

**Muresk Institute**

**The Value of Trading Relationships between  
Buyers and Sellers of Wine Grapes  
in Australia**

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**This thesis is presented for the Degree of  
Doctor of Philosophy  
of  
Curtin University of Technology  
Bentley WA**

**December 2007**

## **Declaration**

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This thesis contains no material that has been accepted for the award of any other degree or diploma at any university.

To the best of my knowledge and belief, this thesis contains no material previously published by any other person except where due acknowledgement has been made.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

# Abstract

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The following dissertation uses an exploratory and confirmatory approach to explain relationship value within the grape and wine industry in Australia. Specifically, the research develops and empirically captures and compares buyers' and sellers' perceptions pertaining to relationship value.

A three phase 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 hypothesised structural equation models were tested using data gathered from a comprehensive survey of 175 wineries and 400 wine grape suppliers located in South Australia, Victoria, New South Wales and Western Australia.

Research findings highlight the similarities and differences in relationship value antecedents and outcomes for wineries and grape suppliers. In Phase One, it was evident from the working 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. A restrained use of 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.

In Phase Two, profitability benefits were shown to be the strongest predictors of relationship value, whilst the realisation of market and scout benefits strongly assisted firms to innovate. Perceptions of relationship costs were comparatively low for both customers and suppliers.

The results of the Phase Three model provide rare empirical evidence which showed that while both parties share these same key relational antecedents and value outcomes (profitability benefits, innovation and market/scout benefits and 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 quality to increase profitability.

Cluster analysis 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 had corresponding higher levels of relationship value.

## Acknowledgements

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With the completion of this third research degree with my supervisor, Associate Professor Peter Batt it is difficult to overstate my gratitude for his contribution towards my graduate studies. With his knowledge, enthusiasm and endless patience he has helped me through some challenging times to make this research an extremely rewarding experience.

I am deeply indebted to Dr Doina Olaru, at the University of Western Australia for her willingness to share her knowledge and expertise in statistical modelling. Her proficient guidance with the multivariate analysis of the data was instrumental to the structural equation modelling outcomes achieved in this thesis.

I express my grateful appreciation to my second reader, Dr. Christine Storer at the Muresk Institute, Curtin University of Technology for her valuable editorial comment and Associate Professor Mark Gibberd, Chair in Viticulture and Oenology at the Muresk Institute in Margaret River for his assistance in obtaining and managing funding for the research.

For financial support during my three and a half years of research, I would like to thank Curtin University of Technology for the Divisional Postgraduate Scholarship and also the Grape and Wine Research Development Corporation for funding my project expenses.

Special thanks go to Curtin University of Technology staff members, Mrs Jenny Lalor at the Centre for Educational Advancement for her advice on statistical procedures and Ms Kerri Rouix at Muresk Institute for her support with administrative and finance matters throughout the project. My thanks also to Mrs Rhonda Bracey for the extensive work involved in formatting and editing the thesis.

I would particularly like to thank those people who agreed to participate in personal interviews in my preliminary research in the Western Australian grape and wine industry. For confidentiality reasons they cannot be individually named though their comments were fundamental to the development of the two main national survey instruments for wineries and grape suppliers. For the representative survey sample of national wine grape suppliers much is owed to the support of three major regional bodies: Murray Valley Winegrape Growers Association, Riverland Winegrowers Association and Griffith Winegrapes Marketing Board. Also thanks to the Australian Wine Research Institute, the Phylloxera and Grape Industry Board in South Australia and those many smaller regional grape and wine industry groups and people who contributed time and effort to muster responses from grape suppliers in their region.

Finally, I am grateful to my family for their understanding when it was most required. I am especially appreciative of the encouragement and support from my wonderful husband, Adrian.

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# **1. Introduction**

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## **1.1. Chapter outline**

To begin, this chapter will provide a brief introduction to the Australian grape and wine industry and briefly describe the current position of both buyers and sellers of wine grapes and their trading relationships. The research problem and objectives will be outlined, prior to the development of the research approach. The significance of the study and an outline of the structure of the thesis will follow.

## **1.2. Introduction**

Over the last twenty years since the mid 1980s, the Australian wine industry has grown appreciably, led by spectacular success in export markets. Lured by the opportunity to make a significant return on their investment, farmers and investment syndicates have invested heavily in the industry. But in 2005, the Australian wine industry faced a serious oversupply. The stock-to-sales ratio of 2.1:1 compared to a required level of 1.7:1 suggests that the present inventory holdings of 1854.5 million litres are too high (Australian Wine and Brandy Corporation (AWBC) 2003, Australian Bureau of Statistics (ABS) 2004a). Growth in domestic sales is relatively stable at around three to four per cent annually, while competition in the export market from both the traditional and other New World producers is putting substantial downward pressure on prices.

