2.1-
Big Rivers	6	3.4	3.3	0.1+
Central Ranges	3	1.7	5.2	3.5-
Southern NSW	3	1.7	2.1	0.4-
Other smaller NSW zones			2.3	2.3-
New South Wales	**27**	**15.4**	**23.6**	**8.2-**
Port Phillip	19	10.9	9.1	1.8+
Central Victoria	13	7.4	5.2	2.2+
NE Victoria	13	7.4	4.7	2.7+
NW Victoria	4	2.3	1.4	0.9+
Western Victoria	2	1.2	2.8	1.6-
Other smaller Vic zones			0.6	0.6-
Victoria	**51**	**29.2**	**23.8**	**5.4+**
SW Australia	28	16.0	16.6	0.6-
Greater Perth	7	4.0	3.1	0.9+
Other smaller WA zones			0.3	0.3-
Western Australia	**35**	**20**	**20.0**	**0**
Total	**175**	**100.0**	**100.0**	

Source: Winetitles 2006

Validation by winery size

Calculation of the number of wineries in each size category was required to calculate the survey response rate by winery size to ensure all size categories were adequately represented. In 2005, the percentage of wineries in each size category was 60 per cent for small wineries, 22 per cent for medium sized wineries, 13 per cent for large wineries and five per cent for very large wineries.

Based on the assumption that 68 per cent of wineries outsource wine grapes, the winery responses achieved from the survey as a percentage of the population were 15 per cent for small wineries; 29 per cent for medium wineries; 74 per cent for large wineries; and 93 per cent for very large wineries (Table 5.14).

Table 5.14: Distribution of winery census responses by tonnes crushed at winery in 2005

Winery's annual crush (tonnes)	Wineries in each size category 2005*	Wineries in census population of interest*	% in each size category	No. responses	Responses as % of total	Responses as % of population in range
50–249	514	349	60	53	30	15
250–999	187	127	22	37	21	29
1000–9999	117	80	13	59	34	74
10000+	41	28	5	26	15	93
Total	**859**	**584**	**100.0**	**175**	**100.0**	

*Winetitles (information provided by request) 2006
*Outsourcing averages used in column 3 to determine the number of wineries in the census population were provided by request from the Phylloxera & Grape Industry Board (South Aust.) based on the 2005 National utilisation and pricing survey. The outsourcing average is intended as an approximate only as it is acknowledged that the percentage of wineries outsourcing may well increase with winery size.

Clearly, winery responses as a percentage of the population were far higher for large and very large wineries. During the data collection process it became quite apparent that the larger companies had a very strong desire to participate in industry research and had the necessary resources to ensure this was done. In contrast, time constraints on smaller winery operations were often stretched to the point where industry questionnaires were a low priority irrespective of good intentions.

Nevertheless, the dominance of wine producing companies in the 10,000+ tonnes size range more closely approximates the reality of the Australian wine industry. In 2005, the top six wine companies accounted for 63 per cent of the national crush and the top 20 companies accounted for 91 per cent of the national crush (Winetitles 2006). Seventeen of these 20 wine companies participated in the survey. Not only do these wineries outsource the bulk of their wine grape requirements, but they are also responsible for the management of large supply bases.

5.3. Wine grape supplier profile

The survey was designed to achieve a representative sample of the population of independent wine grape suppliers located in South Australia, New South Wales, Victoria and Western Australia. The following sections provide a description of the sample in terms of respondent characteristics and characteristics of the vineyard business and a comparison of the

characteristics of the sample to determine the representativeness of the sample to the population as a whole.

5.3.1. Wine grape supplier respondents

Most respondents for the wine grape supplier survey were owners or partners in vineyard firms (77%) (Table 5.15). Other respondents included company chairman or directors (10%), the CEO or manager (9%), or vineyard manager (4%).

Table 5.15: Current position in the organisation

Position in firm	Frequency	%	Cumulative %
Owner/partner	307	77.1	77.1
Chairman/director	39	9.8	86.9
CEO/manager	37	9.3	96.2
Vineyard manager	15	3.8	100.0
Total	**398**	**100.0**	

The majority of respondents had worked in their current position for over 10 years (61%) (Table 5.16). Only one per cent of respondents had been in their position for less than one year, 14 per cent had worked for one to five years in their current position, and 24 per cent had been in their current position for between six and ten years.

Table 5.16: Time period in current position

Years in current position	Frequency	%	Cumulative %
< 1	4	1.0	1.0
1–5	55	13.9	14.9
6–10	95	24.0	38.9
> 10	242	61.1	100.0
Total	**396**	**100.0**	

The highest level of education achieved by 36 per cent of respondents was a high school diploma (Table 5.17).

Table 5.17: Highest level of education of respondents

Level of education	Frequency	%	Cumulative %
High school diploma	142	35.9	35.9
Technical qualification	113	28.5	64.4
Undergraduate degree	83	21.0	85.4
Postgraduate degree	58	14.6	100.0
Total	**396**	**100.0**	

Twenty eight per cent of respondents had achieved a technical qualification, 21 per cent had an undergraduate degree, and 15 per cent had a postgraduate degree.

The majority of respondents (92%) had worked in the grape and wine industry for more than six years (Table 5.18).

Table 5.18: Years of experience in the grape and wine industry

Years in the industry	Frequency	%	Cumulative %
< 1 year	1	0.3	0.3
1–5 years	31	7.8	8.0
6–10 years	98	24.6	32.7
> 10 years	268	67.3	100.0
Total	**398**	**100.0**	

5.3.2. Description of the grape supplier firm

Certain characteristics of wine grape supply firms are relevant for the purposes of this study: (i) the total tonnage of wine grapes produced; (ii) annual revenue; (iii) whether the firm is a sole operation or a division/subsidiary of a large wine producing organisation; (iv) retail segments for which wine grapes are destined; (v) the number of employees; and (vi) the number of years since the vineyard operation was established.

For the 2005 vintage, the nine volume categories for wine grape production ranged from less than ten tonnes to more than 5,000 tonnes (Table 5.19). While 84 per cent of the respondents produced between 50 and 4999 tonnes, the largest group of respondents (27%) produced between 100 and 249 tonnes of wine grapes in 2005.

Table 5.19: Firms' total tonnage of wine grapes produced in 2005

No.	Tonnage	Frequency	%	Cumulative %
1	< 10 t	12	3.0	3.0
2	10–24 t	19	4.8	7.8
3	25–49 t	31	7.8	15.5
4	50–99 t	59	14.8	30.3
5	100–249 t	109	27.3	57.5
6	250–499 t	68	17.0	74.5
7	500–999 t	51	12.8	87.3
8	1000–4999t	49	12.3	99.5
9	5000+ t	2	0.5	100.0
	Total	**400**	**100.0**	

Most of these firms (86%), had an estimated revenue of less than A$1 million in 2005 (Table 5.20). While 11 per cent had annual revenue between A$1 and $5 million, only 2 per cent had an annual revenue between A$5 and $10 million, 1 per cent had annual revenue between A$10 million and $20 million and 1 per cent had annual revenue exceeding A$20 million.

Table 5.20: Firms' estimated annual revenue in 2005

Annual revenue (A$)	Frequency	%	Cumulative %
$0–$1 m	339	86.0	86.0
$1 m–$5 m	44	11.2	97.2
$5 m–$10 m	6	1.5	98.7
$10 m–$20 m	3	0.8	99.5
$20 m+	2	0.5	100.0
Total	**394**	**100.0**	

Most of the wine grape suppliers were sole operations (92%) and not a division or subsidiary of a larger organisation (Table 5.21).

Table 5.21: Is the firm a division/subsidiary of a larger organisation?

Subsidiary	Frequency	%	Cumulative %
Yes	30	7.7	7.7
No	361	92.3	100.0
Total	**391**	**100.0**	

Retail price segments for which grapes are destined

The majority of wine grape suppliers (55%) were aware of the retail price segments into which the grapes they had produced were destined (Table 5.22).

Table 5.22 Do you know the allocated price segment?

	Frequency	%	Cumulative %
Yes	221	55.3	55.3
No	179	44.8	100.0
Total	**400**	**100.0**	

Irrespective of vineyard size, the majority of grapes produced were destined for retail price segments between A$7-$24.99 (Table 5.23). The exception were the vineyards producing less than 10 tonnes of wine grapes. These vineyards tended to produce wine grapes destined for higher priced wines priced between A$25-$40+.

Table 5.23 Percentage of wine grapes in each price segment by vineyard production size

Tonnes crushed	< A$7.00	A$7–$9.99	A$10–$14.99	A$15–$24.99	A$25–$39.99	A$40+
< 10	11.1	0.0	0.0	44.4	22.2	22.2
10–24	4.6	15.9	20.4	39.6	12.7	6.8
25–49	4.8	14.3	14.3	49.0	17.6	0.0
50–99	6.1	20.0	27.0	29.2	11.4	6.4
100–249	5.0	32.1	31.8	25.0	5.9	0.0
250–499	14.0	40.3	35.9	6.4	3.6	0.0
500–999	20.9	39.8	23.5	14.1	1.3	0.4
1000–4999	18.9	34.3	27.6	18.9	0.3	0.0
5000t +	0.0	0.0	52.5	42.5	5.0	0.0
Total (%)	**10.7**	**28.6**	**26.6**	**24.8**	**7.1**	**2.2**

Most wine grape suppliers had less than five employees (81%) (Table 5.24). However, 11 per cent had between five and nine employees and the remaining 8 per cent had ten or more employees.

Table 5.24: Number of firm's employees

Employees	Frequency	%	Cumulative %
< 5	318	81.1	81.1
5–9	44	11.2	92.3
10–19	14	3.6	95.9
20–29	9	2.3	98.2
30+	7	1.8	100.0
Total	**392**	**100.0**	

The majority of participating grape suppliers had been in business for over a decade (59%) (Table 5.25).

Table 5.25: Number of years the firm has been established in 2005

Established (years)	Frequency	%	Cumulative %
< 2	9	2.3	2.3
3–5	36	9.1	11.3
6–10	118	29.7	41.1
11–20	147	37.0	78.1
> 20	87	21.9	100.0
Total	**397**	**100.0**	

For those in business for less time, only two per cent of respondent firms had been established less than two years, nine per cent for between three and five years, and 30 per cent for between six and ten years.

5.3.3. Sample validation

Sample validation was undertaken by comparing sample responses with statistical data from the Australian Bureau of Statistics (2005b) to determine the number of vineyards owned by the winery versus those owned by independent wine grape suppliers. There is no reliable database for the number of wine grape growers — independent or otherwise — in Australia.

Validation by location

In 2005, the Australian grape industry comprised of 8,347 individual establishments supplying grapes for use in winemaking, drying and fresh consumption (ABS 2005b). Wine grape growing accounted for 90 per cent of production. Nearly half of grape production (48%) takes place in South Australia, followed by New South Wales (25%), Victoria (21%), and Western Australia (5%) (Table 5.26).

Table 5.26: Distribution of wine grape supplier sample based on vineyard production by state and zone

State/Region	No. resp.s	Responses as % of total	% Wine grape prod'n 2003–04	Difference in sample
Barossa	21	5.3	5.4	0.1 –
Mt Lofty Ranges	23	5.8	3.8	2.0 +
Fleurieu	32	8.0	7.2	0.8 +
Limestone Coast	21	5.3	8.6	3.3 –
Lower Murray	78	19.5	23.4	3.9 –
South Australia	**175**	**44.0**	**48.4**	**4.4 –**
Big Rivers	74	18.5	19.0	0.5 –
Central Ranges	10	2.5	2.9	0.4 –
Southern NSW	6	1.5	0.9	0.6 +
Hunter Valley	3	0.8	1.6	0.8 –
Other NSW			0.4	0.4 –
New South Wales	**93**	**23.0**	**24.8**	**1.8 –**
NW Victoria	100	25.0	16.0	9.0 +
NE Victoria	7	1.8	1.9	0.1 –
Central Victoria	3	0.7	1.3	0.6 –
Port Phillip	12	3.0	1.6	1.4 +
Other Victoria			0.4	0.4 –
Victoria	**122**	**30.5**	**21.2**	**9.3 +**
SW Australia	9	2.2	4.1	1.9 –
Greater Perth	1	0.3	0.7	0.4 –
Western Australia	**10**	**2.5**	**4.8**	**2.3 –**
Other states			**0.8**	**0.8 –**
Australia	**400**	**100.0**	**100.0**	

*Winetitles: information by request on wine grape production by region 2003–04

Other states not included in the survey account for the remaining one per cent of production.

Actual vineyard production compared favourably with the sample distribution in South Australia (44%) and New South Wales (23%). Victoria's sample (30%) exceeded the production percentage, whereas, in Western Australia the sample (2%) fell short of the five per cent desired.

This is an indication that the survey sample is generally representative of the target population in terms of response distribution. All major wine grape growing zones were represented in the sample, most within a satisfactory range. The three largest grape growing areas — Lower Murray, Big Rivers and North West Victoria — comprised 63 per cent of the sample, compared to a combined contribution of 58 per cent to wine grape production in 2004.

Survey questionnaires were distributed to 4831 wine grape growers. Four hundred and twelve questionnaires were returned, of which 400 were usable. Therefore, the survey response rate was 8.3 per cent. While an eight per cent response rate may perhaps be viewed as unfavourable, it is important to acknowledge that the mail distributions did not distinguish between wineries that did and did not outsource wine grapes. In fact, of the 4,831 grape growers who received the questionnaire, a lesser proportion would have been in the target population. Therefore, the response rate was possibly higher than 8.3 per cent.

Validation by size

Vineyards are classified by the Australian Bureau of Statistics (ABS 2005a) into five categories. Seventy four per cent of vineyards are in the smallest size category of 0–49 hectares, followed by 12 per cent in the 50–99 hectare size range, 12 per cent in the 100–499 hectare range, one per cent in the 500–999 hectare range, and two per cent cultivate 1,000 hectares or more (Table 5.27).

Table 5.27: Distribution of wine grape supplier sample by vineyard size (hectares)

Vineyard size (hectares)	No. responses	% in survey	% in Australia in 2005*	Difference in sample
0–49	322	80.5	74.4	6.1 +
50–99	45	11.2	12.3	1.1 -
100–499	30	7.5	11.5	4.0 -
500–999	2	0.5	1.2	0.7 -
1000+	1	0.3	2.0	1.7 -
Total	**400**	**100.0**	**100.0**	**1.4+**

Source: ABS 2005a

Sample responses compared favourably with actual vineyard percentages in each of the five size categories. Eighty per cent of responses were from smaller vineyards in the range up to 49

hectares. The response percentages for larger vineyards were also closely matched to the percentage of vineyards in each size group. These results provide confirmation that the survey sample is generally representative of the target population in terms of vineyard size.

5.4. Part One: Review of survey results

A comparative description of winery and vineyard operations improves the clarity of interpretation of the general trading position of the respective parties in terms of similarities and differences. Wineries were classified as small, medium, large, and very large based on the annual wine grape tonnage processed which ranged from 50 tonnes to more than 10,000 tonnes. Small and medium wineries comprised over half the sample, followed by 34 per cent of large wineries and 15 per cent of very large wineries. In terms of grape production, independent suppliers produced less than ten tonne of grapes at the smaller end of the scale, to more than 5,000 tonnes at the higher end. The sample was normally distributed with the production for the largest group of respondents (27%) being between 100 and 249 tonnes of wine grapes per annum.

The size of winery operations by revenue and staffing levels were generally higher than the independently owned vineyard operations. Annual revenue of winery firms was well represented in each of the five revenue categories ranging from A$0–$1 million to A$20 million and over, whereas most vineyard operations had annual revenue less than A$5 million. Forty four per cent of wineries had annual revenue of A$5 million and over compared with three per cent of grape suppliers. Deloittes (2006) found that businesses across all revenue categories were facing difficult times in the oversupplied wine market. Nevertheless, the listed wineries and those with annual revenue of A$20 million and over are best positioned to improve profits through well structured, efficient business operations.

Both surveys achieved a good representation of both sole operators and divisions of larger organisations. Nevertheless, there were more subsidiary wineries (31%) than subsidiary vineyard operations (8%). The larger component of subsidiary wineries were required in order to capture the concentration and consolidation of the top twenty wine producing organisations that account for most of the wine processed in Australia. In contrast, concentration and collaboration among wine grape suppliers (e.g. CCW in the Riverland) does not impact on business operations in the same way as wineries.

Together, both surveys were found to adequately represent the winery and independent grape supplier populations in terms of the distribution of responses by location and business size. Much effort was expended to achieve a proportionate representation to capture the cool and warm climate wine zones and small to very large sized vineyard and winery firms which could potentially induce variation in the nature of the trading relationships.

In terms of years of establishment, the winery and grape suppliers' responses were closely matched with a good representation of businesses from those that were relatively new, to those that had been established for some time. Both surveys gained most of their responses from businesses that had been in operation for over ten years. For the purposes of this research, these businesses were most likely to have had the opportunity to develop relatively stable, long-term relationships with preferred trading partners. A range of customer and supplier businesses of all ages enhanced the likelihood of capturing the whole spectrum of trading relationships from new relationships to long term relationships; from low involvement to high involvement; and, from problematic to very successful.

6. Results and discussion on relationship value in the Australian wine and grape industry

6.1. Structural equation models of relationship value

This chapter presents the results of data analysis and hypothesis testing for the model of relationship value specific to the grape and wine industry in Australia. The model separately captures and compares buyers and sellers perceptions of how the selected relational constructs lead to relationship value.

The models for wineries and wine grape suppliers (Figure 6.1and Figure 6.2) showed that "performance satisfaction", "cooperation", and "trust" were positively associated with "profitability benefits". "Trust" was positively associated with "innovation" and "cooperation" was positively associated with "market and scout benefits". "Conflict resolution" had a significant negative association with "relationship costs". "Power asymmetry" was found to have a significant positive impact on "relationship costs" for the customers, but was not significant for the suppliers.

The goodness-of-fit measures were consistent with the recommended thresholds/values for most indices in the model for customers. The following results exceed the recommendations for a good fit: the non-significant chi-square $p > 0.161$; chi-square (χ^2/df) $1.281 < 3$ (Bollen 1989); GFI $0.966 > 0.95$ (Jöreskog and Sorbom 1984); IFI 0.989 (Bollen 1989), CFI $0.989 > 0.95$ (Bentler 1990); and RMSEA $0.04 < 0.05$ (Browne and Cudeck 1993). Akaike's information criterion and ECVI had smaller values when compared to the independence and saturated models (Akaike 1973).

In the supplier's model, χ^2 has a significant value, but most other measures indicate good fit. For following results exceed the good measures for a good fit: chi-square (χ^2/df) $2.051<3$; GFI $0.971>0.95$; RFI 0.96, NFI 0.973, IFI 0.986, CFI $0.986 > 0.95$; and RMSEA $0.04 <0.05$. Akaike's information criterion and ECVI had smaller values when compared to the independence and saturated models.

The model showed that the same key relational behaviours and critical value dimensions are present in working relationships between customers and suppliers, however, the means by which the relational elements confer value is different for both groups.

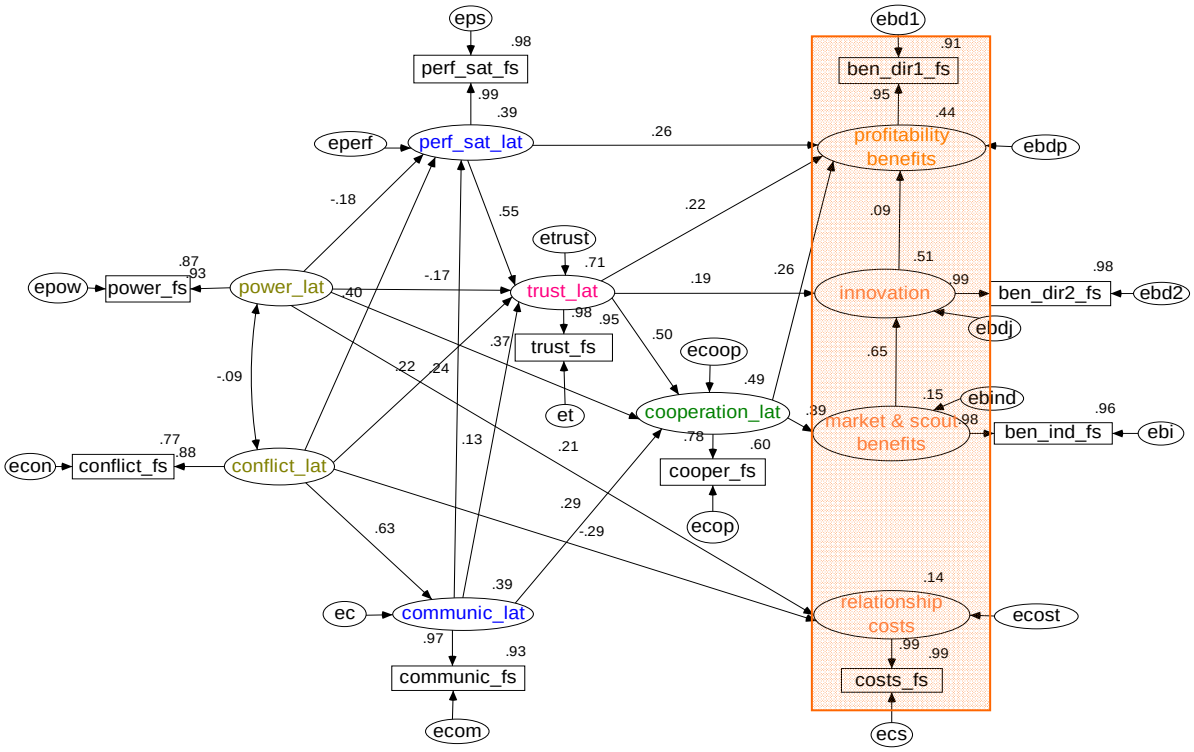


Figure 6.1 Estimated structural model for Australian wineries — standardised parameters

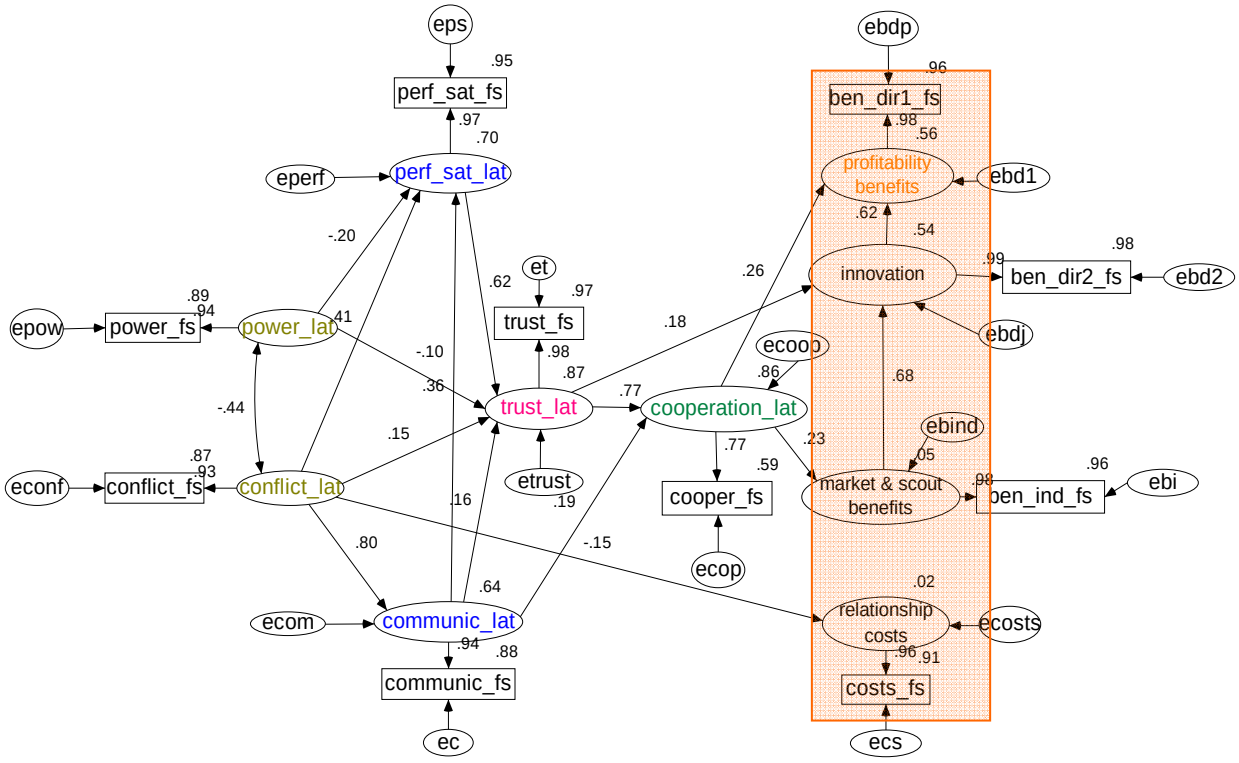


Figure 6.2 Estimated structural model for Australian grape growers – standardised parameters

All parameter estimates are statistically significant ($p<0.05$) except innovation to profitability benefits for wineries

6.1.1. Objective 1

OBJECTIVE 1:

Determine the relationship between the relationship-specific constructs and relationship value constructs to identify those that confer value and the extent of that value.