In 2005, Australia was the fourth largest wine exporter in the world (Winetitles 2005). Over many years, Australia has achieved strong sustained growth and international competitiveness across all price points on quality-for-money (AWBC 2003, Stanford 2005b). Nevertheless, the change in the product value mix is of concern as export sales are increasing primarily at lower price points. Furthermore, there has been a significant reduction in the premium and super premium segments over the two years to 2004 (Van der Lee 2004).

As a result, there has been a considerable decline in the average dollar per litre return on sales. While Australian wine exports increased 13 per cent by volume in 2003/04, over the same period, the value increased by only 2.9 per cent (ABS 2004a, ABS 2004b). Similarly, while domestic sales increased three per cent by volume, they declined six per cent by value. Reasons for the change have been attributed to greater consumer interest in lower price point wine, consolidation in the retail sector, excess wine in international and domestic inventories and less favourable exchange rates (Stanford 2005b).

Declining returns in the Australian wine industry now threaten the financial viability of all but the major wine producers (Deloitte 2005). The average rate of return has declined from 7.6 per cent in 1997-98 to 4.2 per cent (EBT/total assets) in 2000-01 (AWBC 2003). Returns on

vineyard operations show a similar decline due to falling prices for both red and white wine grapes as a result of the current global and domestic oversupply (ABARE 2005b). As a result, many wineries and wine grape suppliers find that although their sales revenues are growing, it is often at the expense of profit (Deloitte 2005, Primary Industries and Resources South Australia (PIRSA) 2005, Rural and Regional Affairs and Transport Reference Committee (RRATRC) 2005).

In order to compete, both wine grape growers and the wineries themselves are adopting a value-driven relational marketing and purchasing approach to profitably grow the demand for Australian wine (Centre for International Economics (CIE) 2004, Hoj and Pretorius 2004). Wineries have developed closer relationships with their contracted grape suppliers in an integrated effort to achieve efficient production of grapes and wine styles to meet market demands (Beuman and McLachlan 2000, Bown 2000, Osborn 2000). Generally, contracted growers readily cooperate with wineries in the adoption of new technologies and often sacrifice yields in the pursuit of superior quality grapes for their customers (DeGaris 2000, Swinburn 2000). As directed by their customers, grape suppliers also manage grape sugar, colour, berry size, pH levels, titratable acidity and pest and disease control (Clancy 2005). In the export market particularly, wine grape growers need to comply with mandatory requirements for agrochemical use and application. The growers willingness to deliver grapes that wineries want has given Australian wine exports a quality advantage over international competitors at most price levels (Donald and Georgiadis 2000, Withey 2000).

Engaging in mutually beneficial exchange relationships can be of value to both trading partners (Beuman and McLachlan 2000, Osborn 2000). From a winery perspective, the potential benefits of a long-term orientation can include: better access to a more reliable supply of high quality grapes, ongoing improvements in the quality of wines produced, a higher level of technical interaction in the form of information exchange, and greater support from suppliers in introducing new wine grape varieties or new wine styles (Wilson 2000). From a supplier perspective, contract wine grape growers can potentially 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 through becoming closer to customers and better understanding and satisfying customers needs (Ibid). As a result, buyers can become less sensitive to price competition and suppliers may benefit from higher prices (Kalwani and Narayandas 1995). Furthermore, both parties benefit from being able to better plan and forecast production schedules (Lohtia and Krapfel 1994), optimise operational processes (Werani 2001) and coordinate deliveries (Easton and Araujo 1994).

In order to prosper, these customer–supplier relationships must achieve the desired benefits and a fair value appropriation for both parties. However, 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 2006). 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).

### **1.3. Research problem and objectives**

The purpose of this study is to conceptualise and measure relationship value that is realised from the trading relationships between buyers and sellers of wine grapes in Australia.

Four research objectives have been established for this study:

1. How do the selected relational antecedents lead to relationship value?

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

2. Examine customer and supplier perceptions of the factors that are instrumental in the optimisation of relationship value in the grape and wine industry.