What are the similarities and differences between group perceptions towards the selected relational constructs and value outcomes?

The first objective in the research was to identify how the selected relational behaviours lead to relationship value. The resultant model from the literature review and qualitative exploratory research was evaluated using factor analysis and structural equation modelling based on the quantitiative survey of Australian wineries (customers) and wine grape growers (suppliers).

It was evident from the model that power asymmetry, conflict resolution, communication, performance satisfaction, trust and cooperation were important behavioural dimensions of relationships between wineries and grape suppliers. The data and subsequent analysis has supported the hypotheses for the relationships between these six relationship elements leading to four critical relationship value outcomes.

Conflict resolution was a core antecedent in the models which directly drives communication (β=0.63 winery /0.80 grape supplier) and performance satisfaction (β=0.40 winery /0.41 grape supplier) to increase trust and cooperation (β=0.50 winery /0.77 grape supplier), leading to relationship value for customers and suppliers (Figure 6.1 and Figure 6.2, Table 6.1). Joint conflict resolution, in order to develop meaningful joint solutions to problems to avoid them from recurring, would seem to be a worthwhile mechanism for bringing these essential constructs together in practice. Such an approach would also entail a quick response to a partner's complaints and resolving disagreements and problems as they arise. Even firms in successful trading relationships readily acknowledge that disagreements or conflicting views on important issues were inevitable from time to time. Rather than trying to ignore problems or allowing them to run their course capriciously, a more effective management strategy was to develop mediating mechanisms to defuse and settle differences in a timely manner.

For grape suppliers, their ability to resolve disagreements and problems was impeded by the power held by their customers (β=-0.44). Readily acknowledged as the dominant party, wineries exert a strong influence over their grape suppliers. As a result, grape suppliers were not completely confident that their winery customers do not take advantage of their strong bargaining position in order to influence conflicting issues in their own favour. Sentiments of this nature can increase stress in the working relationship which reduces a firm's perceptions of

trust (β=-0.17 winery /-0.10 grape supplier) and overall satisfaction with their partner's performance (β=-0.18 winery /-0.20 grape supplier).

Table 6.1: Standardised regression weights (winery/grape supplier) default model

Model pathways		Winery	Supplier	Summary
Power asymmetry	Conflict resolution	-0.09	-0.44	Power asymmetry has a negative association with the ability of partners to resolve conflict — only significantly so for grape suppliers
Trust	Cooperation	0.50	0.77	Trust affects cooperation much more for suppliers, but is quite influential in both groups
Performance satisfaction	Trust	0.55	0.62	Performance satisfaction affects trust more for suppliers, but is quite influential in both groups
Communication	Performance satisfaction	0.24	0.36	Communication affects performance satisfaction and trust more for grape suppliers, whereas communication affects cooperation more for wineries
	Trust	0.13	0.16	
	Cooperation	0.29	0.19	
Power asymmetry	Performance satisfaction	-0.18	-0.20	For suppliers, power asymmetry negatively affects performance satisfaction more; Power asymmetry negatively affects trust and cooperation more for wineries
	Trust	-0.17	-0.10	
	Cooperation	0.37	0	
Conflict resolution	Communication	0.63	0.80	Conflict resolution effects communication more for suppliers, but is highly influential in both groups
	Performance satisfaction	0.40	0.41	Conflict resolution affects performance satisfaction more for wineries
	Trust	0.22	0.15	CR affects trust more for wineries
Performance satisfaction	Profitability benefits	0.26	0	Performance satisfaction directly affects profitability benefits for wineries only
Cooperation	Market and scout benefits	0.39	0.23	Cooperation affects market and scout benefits and profitability benefits more for wineries
	Profitability benefits	0.26	0.26	
Trust	Innovation	0.19	0.18	Trust affects innovation for both groups and profitability benefits for wineries only
	Profitability benefits	0.22	0	
Innovation	Profitability benefits	0.09*	0.62	Innovation affects Profitability benefits, significantly for grape suppliers only
Market and scout benefits	Innovation	0.65	0.68	Market and scout benefits affect Innovation strongly for both groups, but slightly more so for grape suppliers
Conflict resolution	Relationship costs	-0.29	-0.15	Conflict resolution is a means to reduce costs, but more so for wineries
Power asymmetry	Relationship costs	0.21	0	Power asymmetry can increase costs (time and resources) for wineries only

*this relationship was not significant for wineries

Identifying trust as a principle mediating variable was critical in achieving a better insight into the process of making customer and supplier relationships work. Good communication between firms enhanced performance satisfaction (β=0.24 winery /0.36 grape supplier) and increased the level of benevolence and credibility (β=0.13 winery /0.16 grape supplier) in their relationship, while at the same time reduced their partners' perceptions of opportunistic behaviour.

"Cooperation" was a strong predictor of "relationship value". The winery model supports the view that in close, more collaborative relationships, suppliers support the wineries legitimate right to specify their wine grape requirements, particularly where the importance of supply was high and purchase requirements were complex. A more collaborative approach motivates firms to cooperate because they realise they must work together to be successful. There was also some expectation of reciprocity in situations where flexibility in trading arrangements was shown towards the other partner.

Another part of the first research objective was to look at the differences in how the model worked for both wineries (customers) and wine grape growers (suppliers). While the data and subsequent analysis supported twenty one hypotheses for the relationships between the different constructs, five hypotheses were significant for one group but not for the other. The model confirmed that while all relational behaviours were important, some were more important than others in the contributions they make towards relationship value for wineries and for wine grape suppliers. Three key relational behaviours — conflict resolution, performance satisfaction and trust — were strong and influential for both groups, but more so for grape suppliers (Table 6.1). Furthermore, wineries perceived their dominant position in the exchange relationship to have a positive impact on achieving the cooperation of wine grape suppliers (β=0.37).

For wineries, satisfaction with a supplier's performance enhanced perceptions of the value of that relationship due to the potential to increase profitability (β=0.26). Also, customer perceptions of relationship value increased through trust and cooperation. In contrast, suppliers in a trusting and cooperative relationships with a customer have the opportunity to increase the value of their relationships to the extent that they were willing to innovate to build strategic position, reduce costs and improve quality to increase profitability.

Although the wineries had greater opportunity to increase relationship benefits directly through satisfaction with the performance of their grape suppliers, these firms also incurred greater relationship costs in the efforts required to acquire those benefits (β=-0.29 winery /-0.15 grape supplier). Network relationships were a significant driver of innovation for wineries and grape suppliers in cooperative trading relationships (β=0.65 winery /0.68 grape supplier). To innovate, firms need to source a range of inputs from their networks including knowledge, technical skills, technology, high-level training and financial services. Furthermore, the need to achieve

competitive advantage ahead of other grape suppliers or other wineries provided a strong motivation for firms to innovate. Nevertheless, only grape suppliers were achieving significant profitability benefits through joint innovation with winery customers (β=0.62).

6.1.2. Objective 2

OBJECTIVE 2:

Examine customer and supplier perceptions of the main components of relationship value in the grape and wine industry.

What are the similarities and differences in value perceptions between wineries and grape suppliers?

The model conceptualised relationship value as three benefit constructs and a single sacrifice construct in a business market, from a customer and a supplier perspective. The model confirmed that the critical dimensions of relationship value for both parties were profitability benefits, innovation, market and scout benefits and relationship costs.

The main value outcomes in business relationships were derived from the optimisation of those elements which have a direct impact on profitability. Profitability benefits include the economic and strategic advantages which serve to enhance the firm's competitiveness (see Appendix 4). As expected, the model showed that profits were achieved mainly through cost reduction or increased revenues, for both customers and suppliers. From a grape supplier's perspective, selling their grapes to a winery can contribute to the profitability of the firm through access to a secure buyer who was willing to pay reasonable prices for the grapes. The supplier was better able to meet quality specifications through the technical knowledge that was usually offered by the winery and achieve cost efficiencies through economies of scale. Further cost reductions were achieved by way of a large number of small improvements to management practices in the vineyard to improve the cost per quality unit ratio.

From a winery perspective, an ongoing trading relationship with a contracted grape supplier minimised transaction costs and secured a reliable supply of wine grapes that were good value for money. Strong performing suppliers consistently provided grapes to the winery's quantity and quality specifications. As the international and domestic markets have become more competitive, reducing cost through the ability to supply grapes and make wine to predetermined specifications (through reducing intra-vineyard variability and understanding quality attributes in grapes and wine) has become critical for both parties to maintain profits and provide a competitive edge. Consistency in flavour, quality and supply are critical elements for success in brand-building.

There have been challenges that go beyond being an efficient producer and reliable supplier, with the need to innovate to keep the trading relationship growth-orientated and strong. Rapidly

changing technology and market dynamics have been creating opportunities that must be leveraged to avoid the loss of customers and market share (Aylward 2005). The adoption of more advanced business practices such as jointly setting strategic directions and the long-range planning of wine grape supply have been shown in the model to increase supplier perceptions of relationship value. Further innovations have occurred in other high priority areas including the adoption of new or significantly improved production processes and technical practices. However, the results show that grape suppliers in particular, were deferring the adoption of some innovations until the market became more stable.

Maintaining a relationship requires time and money to continuously preserve and improve inter-firm linkages. Nevertheless, relationship costs were perceived as being relatively low, particularly for grape suppliers. Exponential growth in communication technologies, including the Internet has provided a cost-effective means to establish and maintain frequent communication between wineries and their grape suppliers. The model showed that wineries in particular incur relationship costs through additional expenditure of time, additional intra- and inter-firm coordination costs and general relationship maintenance.

There were differences in perceptions of the key relationship constructs between wineries and grape suppliers. Strong contributions from indicators for profitability benefits pertaining to the level and consistency of grape quality from both wineries and grape suppliers (*leads to better fulfilment of wine grape specifications and increases our product performance)* acknowledged that both parties need to work together to ensure that the vineyards are managed to the given quality specifications. It has been the wine grape growers willingness to deliver grapes that wineries want that has provided Australian wine exports with a quality advantage over international competitors at most price levels (Kiri-ganai research 2006). In addition, the perceptions of profitability benefits realised from the relationship for grape suppliers had strong contributions from items such as "*increases the profitability of our firm", "helps to fulfil our customer requirements better", "leads to better fulfilment of wine grape specifications", enables an efficient marketing of our wine grape", "strengthens our strategic position"* and "*increases the competitiveness of our firm".* These findings show that wine grape suppliers aspire to a range of economic and strategic benefits to increase their competitiveness and profitability.

Both groups had the same principal indicator items for innovation (*leads to joint input into setting strategic directions, leads to joint input into long range planning of supply*), market and scout benefits (*leads to direct reference with possible business partners, leads to initation of contacts with perspective suppliers/customers and leads to information about other potential suppliers/customers for our firm*) and relationship costs (*causes additional coordination costs within our firm*). However, there were differences in the contributions to composite scales.

6.1.3. Objective 3

OBJECTIVE 3:

How does the extent of relational collaboration influence relationship value for wineries and for grape suppliers?

The third research objective was to identify the extent to which the model constructs were consistent within customer and supplier groups. Cluster analysis identified two distinct groups within wineries and grape suppliers comprising those with a "high" and those with a "low" relational orientation. More positive perceptions of relationships in terms of conflict resolution, communication, performance satisfaction, trust, commitment and cooperation were shown to correspond with more positive perceptions of relationship value.

A greater percentage of wineries had a high relational orientation, with higher perceptions of relationship value than grape suppliers. Furthermore, wineries were more likely to develop various types of relationships with their suppliers, short and long term and high or low relational orientation to suit the requirements of each market segment. Consequently, although perceptions of relationship behaviours were significantly different between those wineries with a "high' and a "low" relational orientation, there was less divergence between the two winery groups than in the grape supplier clusters.

In terms of the two-cluster solution for wineries and grape suppliers comprising of "high" relational orientation and "low" relational orientation, had the sample sizes been sufficient the structural equation model would have been tested separately for each cluster.

Winery clusters

High relational orientation. The study found that those wineries with a high relational orientation were more likely to be a subsidiary or division of a larger wine producing organisation and they outsourced a higher percentage of their grape requirements from independent suppliers.

Based on this information, it is more likely that wineries with a high relational orientation need to effectively manage their contracted grower base in order to maintain the inflow of grapes desired by the winemaker. Study findings showed that large to very large wineries have a higher proportion of contracted wine grape suppliers, with the average number of growers ranging between 20 and 290. Relationship strategies are often formulated and then implemented through grower liaison personnel - a process that takes up a good deal of the firm's time (Osborn 2000).