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

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

4. Identify the extent to which relational constructs are consistent within the winery and grape supply sectors.

### **1.4. Development of the research approach**

A steady shift has been observed in trading relationships from a transaction-orientation to a relationship-orientation as firms strive to strengthen their position in today's highly competitive and dynamic business environment (Ryssel, Ritter and Gemunden 2000). This is especially true in business markets, where customers rely on the products and services they buy from their suppliers to improve their own market offering and to increase the overall profitability of their firm (Ulaga 2001). The main reason for these firms to engage in business relationships is to create value (Anderson 1995, Wilson 1995, Gronroos 1997, Werani 2001, Walter, Ritter and Gemunden 2001, Walter, Holzle and Ritter 2002, Anderson and Narus 2004, Pardo et al. 2006). The higher the value expected or received, the stronger the motivation to establish and continue the exchange (Ulaga and Eggert 2003). Trading relationships range from an arm's-length transactional approach at one extreme, to one of close collaboration at the other extreme (Webster 1992).

The study will mainly use theory derived from the IMP (Industrial Marketing and Purchasing) group's Interaction and Network approach (Ford 1990; Axelsson and Easton 1992; Anderson, Håkansson and Johanson 1994; Håkansson and Snehota 1995), which recognises that industrial business markets function from the perspective of interacting customers and suppliers and the networks constituted by these relationships. Interaction, coordination, adaptation, actor bonds, resource ties, activity links, relationship value and network connectedness represent the key features of customer-supplier relationships in this study.

By adopting the IMP approach, the value of business relationships can be examined at the episodic, relationship and network level. An episode is a single transaction which is part of a continuing relationship between a customer and a supplier (Ford, Gadde, Håkansson and Snehota 2003). Most of the value literature concerns value at the episode level (e.g. Reddy 1991, Ravald and Gronroos 1996); where value is predominantly expressed as the economic benefit in monetary terms of different types of product offer (Mandjak and Durrieu 2000). Anderson and Narus (2004, p. 6) use the term "value" to describe "the worth in monetary terms of the economic, technical, service and social benefits a customer firm receives in exchange for the price it pays". Customer value depends on the functionality or performance of the supplier's offer and the supplier's ability to meet customer expectations in the exchange (Ford et al. 2003, Anderson and Narus 2004). In such discrete purchasing transactions, value is created by the supplier and consumed by the customer (Anderson and Narus 2004).

Yet the exchange between customers and their suppliers in business-to-business markets is more typically characterised by continuity — ongoing relational exchanges, not isolated episodes (Dwyer, Schurr and Oh 1987). At the relationship level, value is viewed as: (i) a dynamic process (Håkansson and Wootz 1979, Håkansson and Snehota 1995); (ii) concerning both parties (Anderson 1995, Wilson 1995); where value is (iii) created or co-created (Mandjak and Durrieu 2000, Forsström 2003). Applying the IMP logic of *two active parties*, it is reasonable to assume that in dyadic customer-supplier relationships, both parties are actively creating value through interaction in the relationship (Forsström 2003). Close relationships with a long-term orientation can provide a means for 'co-creation' of value where the competitive abilities of each trading party are enhanced by being in the relationship (Anderson 1995, Wilson 1995): "...the relationship itself becomes the resource that creates value" (Pardo et al. 2006, p. 13) and "the separation of actors into customer and suppliers is less important [...] as value is essentially linked to both partners in the interaction" (p.14). Such relationships are based on mutual recognition and understanding that the success of each firm depends on the other firm (Anderson and Narus 1990). Value created through the synergistic combination of each partner's strengths ensures both customer and supplier gain from the relationship (Wilson 1995).