The level of relational orientation between buyers and sellers of wine grapes was strongly linked to the winery's quality requirements for wines aimed at a range of different market segments. In fact, larger wineries such as Orlando Wyndam's separate their wine grape

suppliers according to their needs, skills and products (Beuman and McLachlan 2000). A closer, more participative approach between wineries and their grape suppliers was necessary in premium growing regions because of the high investment from both parties to achieve grapes of the desired quality for super premium, ultra premium, and icon wine. The assessment of wine grape quality requires a combination of objective grape-quality assessment and close liaison between grower and winery contacts during the growing season (PIRSA 2005). Close contact was necessary because there is no satisfactory objective measurement for some aspects of grape quality (Allen 2003).

The cluster results showed that wineries in relationships with a high relational orientation were more motivated to engage in joint problem solving to achieve integrative outcomes which satisfy more fully the needs and concerns of both parties. These firms were more likely to attempt to persuade wine grape suppliers to adopt particular solutions, rather than to use coercion or domination. Nevertheless, the legitimate use of winery power seems to have had a negative impact even in these relationships as the results were not significantly different to those with relationships with a low orientation.

Other features of a high relational orientation include a significant amount of communication and information exchange, most of which tends to be focused on achieving quality objectives. Keeping each other well informed, particularly on technical matters and clear communication of the firm's expectations through frequent, informal, face-to-face contact enhances performance satisfaction and feelings of security and trust. However, even in relationships with a high relational orientation, the preliminary findings show that the level of communication varies depending upon the size and availability of winery resources, the length of the relationship, and the experience of the grape supplier.

Wineries with a "high" relational orientation were extremely trusting of their trading partners. However, findings show that all wineries had a high degree of confidence and trust in their preferred wine grape suppliers to produce winegrapes to the company's volume and specification on which they rely for their branded products.

Cooperation between wineries and grape suppliers was fundamental to achieving the best quality wine grapes to suit the end wine product. Wineries with high relational orientation recognised that both parties must work together to be successful. There was greater flexibility in these relationships, as shown by a willingness to put aside contractual arrangements if necessary to work through special circumstances or difficult problems with the supplier.

It was interesting to note that only profitability benefits were contributing towards relationship value. Even those wineries with high relational orientation were not jointly innovating or accessing important business contacts and technical or market-related information through the

focal relationship. However, on a positive note, the perceived costs of the relationship for these wineries were significantly lower.

Low relational orientation. Wineries with a low relational orientation purchased on average less than 25 per cent of their wine grape requirements from independent grape suppliers. As a result these wineries were much less dependent on their grape suppliers. The low relational approach to grape supplier relationships considers suppliers to be more or less efficient producers of identical inputs, which are suited to the wineries desired markets.

As these relationships tend to be more transactional, price becomes the primary source of value. As each purchasing transaction can potentially incur expenses such as the search cost of locating a suitable supplier, transportation, handling of goods, ordering processes and so on, these ongoing, "low" orientation relationships with wine grape suppliers offer the wineries a means of reducing direct procurement costs and transaction costs (Ford et al 2003, PIRSA 2005). These costs are a large proportion of the cost structure and so have a profound effect on the cost efficiency of the winery.

Collaborative marketing groups such as the CCW Cooperative Ltd in the Riverland reduce transaction costs for the winery as it can purchase a large quantity of wine grapes via one transaction. Greater relational involvement would be likely to develop and continue only when there is a need or an incentive for both parties. In these trading relationships there is a greater reliance on the efficiencies of the market exchange to maximise their profits, satisfaction and value in the relationship. Overall performance for individual respondents in this particular group was focused more on the value of the product than on the value of the relationship.

While low relational relationships with compliant suppliers can achieve high levels of efficiency, they are not likely to be as competitive, relative to high relational exchange where cooperation has been fostered through frequent two-way communication and joint activities (Davis and Spekman 2004). In comparison with relationships with a high relational orientation, those wineries with a low relational orientation were found to provide less communication and less support for their grape suppliers. Perceptions of winery respondents in Cluster 1 and Cluster 2 were clearly divergent in terms of model constructs including performance satisfaction (mean 'Cluster 1' 5.6/mean 'Cluster 2' 4.2), trust (6.3/5.0), conflict resolution (5.4/4.3), communication (5.8/4.5), and cooperation (5.3/4.3), with corresponding perceptions of the levels of relationship value (5.8/4.4). When examining the perceived profitability benefits, innovation and market and scout benefits and relationship costs in the model for low relational wineries, the group had consistently lower scores for direct and indirect benefits, and a higher score for costs. This latter result was somewhat surprising as the relationship handling costs were expected to be perceived as being lower. However, the highly competitive market for bulk,

cask and popular premium wine has been experiencing a serious price squeeze (Scales et al. 1995), therefore, the perceptions of the relationships costs of wineries with a low relational orientation may have been inflated.

Grape supplier clusters

A similar analysis of high and low relational clusters of wine grape suppliers was undertaken.

High relational orientation. The majority (65%) of grape suppliers were in the "high" cluster with positive perceptions about the various aspects of their relationship with wineries, in contrast to those grape suppliers in the "low" cluster who had negative perceptions. Grape suppliers in "high" relational orientation relationships were more likely to have longer term contractual arrangements of five or more years for wine grapes destined for higher retail price points.

Cluster analysis showed that wine grape suppliers in "high" relational orientation relationships recognised that cooperation towards achieving mutual quality goals was in the interest of both parties. Preliminary findings revealed the factors that strengthened the level of cooperation with the grape supplier were the grower's trust in the advice and information given by the winery and the winery's trust in the supplier gained through experience over time. Over time, the level of cooperation was said to increase as good working relationships and mutual trust developed between the two parties — trust in the technical advice given by winery personnel and in the winery's assessment of grape quality and also the knowledge that the supplier had the respect and trust of the winery. Hence, in the Phase One model cooperative norms such as mutuality, flexibility and solidarity were significantly stronger amongst those with a "high" relational orientation. Furthermore, the grape suppliers in more positive working relationships with grape buyers were not so concerned about the power asymmetry.

It was evident from the cluster findings that the majority of grape suppliers were striving to work with wineries to achieve their mutual economic goals. Forty one per cent of grape suppliers perceived their renumeration for their wine grapes to be above current market price. While those in better working relationships were realising greater relationship value – market and scout benefits (mean 'Cluster 1' 3.4/mean 'Cluster 2' 2.9), innovation (4.1/3.1) and profitability benefits (4.8/3.7) – the levels were not very high in the current market. At the same time, respondents would neither agree nor disagree that the relationship with the selected winery incurred additional relationship handling costs (4.1/4.5).

Low relational orientation.

Wine grape suppliers in "low" relational orientation relationships were more likely to have short term contractual arrangements of five or more years for wine grapes destined for low retail price points in the bulk, cask and popular premium wine market.

These are price conscious markets where cost reduction has been the primary means to achieve competitive advantage. As wine producers attempt to optimise wine quality, downward pressure has been placed on warm inland prices as grapes from these areas are displaced in favour of relatively cheap, higher quality cool climate fruit. For the 2005 vintage, surplus Shiraz from cool climate regions was used to supplement product sourced from the warm inland regions where uncontracted wine grape suppliers were offered spot prices as low as A$100 per tonne (RRATRC 2005). It was not viable for growers to accept the spot prices being offered for these grapes, which were well below the cost of production (KPMG 2004).

The present discontent among these wine grape suppliers was very evident from their negative perceptions of the cooperation, communication, conflict resolution, performance satisfaction, trust and relationship value in their working relationships. Despite clear recognition in both clusters that wineries were the dominant party and hold all the power in the relationship, those suppliers with "low" relationship orientation perceived the power imbalance to be significantly greater. When examining the perceived profitability benefits, innovation and market and scout benefits and relationship costs in the Phase Two model for low relational wine grape suppliers, the group had consistently lower scores for direct and indirect benefits, and a higher score for relationship costs. As the relationship handling costs were expected to be lower for those with a low relational orientation, it is assumed that for this group, the perceptions of the relationship costs were relative to the relationship benefits – costs were in fact exceeding the benefits.

6.1.4. Objective 4

OBJECTIVE 4:
How do buyers and sellers share the value created in the relationship?

While the perceptions of most winery respondents were that there was equal sharing of relationship benefits between trading partners (71%), the majority of grape suppliers (62%) believed that their winery customers benefited to a greater extent from the relationship (Table 6.2

Table 6.2). In terms of the sharing of relationship costs, the majority of wineries (59%) perceived an equal sharing of relationship costs with the grape supplier firm, yet 40 per cent of grape suppliers believed that their firm had to accept more share of the relationship costs. Perceptions of which firm had more share of the risk followed a similar pattern as the majority of winery respondents (51%) considered risk sharing to be equal between the two parties, while the majority of grape suppliers considered their firm to have more share of the risk in the relationship.

Table 6.2: Perceptions of value appropriation in the relationship

	Partners firm has more share of the relationship benefits	**Equal sharing of relationship benefits**	**Your firm has more share of the relationship benefits**
Wineries	12%	**71%**	17%
Grape suppliers	**62%**	29%	9%
	Partners firm has more share of the relationship costs	**Equal sharing of relationship costs**	**Your firm has more share of the relationship costs**
Wineries	20%	**59**%	21%
Grape suppliers	30%	30%	**40**%
	Partners firm has more share of risk in the relationship	**Equal sharing of risk in the relationship**	**Your firm has more share of the risk in the relationship**
Wineries	30%	**51%**	19%
Grape suppliers	21%	22%	**57%**

Overall, the majority of winery respondents perceived the value appropriation to be equal in the relationship, however, grape suppliers did not agree. Instead, the majority of grape suppliers considered the wineries had a greater share of benefits and a lesser share of relationship costs and relationship risk.

7. Research outcomes and implications

7.1. Research outcomes

The research has achieved the planned outputs and performance targets set out in the original application.

7.2. Research practical implications

This research has sought to make several contributions to the knowledge of relationship value with its theoretical and practical implications. The following section compares and contrasts this research's findings with the literature to highlight the similarities and differences and to show where this research advances the existing literature and therefore makes contributions to the body of knowledge.

7.2.1. Theoretical implications

Customer-supplier perspective. The results of this research offer empirical evidence of both the customers and suppliers perspectives of collaborative long-term trading relationships. This approach eliminates the weaknesses of the existing approaches – a one-sided view of the relationship. Previous empirical research has focused mainly on customer value (e.g. Anderson 1995, Wilson and Jantrania 1994, Lapierre 2000, Walter et al. 2002, Ulaga and Eggert 2003), and on supplier value (e.g. Walter et al. 2001, Walter and Ritter 2003). However, empirical studies using the customer-supplier perspective are rare. These studies can be used to make more meaningful comparisons of the perceptions of the customer firm and the supplier firm on the contribution of their partner's relational attributes towards creating relationship value. This perspective recognises the need to achieve a better understanding of mutual value creation in business relationships and can assist managers to bring more benefits to each side.

Flip sides of the same coin. The constructs in the model confirmed the similarity in working relationships for customer firms and suppliers firms. It was evident from the customer-supplier relationships studied that partner attributes included in the model – conflict resolution, communication, performance satisfaction, trust and cooperation - all made an important contribution towards the realisation of relationship value for both parties. The restrained use of power was found to be a critical factor to avoid a reduction in the ability to resolve conflict, the level of performance satisfaction and trust in the relationship.

Hence, the findings of this research provide evidence that key relationship-specific elements in customer-supplier relationships are flip sides of the same coin. While customers and suppliers each have very different roles to perform, they are engaged in the same business relationship with the same underlying behavioural constructs at the firm level (Ford et al. 2003).

Critical dimensions of relationship value. The study has provided a multiple sample, multi-dimensional model of direct (profitability benefits, innovation) and indirect benefits (market and scout benefits) and sacrifice (relationship costs) dimensions of relationship value for customer-supplier working relationships. There has been no previous empirical research which has so effectively examined the dimensions of relationship value, from both customer and supplier perspectives. Thus, the findings of this research make a significant contribution by advancing the current knowledge.

The research extended beyond the benefits derived from the focal relationships to include consideration of the indirect benefits that may be achieved through the focal relationship in connected network relationships. This approach was designed to examine and measure the value of primary and secondary relationships. Direct profitability benefits were found to the strongest predictors of relationship value; yet the model revealed that market and scout benefits served a strong indirect role in assisting firms to innovate. These results provide strong evidence that connected relationships can indirectly influence the economic outcomes of the focal firms, thereby raising the value of customer and supplier relationships.

As in other previous empirical studies, the perceptions of relationship costs were found to be comparatively low for wineries and for wine grape suppliers. However, cluster analysis revealed that these results were not heterogeneous within groups. Perceptions of relationship benefits are relative to perceptions of relationship costs and grape suppliers in low relational exchange arrangements perceived their relationship costs to exceed their relationship benefits.

How key relational behaviours confer relationship value. The results of the model provide rare empirical evidence of how behavioural elements were responsible for the optimisation of specific relationship benefits and costs. Using ten constructs in the model has given a more comprehensive description of this phenomenon than any previous study. Support has been provided for the robustness of the seventeen hypothesised relationships and the four unspecified relationships. The customer model confirmed sixteen predicted pathways and four respecifications, while the supplier model confirmed fourteen predicted pathways and three respecifications. A similar distributor-manufacturer model by Anderson and Narus (1990) comprised eight constructs with eight specified pathways for distributors and thirteen specified pathways for manufacturers. Both models contribute to theory development through confirmation of the significant differences in the perceptions that customer firms and supplier firms bring to their working relationships. The departure points for the results of this study were the contributions to value-based theory development in customer-supplier relationships.

Cooperation as an instrument of strategy to optimise relationship value. The relationships between key relational behaviours in the model confirmed support for the concept of

cooperative strategy as the principle mechanism for optimising the value of customer-supplier relationships. While theory suggests that cooperation can raise the value of business relationships, little empirical evidence has been provided to support such a proposition. This study reveals that customers and suppliers who demonstrate a willingness to resolve conflict and keep each other well informed will enhanced performance satisfaction, increased trust and optimised cooperation and relationship value. As direct prerequisites of relationship value, the provision of performance satisfaction and the willingness to cooperate were critical considerations in strategy formulation and implementation to raise the value of working relationships.Furthermore, the models for both customers and suppliers highlighted the need for cooperation as a prerequisite for either party to access market and scout benefits in connected relationships.

Hetergeneity within customer-supplier groups. The results of this research offer empirical evidence that those customers and suppliers in working relationships with a high relational orientation also have corresponding perspections of significantly superior value outcomes. Such information contributes to the literature in two ways: gaining further support for the use of cooperative strategy to raise the value of business relationships and the presence of high and low relational orientations gives support to the existence of those who strive to build value into their relationships and those who will tend to rely on the efficiencies of the market exchange to maximise their profits, satisfaction and value in the relationship. Overall performance for those in the group with a low relational orientation was focused more of the value of the product or service than on the value of the relationship. Only through ongoing satisfaction with performance outcomes will social and economic ties strengthen between partnersto create a higher level of relationship value.

7.2.2. Practical implications

The practical implications to be drawn from this research relate to the manner in which partners attempt to optimise the value created in their trading relationships. When managerial attention is given to improve critical relational behaviours in working relationships, competitive advantage is enhanced through the increased effectiveness of the interaction, coordination and adaptations.

The structural equation model has been designed to meet this challenge with a framework of relationship value that can be operationalised. The theory provides a link between the problems encountered in creating relationship value between customers and suppliers and identifying solutions which are current, relevant and appropriate to the Australian grape and wine industry. The framework can be applied by wineries and wine grape suppliers at multiple levels of analysis: individuals, firms and populations.

Drawing on the findings from the present study, practical implications for buyers aiming to optimise the value of their relationships through cooperative strategies include the need to:

- adopt a long-term orientation with preferred suppliers
- jointly address and resolve problems as they arise
- avoid using power coercively – negotiate rather than enforce
- maintain a strong focus on service and wine grape quality
- clearly specify and articulate grape quality specifications and be more transparent about how quality is assessed
- develop network relationships where appropriate to access information and business contacts
- include the supplier in innovations – setting strategic directions, long range planning of supply, the joint development of production processes and technical matters
- revise the firm's understanding of the supplier's requirements or expectations.

Practical implications for cooperative strategies for grape suppliers seeking to optimise relationship value include to:

- uphold realistic and reasonable price expectations
- maintain a strong focus on the provision of good service and wine grape quality
- follow the advice from wineries
- maintain frequent face-to-face communication
- seize all opportunities to work with the customer and stay ahead technically
- constant seek to reduce costs and improve grape quality
- revise the firm's understanding of the customer's requirements or expectations.

Using the structural equation model, the relationship strategy formulation and implementation processes can address the specific relational behaviours needed to achieve the desired value outcomes. As part of an ongoing process, each firm needs to periodically address the present strengths and shortcomings in these relationships and revise the firm's understanding of the requirements or expectations of both parties. This understanding is fundamental to responsive management programs and systems that enable the partnership to be mutually satisfying over time.

7.3. Limitations and further research

This research makes important theoretical and empirical contributions to the literature on relationship value. Nevertheless, the validity of the implied causal ordering of pathways in the three models has been limited by the cross-sectional nature of the research design. Naturally, a longitudinal study would enable stronger inferences to be made about the directions of causal sequencing of model constructs.

In addition, the cross-sectional research design has only captured a snapshot picture of an essentially dynamic process. Not only is the creation of value in relationships between customers and suppliers a dynamic process, but the grape and wine industry is dynamic. The research was undertaken during a period when the grape and wine markets were oversupplied, which tended to give the wineries more purchasing power with plenty of alternative grape suppliers available. Already, the market has turned around with predictions of an imminent grape shortage due to water restrictions in Victoria and South Australia (Kiri-ganai research 2006). Therefore, to achieve a broader understanding of relationship value from the viewpoint of practical managerial application, there is a need for longitudinal research to monitor the developments between the relational elements and value dimensions over time.

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Appendix 1: Preliminary research questions

Coordination and Value Creation in Agribusiness Relationships

Preliminary research — exploratory questions

Unit of analysis: The relationship between wineries (wine grape buyer, winemaker) and their grape suppliers (wine grape grower, wine grape seller) in Western Australia.

Selection criteria:

1. Must regularly outsource/supply wine grapes from one grape supplier/winery
2. The grape supplier/winery must be significant enough to warrant relational exchange behaviours.
3. The respondent must have at least one year's personal experience of the relationships.

Interview objectives:

The preliminary study has been designed to seek answers in relation to four questions in order to verify, improve and operationalise the proposed model:

1. What impact have the recent industry changes over the past five or six years had on the trading relationships between Australian buyers and suppliers of wine grapes?
2. What are the main features of the interactive and coordinative connections or links between buyers and sellers of wine grapes? How have the resources of these two groups been used in an adaptive response to industry change?
3. What are the main characteristics of the trading relationships in terms of each construct in the theoretical model from a buyer's perspective and from a supplier's perspective? What are the similarities and the differences?
4. What are the measures of relationship value for suppliers of wine grapes and their winery customers? What are the similarities and the differences?

1. Introduction

Hello. My name is Lynlee Hobley. Thank you for agreeing to this meeting today. During the interview we will be discussing a number of issues concerning relationships between wine producers and wine grape suppliers.

The exploratory agenda throughout the session is designed to achieve a better understanding of the current nature of purchasing and marketing relations within the grape and wine industry. The results of this study will ensure the quality of the national survey to be conducted later this year.

Before we proceed further, it will be necessary for you to nominate a grape supplier from whom you regularly purchase wine grapes. During the interview, you will be asked to answer each question in relation to the supplier, who will subsequently be referred to as Supplier A. With your permission, the nominated supplier will be invited to participate in an interview to answer the same questions from a supplier perspective. In doing so, there will be no reference made to today's discussion, whatsoever.

Contact name of Supplier A:

_____

Contact telephone no. _____ Mobile no. _____

Address: _____

Tonnes purchased:_____ Price point: _____

I would like to point out that the nature of some of the questions may require considerable thought, so please feel free to take as much time as necessary to consider your answers. Should you require more information about the question itself, I will provide further explanation.

Providing that you have no objections, I would like to tape the interview. This procedure will allow me to proceed through the questions and discussion as quickly as possible. It also allows me to consider your responses to each of the questions. Please ask me to turn the tape off should this become a concern at any time.

You can be assured that your contribution will be treated with the strictest confidence and will remain anonymous. In accordance with recommended university procedure a signed confidentiality agreement is available at your request.

Do you have any questions before we start?

2. Business profile

2.1 Can you provide me with some basic information about yourself and the business?

- Type of ownership
- Number of employees
- Number of grape suppliers
- Percentage of grape crush that has been outsourced
- Percentage of grape suppliers under contract
- Tonnes processes by the winery
- Product price points

- Respondent's position in the business
- Others in the business who are directly involved with the purchase of wine grapes
- The role of each person
- Respondent's period of employment at the winery
- Period of involvement with the selected grape suppliers

3. Recent industry changes and the impact on trading relationships (Objective 1)

3.1 What has most changed in terms of purchasing/selling wine grapes over the past 5–6 years? (Dignam 2003)

3.2 What do you feel are the reasons/drivers behind the changes?

3.3 What have been the implications for wine grape growers and wine producers in trading relationships?

4. Relationship connectedness in terms of interaction, coordination and adaptation (Objective 2)

4.1 What are the main reasons for making contact with your grape supplier/winery throughout the year?

4.2 How often do you generally make contact with your supplier/winery?

4.3 What is your usual form of communication with your grape supplier/winery?

4.4 Do you also use other means of communication? If so, what are they?

4.5 What activities need coordinating between wineries and grape suppliers throughout the year?

4.6 Can you describe the coordination process in as much detail as possible please?

4.7 Can you identify any changes that you have made in recent years in terms of the contractual arrangements for the purchase/supply of wine grapes?

4.8 Can you identify any changes that have made in recent years in terms of the production and delivery of wine grapes for the purpose of reducing costs and increasing efficiency?

– on the part of the winery

– on the part of the grape supplier

4.9 What improvements have been made to communications and the flow of information?

– on the part of the winery

– on the part of the grape supplier

4.10 Have any of the changes that have been made had any influence on relationships between wineries and grape suppliers?

4.11 Can you identify any changes in the way in which winery/grape supplier resources have been utilised to accommodate changes in the industry?

4.12 How responsive do you feel the winery/supplier is to your requirements?

4.13 To what extent are the winery's/supplier's systems essential to your operations?

5. Main characteristics of model constructs from the perspective of buyers and sellers of wine grapes (Objective 3)

5.1 Can you tell me about the relationship you have with this winery/supplier?

(While this question must remain flexible in terms of the direction of the respondent's response, some explanatory guidance may be required in terms of the researcher's interest in the nature of the behaviours within the relationship).

Questions 5.2–5.5: Need to interchange with any relevant behaviours mentioned — e.g. cooperation, trust, commitment, power asymmetry, communication and conflict resolution.

5.2 Would you describe your current level of *cooperation* with the winery/selected supplier as being high, medium, low or nil?

5.3 What are the main ways of cooperating with the winery/selected supplier?

5.4 What are the main reasons for cooperating with the winery/selected supplier?

5.5 Have any factors in particular:

- strengthened the level of cooperation with the winery/selected supplier?
- weakened the level of cooperation?
- restrained the use of cooperation?

5.6 On a scale of 1 to 6, how do you rate your level of performance satisfaction in relation to the following questions?

Winery satisfaction with grape suppliers performance (winery respondents)

Item
1. In general, this grower strives to produce grapes of appropriate maturity, purity and condition as per the grape purchasing agreement.
2. This grower seeks to understand the quality differentiation of the winery's products and the relationship of grape quality to those products.
3. This grower manages cropping levels to meet winery grape purchasing agreement tolerances.
4. This grower will take reasonable steps to produce timely and accurate crop estimates.
5. This grower strives to harvest the grapes at the targeted Baume set by winery.
6. This grower ensures that the delay between the commencement of harvest and delivery to the winery is minimised.
7. This grower manages the vineyard with due care to the environment.
8. This grower manages the vineyard in accordance with quality assurance programs where required.
9. This grower complies with mandatory reporting requirements, such as reporting of agrochemical use in the form of a spray diary and submitting crop estimates when required.
10. We are confident that this grower will inform winery representatives of any information or change that could affect the expected grape quality or yield.
11. This grower complies with winery grape sampling requirements.