Reaping the benefits of a mutually rewarding trading relationship is, of course, not automatic. Active management of supplier/customer relationships is necessary to create and deliver relationship value so that each partner can gain from the relationship. Management of inter-firm interaction, coordination and adaptation provide the means to create value between trading partners through activity, resource and actor relationship dimensions (Håkansson and Snehota 1995, Ford et al. 2003). Activity links between the customer's operations and those of the supplier can be adapted to improve efficiency and performance. Furthermore, firms may choose to combine resources such as facilities, equipment or operations in order to strengthen ties with a trading partner (Ford et al. 2003). Over time, the development of actor bonds may serve to foster continuity in the relationship (Wilson 1995). Actor bonds have most commonly been characterised by the attributes of commitment (Ford 1984, Dwyer et al. Oh 1987, Mohr and Spekman 1994, Gundlach, Achrol and Mentzer 1995, Håkansson and Snehota 1995, Ford et al. 2003) and trust (Anderson and Weitz 1989, Ganesan 1994, Mohr and Spekman 1994, Morgan and Hunt 1994, Kumar, Scheer and Steenkamp 1995, Doney and Cannon 1997). However, a greater number of behavioural variables have been implicated in the development of sustainable trading relationships including cooperation (Macneil 1978, 1980, Dwyer et al. 1987, Heide and John 1992, Dwyer 1993, Morgan and Hunt 1994, Cannon and Perreault 1999, Cannon, Achrol and Gundlach 2000, Leonidou 2004); performance satisfaction (Anderson, Håkansson and Johanson 1994, Wilson 1995); communication (Anderson and Weitz 1989, Morgan and Hunt 1994, Cannon and Perreault 1999, Medlin and Quester 2001, Forsström 2003, Holden and O'Toole 2004), power asymmetry (Anderson and Weitz 1989, Cannon and Perrault 1999, Cannon et al. 2000), and conflict resolution (Ford 1984, Werani 2001, Anderson and Narus 2004).

Business relationships are part of the social and historical network context in which economic and social action are embedded (Benson-Rea 2005). The network can, indirectly, through the relationship of the partners, influence the value of the business relationship (Blankenburg-Holm, Kent and Johanson 1996). Walter et al. (2002a) found network functions to be significant predictors of relationship value of the supplier relationship. For customers, indirect benefits come in the form of acquiring knowledge of new markets and suppliers (scout function), access to new markets and suppliers (market function), and assistance with new product development through the supplier (innovation function).

Clearly, while business relationship value is different at the episode, relationship and network levels, the values are not independent of each other, but are embedded and so mutually affect one another (Mandjak and Simon 2004). As a result, the relationship rather than individual orders, sales, projects, products and markets must be the unit of analysis in terms of value assessment (Ford et al. 2003).

Numerous studies have been dedicated to the different concepts of value in relationships (e.g. Wilson and Jantrania 1994, Mandjak and Durrieu 2000, Mandjak, Bouzdine-Chameeva, Durrieu 2002, Mandjak and Simon 2004) and the assessment of that value (e.g. Ulaga 2001, Walter et al. 2001, Werani 2001). Value in relationships can refer to the value of relationships as a whole (Ford and McDowell 1999), what partners do in relationships (ARA model) (Håkansson and Snehota 1995) and relationship processes (the direct and indirect relationship functions) (Walter et al. 2002a). It can refer to the direct and indirect value gained from the immediate focal relationship in the form of benefits (positive value components) (Mandjak and Durrieu 2000, Werani 2001), together with the sacrifices involved (negative value components) (Werani 2001, Walter et al. 2002a). In discussing the problems associated with an assessment of the value of the whole relationship, Ford and McDowell (1999) suggest that perceptions of overall value in a relationship owe much to the specific outcomes — benefits less sacrifice — that are expected from the relationship.

For some years, research on relationship value has taken the buyer's perspective and focused on how suppliers create value for their customers (e.g. Anderson 1995, Wilson and Jantrania 1994, Lapierre 2000, Walter et al. 2002a, Ulaga and Eggert 2003). Only in recent years has the relational value of customers been examined from the supplier's perspective (e.g. Walter et al. 2001, Walter and Ritter 2003). Very few empirical studies have simultaneously examined relationship value, using the customer-supplier perspective; although one notable exception is Werani (2001). This perspective recognises the need to achieve a better understanding of mutual value creation in business relationships and to assist managers to bring more benefits to each side (Wilson 1995, Werani 2001, Forsström 2003). Furthermore, despite frequent reference to the need for researchers to explore the concept of relationship value in context with other social aspects of the relationship 'atmosphere' (e.g. Anderson and Narus 1990, Walter et al. 2002a), there is little understanding of which relational elements confer value and the extent of that value.

This empirical study will address this gap through the development of a theoretical model to conceptualise and measure the relationship value created through trading relationships between buyers and sellers of wine grapes in Australia. The multigroup model will examine parallel corresponding perceptions from both sides of the dyad. This approach to 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.



This study will focus on those dimensions that reproduce behaviours and expectations of value optimisation in a trading relationship. Development of the theoretical framework will entail the selection of model constructs which reflect the manner in which customers and suppliers interrelate, conduct relational exchange activities and use resources. As theoretical development of a customer or supplier relationship 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 will be conducted to ensure that the selected relational constructs are relevant to trading relationships in the Australian grape and wine industry.