Where 1 is strongly disagree and 6 is strongly agree

Grape supplier satisfaction with winery performance (grape supplier respondents)

Item
1. I feel that I am rewarded appropriately and sustainable for a reliable supply of consistent quality grapes that meet the wineries specifications and designated wine style expected within the region.
2. The winery works with me to make the quality linkage between grapes and end products clear and understandable
3. I receive quality, timely support from winery viticultural staff to assist with seasonal vineyard management.
4. Wine grape specifications and tolerances are written, clear and understandable.
5. Wine grape specifications and tolerances are not changed by the winery prior to harvest without reasonable notice and not so soon before harvest that I cannot take appropriate action.
6. Winery assessment staff are technically trained and competent in vineyard and/or load assessment and all blocks are assessed prior to harvest. If there is a problem I am consulted to discuss and agree on an outcome.
7. Where vineyard assessment results in disease detection, I am given the option to be involved in a formal assessment of the block: - A formal assessment is made as early as possible.
8. I always have time to seek alternative arrangements and/or prevent further loss upon receiving notification for possible downgrading, penalties or rejection.
9. The winery provides me with constructive feedback on: - the vineyard assessments - the resultant wine quality of the grapes - any recommendations to assist with improvement

Where 1 is strongly disagree and 6 is strongly agree
Source: Measures were modified from Allen (2003)

6. Relationship value for wineries and their grape suppliers (Objective 4)

6.1 Have specific objectives been established in terms of the relationship with the winery/supplier? If so, what is the nature of these objectives?

6.2 Does the trading relationship with the winery/selected supplier provide additional benefits for your firm to those achievable through the open market?

– if there are no additional benefits proceed to question 6.4

6.3 Can you identify any specific benefits and costs to you of being in a relationship with the winery/selected supplier?

6.4 What do you perceive to be the benefits and costs to the winery/selected supplier through being in a relationship (or trading) with your firm?

6.5 How would you measure or evaluate the relationship value of these suppliers?

6.6 What implications do you think the recognition of relationship value could have from a managerial viewpoint?

Appendix 2: Winery questionnaire

VALUE CREATION IN RELATIONSHIPS BETWEEN AUSTRALIAN WINE GRAPE BUYERS AND THEIR SUPPLIERS
WINERY QUESTIONNAIRE

Hello my name is Lynlee Hobley and I am a doctoral student of the Muresk Institute at the Curtin University of Technology in Perth. I am carrying out a GWRDC-funded study to examine the value that is created in trading relationships between Australian wineries and their wine grape suppliers. The information provided in this survey will be analysed and recommendations made to improve on current relationship management systems. With successful implementation, this will lead to a reduction in uncertainty, increased performance and increased profitability for both the wineries and their suppliers.

The survey is open to all wineries currently engaged in a trading relationship with a wine grape supplier(s).

The questionnaire will take about twenty minutes to complete. We recognise that this is a significant contribution of your time, so as a thank you we are offering those who complete the survey the opportunity to go into the draw for a $500 cash prize (or gifts to that value depending upon the respondent's company policy) which will be drawn on the 30th April 2006. The results will be available online at http://muresk.curtin.edu.au/gradstudies/gradresearch/currentphd/lynlee.html. If you wish to participate in this draw, your name and contact details will be recorded separately and used for this purpose alone. Your name will not be able to be linked back to your completed survey

Please be assured that everything you say will be treated with the strictest confidence and that your responses will remain anonymous. Results of the surveys will be reported in aggregate only.

Please try to return this questionnaire within 7 days.

ESTIMATED ANSWERS FOR SECTION A & B ARE SUFFICIENT – REFERENCE TO RECORDS IS NOT REQUIRED.

Section 1 – Purchase details of the firm

1. In which wine-producing region and state is your winery located?

a. Region		b. State	

2a. Last year, how many tonnes of grapes were crushed at the winery?

50-100 t	100–249 t	250–499 t	500–999 t	1000–2499 t	2500–4999 t	5000–9999 t	10000+ t
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**

2b. Approximately what percentage of the crush was derived from your own vineyards, from other wine grape suppliers or processed for others under contract? (The total must equal 100%)

Own vineyards	Purchased grapes	Contract processed
%	%	%

2c. Is the proportion of grapes purchased from other wine grape growers likely to change in the next 1–2 years?

Yes	No	Do Not Know (DNK)

2d. Is the proportion of grapes purchased from other wine grape growers likely to change in the next 3–5 years?

Yes	No	DNK

2e. If yes, for what reasons?

3a. With how many wine grape suppliers does your firm currently transact?

3b. From how many wine grape suppliers does your firm purchase from on the open market?

3c. How many wine grape suppliers does your firm have under contractual agreement?

3d. On average, for how many years are these contracts valid?

3e. Is the length of the contracts likely to change over the next 1–2 years?

Yes	No	DNK

3f. Is the length of the contracts likely to change over the next 3–5 years?

Yes	No	DNK

3g. If yes, for what reasons?

4a. What method of price determination does your firm specify in its contracts? (Can select more than one)

Current market prices	'Fair market prices' for cool and warm areas	Fixed minimum price for contract period	Fixed price for contract period + CPI adjust	Payment on Allocation (POA)	Regional weighted average price	Other (please specify)
1	**2**	**3**	**4**	**5**	**6**	**7**

4b. Is the method of price determination likely to change over the next 1–2 years?

Yes	No	DNK

4c. Is the method of price determination likely to change over the next 3–5 years?

Yes	No	DNK

4d. If yes, for what reasons?

5a. Which of the following personnel liaise directly with wine grape suppliers?

Vineyard manager	Grower liaison or technical officer	Winemaker	Other (please specify)
1	**2**	**3**	**4**

5b. Others in the organisation who are directly involved with the purchase of wine grapes are:

Section 2 – Details of the firm

6. For how many years has this winery been established?

< 2 years	3–5 years	6–10 years	11–20 years	> 20 years
1	**2**	**3**	**4**	**5**

7. Is your winery a division/subsidiary of a larger organisation?

Yes	No

8. Based on the organisation's annual revenue, in which category does the winery belong?

A$0–$1 m	A$1 m–$5 m	A$5 m–$10 m	A$10 m–$20 m	A$20 m+
1	**2**	**3**	**4**	**5**

9. The following list identifies the different retail price segments available in the Australian wine industry. Using these categories please indicate what percentage of your sales are in each segment. (The total must equal 100%) *

Retail price range per 750 ml bottle.

< A$7.00	A$7–9.99	A$10–14.99	A$15–24.99	A$25–39.99	A$40 +	DNK
%	**%**	**%**	**%**	**%**	**%**	

10. How many people are currently employed in the winery?

< 5	5–9	10–19	20–29	30 and over
1	**2**	**3**	**4**	**5**

Section 3 – Selection of Wine Grape Supplier

Before we go any further it will be necessary for you to select a contracted wine grape supplier to your organisation. This supplier must be important enough to warrant a relational approach from the winery. The supplier may be important to you in terms of the volume of grapes purchased, the quality, the area in which these grapes are grown, the specific grape variety/varieties or input for a particular price point.

11a. Please specify the reason for choosing this supplier.

Access to volume	Access to a desired level of quality	Regional preference	Access to a specific grape variety/varieties	Important component for a product line	Good working relationship	Other (please specify)
1	**2**	**3**	**4**	**5**	**6**	**7**

11b. If the selection is based on regional preference in which geographic region is the supplier located?

12a. Tonnes purchased from this supplier

12b What is the specified average yield/ hectare?

	Not specified

13. Into what retail price segment(s) are the grapes from this supplier usually allocated?

Retail price range per 750 ml bottle. (The total must equal 100%) *

< A$7.00	A$7–9.99	A$10–14.99	A$15–24.99	A$25–39.99	A$40 +	DNK
%	**%**	**%**	**%**	**%**	**%**	

14a. How does the average price paid per tonne for wine grapes purchased from this supplier compare to the current prices paid on the open market for the same product?

Lower	Same	Higher
1	**2**	**3**

If the price is higher or lower, then please include question 15b

14b. What is the reason (s) for the price difference?

Section 4 – Relationship with Your Selected Supplier

(**Note**: **SD** = Strongly disagree; **D** = Disagree; **TD** = Tend to disagree/slightly disagree; **N** = Neither agree nor disgree; **TA** = Tend to agree/slightly agree; **A** = Agree; **SA** = Strongly agree)

15. Please comment on the following statements concerning the performance satisfaction in the relationship between your firm and the selected grape supplier.

		SD	D	TD	N	TA	A	SA
a	The benefits achieved from our relationship with this supplier have greatly exceeded our expectations	**1**	**2**	**3**	**4**	**5**	**6**	**7**
b	The financial returns our firm obtains from this supplier are better than we envisaged	**1**	**2**	**3**	**4**	**5**	**6**	**7**
c	Working with this supplier puts less strain on our organisation than working with other suppliers	**1**	**2**	**3**	**4**	**5**	**6**	**7**
d	Generally, we are satisfied with our overall relationship with this supplier	**1**	**2**	**3**	**4**	**5**	**6**	**7**
e	My firm usually gets at least a fair share of the rewards and cost savings from our relationship with this supplier	**1**	**2**	**3**	**4**	**5**	**6**	**7**

16. Please comment on the following statements concerning the nature of the relationship between your firm and the selected grape supplier.

		SD	D	TD	N	TA	A	SA
a	When making important decisions, this supplier is concerned about our welfare	**1**	**2**	**3**	**4**	**5**	**6**	**7**
b	We can count on this supplier to do what is right	**1**	**2**	**3**	**4**	**5**	**6**	**7**
c	This supplier performs its tasks competently	**1**	**2**	**3**	**4**	**5**	**6**	**7**
d	This supplier is knowledgeable about viticulture	**1**	**2**	**3**	**4**	**5**	**6**	**7**
e	When problems arise, this supplier is honest about these problems	**1**	**2**	**3**	**4**	**5**	**6**	**7**
f	We can count on the promises this supplier makes to our firm	**1**	**2**	**3**	**4**	**5**	**6**	**7**
g	We have confidence in this supplier	**1**	**2**	**3**	**4**	**5**	**6**	**7**
h	This supplier sometimes acts opportunistically	**1**	**2**	**3**	**4**	**5**	**6**	**7**

17. Please comment on the following statements concerning the nature of the relationship between your firm and the selected grape supplier.

		SD	D	TD	N	TA	A	SA
a	This supplier and our firm have compatible goals	**1**	**2**	**3**	**4**	**5**	**6**	**7**
b	I feel that by going along with this supplier, I will be favoured on some other occasion	**1**	**2**	**3**	**4**	**5**	**6**	**7**
c	We are willing to put aside contractual terms in order to work through special circumstances or difficult problems with this supplier	**1**	**2**	**3**	**4**	**5**	**6**	**7**
d	We must work together with this supplier to be successful	**1**	**2**	**3**	**4**	**5**	**6**	**7**

18. Please comment on the following statements concerning the nature of the relationship between your firm and the selected grape supplier.

		SD	D	TD	N	TA	A	SA
a	This supplier has all the power in our relationship	**1**	**2**	**3**	**4**	**5**	**6**	**7**
b	This supplier exerts a strong influence over us	**1**	**2**	**3**	**4**	**5**	**6**	**7**
c	This supplier controls all the information in our relationship	**1**	**2**	**3**	**4**	**5**	**6**	**7**
d	We have no choice other than to adhere to this suppliers demands	**1**	**2**	**3**	**4**	**5**	**6**	**7**
e	This supplier will not take advantage of a strong bargaining position	**1**	**2**	**3**	**4**	**5**	**6**	**7**

19. Please comment on the following statements concerning the nature of the relationship between your firm and the selected grape supplier.

		SD	D	TD	N	TA	A	SA
a	It is relatively easy to contact this supplier	**1**	**2**	**3**	**4**	**5**	**6**	**7**
b	There is frequent face-to-face contact with this supplier	**1**	**2**	**3**	**4**	**5**	**6**	**7**
c	Our firm and this supplier keep each other well informed	**1**	**2**	**3**	**4**	**5**	**6**	**7**
d	This supplier communicates his expectations of our firm	**1**	**2**	**3**	**4**	**5**	**6**	**7**
e	There is excellent communication between our firms so there are never any surprises that might be harmful to our working relationship	**1**	**2**	**3**	**4**	**5**	**6**	**7**
f	This supplier keeps me well informed on technical matters	**1**	**2**	**3**	**4**	**5**	**6**	**7**
g	This supplier frequently informs me of any information or change that could affect the expected grape quality or yield	**1**	**2**	**3**	**4**	**5**	**6**	**7**

20. Please comment on the following statements concerning the nature of the relationship between your firm and the selected grape supplier.

		SD	D	TD	N	TA	A	SA
a	This supplier is willing to change its processes and procedures for us (eg production processes, delivery)	**1**	**2**	**3**	**4**	**5**	**6**	**7**
b	This supplier has gone out of its way to link us with its business	**1**	**2**	**3**	**4**	**5**	**6**	**7**

21. What adaptations has this supplier made to accommodate your needs?

22. What adaptations have you made to meet the needs of this supplier?

23. Please comment on the following statements concerning the nature of the relationship between your firm and the selected grape supplier.

		SD	D	TD	N	TA	A	SA
a	This supplier is quick to handle complaints	**1**	**2**	**3**	**4**	**5**	**6**	**7**
b	Our relationship with this supplier enables joint conflict resolution	**1**	**2**	**3**	**4**	**5**	**6**	**7**
c	In the past, disagreements and problematic issues with this supplier have not been resolved	**1**	**2**	**3**	**4**	**5**	**6**	**7**
d	We work on solutions together to solve problems so they do not happen again	**1**	**2**	**3**	**4**	**5**	**6**	**7**

Section 5 – Relationship Value

(**Note**: SD = Strongly disagree; D = Disagree; TD = Slightly disagree; N = Neither agree nor disgree; TA = Tend to agree; A = Agree; SA = Strongly agree)

24a. Please comment on the following statements concerning your relationship with this supplier.

Our relationship with this supplier …		SD	D	TD	N	TA	A	SA
a	Gives access to wine grapes that are good value for money	**1**	**2**	**3**	**4**	**5**	**6**	**7**
b	Results in a reduction in our production costs	**1**	**2**	**3**	**4**	**5**	**6**	**7**
c	Leads to the optimisation of our operating processes	**1**	**2**	**3**	**4**	**5**	**6**	**7**
d	Increases the profitability of our firm	**1**	**2**	**3**	**4**	**5**	**6**	**7**
e	Enables an efficient outsourcing of our requirements for wine grapes	**1**	**2**	**3**	**4**	**5**	**6**	**7**
f	Increases our product performance (in regional and varietal characteristics)	**1**	**2**	**3**	**4**	**5**	**6**	**7**
g	Provides a reliable supply of wine grapes	**1**	**2**	**3**	**4**	**5**	**6**	**7**
h	Leads to the better fulfilment of wine grape specifications	**1**	**2**	**3**	**4**	**5**	**6**	**7**
i	Increases the competitiveness of our company	**1**	**2**	**3**	**4**	**5**	**6**	**7**
j	Strengthens our strategic position in the grape and wine industry	**1**	**2**	**3**	**4**	**5**	**6**	**7**
k	Helps to fulfil our customer requirements better	**1**	**2**	**3**	**4**	**5**	**6**	**7**
l	Provides access to information about the marketplace	**1**	**2**	**3**	**4**	**5**	**6**	**7**
m	Provides access to information about our competitors	**1**	**2**	**3**	**4**	**5**	**6**	**7**
n	Provides access to information about other third parties in the industry	**1**	**2**	**3**	**4**	**5**	**6**	**7**
o	Provides initiation of contacts with prospective customers for our firm	**1**	**2**	**3**	**4**	**5**	**6**	**7**
p	Provides information about other potential suppliers for our firm	**1**	**2**	**3**	**4**	**5**	**6**	**7**
q	Provides direct reference with possible business partners	**1**	**2**	**3**	**4**	**5**	**6**	**7**
r	Provides joint development of production processes	**1**	**2**	**3**	**4**	**5**	**6**	**7**
s	Provides joint input into technical development matters	**1**	**2**	**3**	**4**	**5**	**6**	**7**
t	Provides joint input into long range planning of supply	**1**	**2**	**3**	**4**	**5**	**6**	**7**
u	Provides joint input into setting strategic directions	**1**	**2**	**3**	**4**	**5**	**6**	**7**

24b. Please comment on the following statements concerning your relationship with this supplier.

Our relationship with this supplier …		SD	D	TD	N	TA	A	SA
a	Means additional expenditure of time	**1**	**2**	**3**	**4**	**5**	**6**	**7**
b	Causes additional coordination costs within our company	**1**	**2**	**3**	**4**	**5**	**6**	**7**
c	Causes additional coordination costs between our company and the supplier	**1**	**2**	**3**	**4**	**5**	**6**	**7**
d	Incurs increased costs of relationship maintenance	**1**	**2**	**3**	**4**	**5**	**6**	**7**

25a. Please comment on the following statements concerning the relationship value between your firm and your selected grape supplier.

		Very low						Very high
a	Considering all benefits and sacrifices associated with this supplier relationship, how would you assess its value?	**1**	**2**	**3**	**4**	**5**	**6**	**7**
b	How do you rate the value of all performance contributions that your firm gains from this supplier (e.g. quality, technologies, technical know-how)	**1**	**2**	**3**	**4**	**5**	**6**	**7**

25b. Please comment on the following statements concerning the relationship value between your firm and your selected supplier.

		SD	D	TD	N	TA	A	SA
a	The value of the relationship with this supplier is very high in comparison with alternative suppliers.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
b	This supplier relationship has a high value for our firm.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

Section 6 – Informant details

26. What is your current position in the organisation?

27. How long have you held this position?

< 1 year	1–5 years	6–10 years	> 10 years
1	**2**	**3**	**4**

28. What is the highest level of education you have achieved?

High School Diploma	Technical Qualification	Undergraduate Degree	Postgraduate Degree
1	**2**	**3**	**4**

29. How many years have you worked in the wine/wine grape industry?

< 1 year	1–5 years	6–10 years	> 10 years
1	**2**	**3**	**4**

Thank you for participating in this interview. Your time and the information that you have provided are greatly appreciated.

Appendix 3: Wine grape supplier questionnaire

VALUE CREATION IN RELATIONSHIPS BETWEEN AUSTRALIAN WINE GRAPE BUYERS AND THEIR SUPPLIERS
WINE GRAPE SUPPLIER QUESTIONNAIRE

Hello my name is Lynlee Hobley and I am a doctoral student of the Muresk Institute at the Curtin University in Perth. I am carrying out a GWRDC-funded study to examine the value that is created in trading relationships between Australian wineries and their wine grape suppliers. The information provided in this survey will be analysed and recommendations made to improve on current relationship management systems. With successful implementation, this will lead to a reduction in uncertainty, increased performance and increased profitability for both the wineries and their suppliers.

The survey is open to all wine grape suppliers currently engaged in a trading relationship with a winery. The questionnaire will take about twenty minutes to complete. We recognise that this is a significant contribution of your time, so as a thankyou we are offering those who complete the survey the opportunity to go into the draw for a $500 cash prize (or gifts to that value depending upon the respondent's company policy) which will be drawn on the 21 December 2005. The results will be available online at http://muresk.curtin.edu.au/gradstudies/gradresearch/currentphd/lynlee.html. If you wish to participate in this draw, your name and contact details will be recorded separately and used for this purpose alone. Your name will not be able to be linked back to your completed survey.

Please be assured that everything you say will be treated with the strictest confidence and that your responses will remain anonymous. Results of the surveys will be reported in aggregate only.

Please try to return this questionnaire within 7 days.

ESTIMATED ANSWERS FOR SECTION A & B ARE SUFFICIENT – REFERENCE TO RECORDS IS NOT REQUIRED.

Section 1 – Selling details of the firm

1. In which wine-producing region and state is your vineyard located?

a. Region		b. State	

2a. What is the total area of the your vineyard (hectares)?

0–49	50–99	100–499	500–999	1000–2499	2500–24999	25000–99999
1	**2**	**3**	**4**	**5**	**6**	**7**

2b. Last vintage, what was the total tonnage of wine grapes produced?

< 10 t	10–24 t	25–49 t	50–99 t	100–249 t	250–499 t	500–999 t	1000–4999 t	5000+ t
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

3. What percentage of the crop was retained for your own use, either for your own wine production or contracted winemaking?

Own wine production	Contracted wine production	No crop retained
%	**%**	

4a. What percentage of the crop was for sale?

< 19 %	20–39%	40–59 %	60–79 %	80–99 %	100 %
1	**2**	**3**	**4**	**5**	**6**

4b. Of the total quantity of the fruit available for sale, what percentage was sold under contract/verbal agreement, sold on the open market or unsold?

Sold under contract/verbal agreement	Sold on the open market	Unsold (unable to sell)
%	**%**	**%**

5a. How many wineries does your firm supply under contractual or verbal agreement, or on the open market?

Contract	Verbal	Open market
1	**2**	**3**

5b. On average, for how many years are these contracts valid?

5c. Is the length of the contracts likely to change over the next 1–2 years?

Yes	No	Do Not Know (DNK)

5d. Is the length of the contracts likely to change over the next 3–5 years?

Yes	No	DNK

5e. If yes, for what reasons?

6a. What method of price determination does your firm specify in its contracts?

Current market prices	'Fair market prices' for cool and warm areas	Fixed min. price for contract period	Fixed price for contract period + CPI adjust	Payment on Allocation (POA)	Regional weighted average price	Other (please specify)
1	**2**	**3**	**4**	**5**	**6**	**7**

6b. Is the method of price determination likely to change over the next 1–2 years?

Yes	No	DNK

6c. Is the method of price determination likely to change over the next 3–5 years?

Yes	No	DNK

6d. If yes, for what reasons?

7. Which of the following personnel directly liaise with winery personnel? (Can be more than 1)

Owner/Director	Owner/ Operator	Vineyard manager	Other (please specify)
1	**2**	**3**	**4**

Section 2 – Details of the firm

8. For how many years has your firm been established?

< 2 years	3–5 years	6–10 years	11–30 years	> 30 years
1	**2**	**3**	**4**	**5**

9. Is your firm a division/subsidiary of a larger organisation?

Yes	No

10. Based on the organisations annual revenue, in which category does your firm belong?

A$0–$1 m	A$1 m–$5 m	A$5 m–$10 m	A$10 m–$20 m	A$20 m+
1	**2**	**3**	**4**	**5**

11. How many people are currently employed in the organisation you work for?

< 5	5–9	10–19	20–29	> 30

1	**2**	**3**	**4**	**5**

Section 3 – Selection of Winery Customer

Before we go any further it will be necessary for you to select a wine grape purchaser. The winery must be important enough to warrant a relational approach. The winery may be important to you in terms of the volume of grapes sold, the grape varieties sold or the profitability of the relationship.

12. Please specify the reason for choosing this winery.

Sales volume	Profitability of the relationship	Sales of a specific grape variety/varieties	Other (please specify)
1	**2**	**3**	**4**

13a. Tonnes sold to this winery

13b.What is the specified average yield/ hectare?

	Not specified

14a. Do you know the price segment(s) into which the grapes you have supplied are usually allocated?

Yes	No

14b. If yes, into which retail price segment(s) are your grapes usually allocated?

< A$7.00	A$7–9.99	A$10–14.99	A$15–24.99	A$ 25–39.99	A$40 +	DNK
%	**%**	**%**	**%**	**%**	**%**	

15a. How does the average price paid per tonne for wine grapes purchased by this customer compare to the current prices paid on the open market for the same product?

Lower	Same	Higher
1	**2**	**3**

If the price is higher or lower, then please include question18b

15b. What is the reason (s) for the price difference?

Section 4 – Relationship with Your Selected Customer

(**Note**: SD = Strongly disagree; D = Disagree; TD = Slightly disagree; N = Neither agree nor disgree; TA = Tend to agree; A = Agree; SA = Strongly agree)

16. Please comment on the following statements concerning the performance satisfaction in the relationship between your firm and the selected winery.

		SD	D	TD	N	TA	A	SA
a	The benefits achieved from our relationship with this customer have greatly exceeded our expectations	**1**	**2**	**3**	**4**	**5**	**6**	**7**
b	The financial returns our firm obtains from this customer are better than we envisaged	**1**	**2**	**3**	**4**	**5**	**6**	**7**
c	Working with this customer puts less strain on our organisation than working with other customers	**1**	**2**	**3**	**4**	**5**	**6**	**7**
d	Generally, we are satisfied with our overall relationship with this customer	**1**	**2**	**3**	**4**	**5**	**6**	**7**
e	My firm usually gets at least a fair share of the rewards and cost savings from our relationship with this customer	**1**	**2**	**3**	**4**	**5**	**6**	**7**

17. Please comment on the following statements concerning the nature of the relationship between your firm and the selected winery.

		SD	D	TD	N	TA	A	SA
a	When making important decisions, this customer is concerned	**1**	**2**	**3**	**4**	**5**	**6**	**7**

	about our welfare							
b	We can count on this customer to do what is right	**1**	**2**	**3**	**4**	**5**	**6**	**7**
c	This customer performs its tasks competently	**1**	**2**	**3**	**4**	**5**	**6**	**7**
d	This customer is knowledgeable about viticulture	**1**	**2**	**3**	**4**	**5**	**6**	**7**
e	When problems arise, this customer is honest about these problems	**1**	**2**	**3**	**4**	**5**	**6**	**7**
f	We can count on the promises this customer makes to our firm	**1**	**2**	**3**	**4**	**5**	**6**	**7**
g	We have confidence in this customer	**1**	**2**	**3**	**4**	**5**	**6**	**7**
h	This customer sometimes acts opportunistically	**1**	**2**	**3**	**4**	**5**	**6**	**7**

18. Please comment on the following statements concerning the nature of the relationship between your firm and the selected winery.

		SD	**D**	**TD**	**N**	**TA**	**A**	**SA**
a	This customer and our firm have compatible goals	**1**	**2**	**3**	**4**	**5**	**6**	**7**
b	I feel that by going along with this customer, I will be favoured on some other occasion	**1**	**2**	**3**	**4**	**5**	**6**	**7**
c	We are willing to put aside contractual terms in order to work through special circumstances or difficult problems with this customer	**1**	**2**	**3**	**4**	**5**	**6**	**7**
d	We must work together with this customer to be successful	**1**	**2**	**3**	**4**	**5**	**6**	**7**

19. Please comment on the following statements concerning the nature of the relationship between your firm and the selected winery.

		SD	**D**	**TD**	**N**	**TA**	**A**	**SA**
a	This customer has all the power in our relationship	**1**	**2**	**3**	**4**	**5**	**6**	**7**
b	This customer exerts a strong influence over us	**1**	**2**	**3**	**4**	**5**	**6**	**7**
c	This customer controls all the information in our relationship	**1**	**2**	**3**	**4**	**5**	**6**	**7**
d	We have no choice other than to adhere to this customers demands	**1**	**2**	**3**	**4**	**5**	**6**	**7**
e	This customer will not take advantage of a strong bargaining position	**1**	**2**	**3**	**4**	**5**	**6**	**7**

20. Please comment on the following statements concerning the nature of the relationship between your firm and the selected winery.

		SD	**D**	**TD**	**N**	**TA**	**A**	**SA**
a	It is relatively easy to contact this customer	**1**	**2**	**3**	**4**	**5**	**6**	**7**
b	There is frequent face-to-face contact with this customer	**1**	**2**	**3**	**4**	**5**	**6**	**7**
c	Our firm and this customer keep each other well informed	**1**	**2**	**3**	**4**	**5**	**6**	**7**
d	This customer communicates his expectations of our firm	**1**	**2**	**3**	**4**	**5**	**6**	**7**
e	There is excellent communication between our firms so there are never any surprises that might be harmful to our working relationship	**1**	**2**	**3**	**4**	**5**	**6**	**7**
f	This customer keeps me well informed on technical matters	**1**	**2**	**3**	**4**	**5**	**6**	**7**
g	This customer frequently informs me of any information or change that could affect the expected grape quality or yield	**1**	**2**	**3**	**4**	**5**	**6**	**7**

21. Please comment on the following statements concerning the nature of the relationship between your firm and the selected winery.

		SD	**D**	**TD**	**N**	**TA**	**A**	**SA**
a	This customer is willing to change its processes and procedures for us (eg production processes, delivery)	**1**	**2**	**3**	**4**	**5**	**6**	**7**
b	This customer has gone out of its way to link us with its business	**1**	**2**	**3**	**4**	**5**	**6**	**7**

22. What adaptations has this customer made to accommodate your needs?

23. What adaptations have you made to meet the needs of this customer?

24. Please comment on the following statements concerning the nature of the relationship between your firm and the selected winery.

		SD	D	TD	N	TA	A	SA
a	This customer is quick to handle complaints	**1**	**2**	**3**	**4**	**5**	**6**	**7**
b	Our relationship with this customer enables joint conflict resolution	**1**	**2**	**3**	**4**	**5**	**6**	**7**
c	In the past, disagreements and problematic issues with this customer have not been resolved.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
d	We work on solutions together to solve problems so they do not happen again	**1**	**2**	**3**	**4**	**5**	**6**	**7**

Section 5 – Relationship Value

(**Note**: SD = Strongly disagree; D = Disagree; TD = Slightly disagree; N = Neither agree nor disgree; TA = Tend to agree; A = Agree; SA = Strongly agree)

25a. Please comment on the following statements concerning your relationship with this customer.

Our relationship with this customer …		SD	D	TD	N	TA	A	SA
a	Gives access to a market for wine grapes that are good value for money	**1**	**2**	**3**	**4**	**5**	**6**	**7**
b	Results in a reduction in our production costs	**1**	**2**	**3**	**4**	**5**	**6**	**7**
c	Leads to the optimisation of our operating processes	**1**	**2**	**3**	**4**	**5**	**6**	**7**
d	Increases the profitability of our firm	**1**	**2**	**3**	**4**	**5**	**6**	**7**
e	Enables an efficient marketing of our wine grapes	**1**	**2**	**3**	**4**	**5**	**6**	**7**
f	Increases our product performance (in regional and varietal characteristics)	**1**	**2**	**3**	**4**	**5**	**6**	**7**
g	Provides a reliable market for wine grapes	**1**	**2**	**3**	**4**	**5**	**6**	**7**
h	Leads to the better fulfilment of wine grape specifications	**1**	**2**	**3**	**4**	**5**	**6**	**7**
i	Increases the competitiveness of our company	**1**	**2**	**3**	**4**	**5**	**6**	**7**
j	Strengthens our strategic position in the grape and wine industry	**1**	**2**	**3**	**4**	**5**	**6**	**7**
k	Helps to fulfil our customer requirements better	**1**	**2**	**3**	**4**	**5**	**6**	**7**
l	Provides access to information about the marketplace	**1**	**2**	**3**	**4**	**5**	**6**	**7**
m	Provides access to information about our competitors	**1**	**2**	**3**	**4**	**5**	**6**	**7**
n	Provides access to information about other third parties in the industry	**1**	**2**	**3**	**4**	**5**	**6**	**7**
o	Provides initiation of contacts with prospective customers for our firm	**1**	**2**	**3**	**4**	**5**	**6**	**7**
p	Provides information about other potential customers for our firm	**1**	**2**	**3**	**4**	**5**	**6**	**7**
q	Provides direct reference with possible business partners	**1**	**2**	**3**	**4**	**5**	**6**	**7**
r	Provides joint development of production processes	**1**	**2**	**3**	**4**	**5**	**6**	**7**
s	Provides joint input into technical development matters	**1**	**2**	**3**	**4**	**5**	**6**	**7**
t	Provides joint input into long range planning of supply	**1**	**2**	**3**	**4**	**5**	**6**	**7**
u	Provides joint input into setting strategic directions	**1**	**2**	**3**	**4**	**5**	**6**	**7**

25b. Please comment on the following statements concerning your relationship with this customer.

Our relationship with this customer …		SD	D	TD	N	TA	A	SA
a	Means additional expenditure of time	**1**	**2**	**3**	**4**	**5**	**6**	**7**
b	Causes additional coordination costs within our company	**1**	**2**	**3**	**4**	**5**	**6**	**7**
c	Causes additional coordination costs between our company and the partner	**1**	**2**	**3**	**4**	**5**	**6**	**7**
d	Incurs increased costs of relationship maintenance	**1**	**2**	**3**	**4**	**5**	**6**	**7**

26a. Please comment on the following statements concerning the relationship value between your firm and the selected winery.

		Very low						Very high
a	Considering all benefits and sacrifices associated with this customer relationship, how would you assess its value?	**1**	**2**	**3**	**4**	**5**	**6**	**7**
b	How do you rate the value of all performance contributions that your firm gains from this customer (e.g. volume, market info, technologies, know-how)	**1**	**2**	**3**	**4**	**5**	**6**	**7**

26b. Please comment on the following statements concerning the relationship value between your firm and the selected winery.

		SD	D	TD	N	TA	A	SA
a	The value of the relationship with this customer is very high in comparison with alternative customers.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
b	This customer relationship has a high value for our firm.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

Section 6 – Informant's details

27. What is your current position in the organisation?

28. How long have you held this position?

< 1 year	1–5 years	6–10 years	> 10 years
1	**2**	**3**	**4**

29. What is the highest level of education you have achieved?

High School Diploma	Technical Qualification	Undergraduate Degree	Postgraduate Degree
1	**2**	**3**	**4**

30. How many years have you worked in the wine/wine grape industry?

< 1 year	1–5 years	6–10 years	> 10 years
1	**2**	**3**	**4**

Thank you for participating in this interview. Your time and the information that you have provided are greatly appreciated.

Appendix 4: Model measures

Phase One measures

1. Relationship value

This supplier/customer relationship has a high value for our firm.

The value of the relationship with this supplier/customer is very high in comparison with alternative suppliers/customers.

Considering all benefits and sacrifices associated with this supplier/customer relationship, how would you assess its value? *

How do you rate the value of all performance contributions that your firm gains from this supplier/customer. *

2. Cooperation

I feel that by going along with this supplier/customer, I will be favoured on some other occasion

We are willing to put aside contractual terms in order to work through special circumstances or difficult problems with this partner

This supplier/customer and our firm have compatible goals

We must work together with this supplier/customer to be successful

3. Trust

We have confidence in this supplier/customer

We can count on this supplier/customer to do what is right

We can count on the promises this supplier/customer makes to our firm

When problems arise, this supplier/customer is honest about these problems

When making important decisions, this supplier/customer is concerned about our welfare

This supplier//customer performs its tasks competently

This supplier/customer is knowledgeable about viticulture

This supplier/customer sometimes acts opportunistically

4. Communication

Our firm and this supplier/customer keep each other well informed

This supplier/customer keeps me well informed on technical matters

There is excellent communication between our firms so there are never any surprises that might be harmful to our working relationship

This supplier/customer communicates his expectations of our firm

This supplier/customer frequently informs me of any information or change that could affect the expected grape quality or yield

There is frequent face-to-face contact with this supplier/customer

It is relatively easy to contact this supplier/customer

5. Conflict resolution

Our relationship with this supplier/customer enables joint conflict resolution

This supplier/customer is quick to handle complaints

We work on solutions together to solve problems so they do not happen again

In the past, disagreements and problematic issues with this supplier/customer have not been resolved.

6. Power asymmetry

This supplier/customer exerts a strong influence over us

This supplier/customer has all the power in our relationship

This supplier/customer controls all the information in our relationship

We have no choice other than to adhere to this supplier's/customer's demands

7. Performance satisfaction

Working with this supplier/customer puts less strain on our organisation than working with other suppliers

Generally, we are satisfied with our overall relationship with this supplier/customer

My firm usually gets at least a fair share of the rewards and cost savings from our relationship with this supplier/customer

The benefits achieved from our relationship with this supplier/customer have greatly exceeded our expectations

The financial returns our firm obtains from this supplier/customer are better than we envisaged

Phase Two measures

1. Profitability benefits

Our relationship with this supplier/customer…

provides a reliable supply of wine grapes (w)/ provides a reliable market for our wine grapes (gs)

increases our product performance

helps to fulfil our customer requirements better

leads to the better fulfilment of wine grape specifications

increases the competitiveness of our company

strengthens our strategic position

increases the profitability of our firm

enables an efficient outsourcing of our requirements for grapes (w)/ enables an efficient marketing of our wine grapes (gs)

gives access to wine grapes that are good value for money (w)/gives access to a market for wine grapes that are good value for money (gs)

leads to the optimisation of our operating processes

2. Innovation **Our relationship with this supplier/customer…**

leads to joint input into setting strategic directions

leads to joint input into long range planning of supply

leads to joint development of production processes

leads to joint input into technical development matters

3. Market and scout benefits

Our relationship with this supplier/customer…

leads to direct reference with possible business partners

leads to initiation of contacts with prospective suppliers/customers

leads to information about other potential suppliers/customers for our firm

increases access to information about other third parties

increases our access to information about our competitors

increases our access to information about the marketplace

4. Relationship costs **Our relationship with this supplier/customer…**

causes additional coordination costs within our company

causes additional coordination costs between our company

means additional expenditure of time

leads to increased costs of relationship maintenance

Phase Three model comprised Phase One constructs No. 2-7 and Phase Two No. 1-4

(w)=item wording in the winery questionnaire; (gs)=item wording in the wine grape supplier questionnaire
Where 1=strongly disagree, 4=neither agree or disagree, 7=strongly agree (unless otherwise stated).
* Where 1=very low to 7=very high

Appendix 5: Communications

Potential survey participants were initially informed of the project through industry journals, newsletters and emails via regional industry associations. Outcomes of the project have been communicated through articles in academic journals.

Appendix 6: Staff

Associate Professor Mark Gibberd, Chair in Viticulture and Oenology at the Muresk Institute in Margaret River.

Associate Professor Peter Batt at the Muresk Institute, Curtin University of Technology

Dr Doina Olaru, at the University of Western Australia

Dr. Christine Storer at the Muresk Institute, Curtin University of Technology