### **1.5. Significance of the study**

Although research on the concept of relationship value in business-to-business markets has increased in recent years (Wilson 1995, Lapierre 2000, Walter, Ritter & Gemuenden 2001, Werani 2001, Walter, Holzle & Ritter 2002, Ford, Gadde, Håkansson and Snehota 2003, Mandjak, Simon and Lantos 2003, Forsström 2004, Mandjak and Simon 2004, Pardo et al. 2006, Ulaga and Eggert 2006), as yet there is no generally accepted measure of the relationship value concept (Walter et al. 2001, Lindgreen and Wynstra 2005). 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).

Most customer and supplier firms considering an ongoing trading relationship with another firm will have a 'wants list' of results or outcomes that they would like to achieve. Nevertheless, Anderson and Narus (2004) believe that few firms have the knowledge and capability to actually assess relationship value and gain an equitable return for the value that they deliver to trading partners. Due to the intangible and often indirect nature of value elements this concept is often quite difficult to clarify. Alas, this lack of clarification becomes problematic for firms when they attempt to build a coherent customer or supplier relationship management strategy (Ford and McDowell 1999). More conclusive information is required to assist with decision making in relationship management.

In a new methodological approach, this research will propose a theoretical three-phase structural equation model to provide a comprehensive description of relationship value between Australian buyers and sellers of wine grapes. Each phase of the model will be multi-group to address research objectives to measure and compare perceptions between customer and supplier groups: Phase One — how the selected relational antecedents lead to relationship value; Phase Two — customer and supplier perceptions of the factors that are instrumental in the

optimisation of relationship value; and Phase Three — identification of which relational aspects of the trading relationship confer value, how and the extent of that value. Further analysis will be used to reveal any heterogeneity within winery and grape supplier groups in relation to model constructs.

The research findings from the three-phase model will offer those industry managers involved in viticulture and winemaking comprehensive guidelines for determining, evaluating and selecting the best course of action to take in value-based relationship management decisions. The two-group model findings will reveal the role and contribution of selected relational characteristics in creating specific relationship benefits and the relational means to minimise relationship sacrifice for customer and supplier firms. Furthermore, the study will contribute to the current knowledge of relationship value through an examination of the direct and indirect components of relationship value, the relative importance of the various observable measures, and the extent to which current trading partners are meeting these criteria.

## **1.6. Justification for choosing the grape and wine industry**

Relationships between customers and suppliers are important in the grape and wine industry (Beuman and McLachlan 2000, Bown 2000, Osborn 2000). A good quality wine starts in the vineyard: the actual winemaking is only part of the process. Many industry experts agree that at least sixty per cent of the work in making good wine is done in the vineyard (Scales, Croser and Freebairn 1995). Therefore, the importance of grape quality to wine quality cannot be overstated.

Wineries are very interested in the activities of their wine grape suppliers — through the growing season, during ripening, during vintage and harvest, right up until the grapes are delivered to the winery (Swinburn 2000). Value creation depends on the ability of the winery and their grape suppliers to deliver on those quality attributes that are important to the consumer at predetermined price points. This calls for the two parties to work closely together. For this reason, the market for wine grapes is unlike markets where anonymous buyers and sellers meet to conclude transactions on the spot. Rather, the typical situation is for a winery to establish a contract for an average three to five year duration with growers (Scales et al. 1995), with an understanding that, subject to meeting grape quality specifications, the winery will accept all the grapes produced from the designated vineyard and the grape supplier will deliver a specified volume of grapes harvested to the winery (Allen 2003). Thus, these trading relationships would appear to provide a suitable choice for research into the creation of relationship value through collaboration rather than acting independently.

The grape and wine industry was selected for the research on the basis of its increasing importance to the Australian economy. The Australian wine industry generated A\$5 billion in revenue in 2003-04 and exports of A\$2.5 billion in 2004-05 (Invest Australia 2005). In 2005,

the number of wineries increased by six per cent (109 new wine producers) from the previous year and there are now over four times the number of wineries than there were at the start of this latest wine boom in the mid 1980s. Over the last 10 years, Australia has had an average net gain of 107 wineries per year (Winetitles 2006). This period of rapid development has been built on the expanding number and size of vineyard operations growing wine grapes.

Due to the large number of buyers and sellers of wine grapes, the industry is well positioned to satisfy the research needs. In 2005, there were approximately 2,008 Australian wineries that manufactured, blended or sold wine, although not all had their own winemaking facilities (Winetitles 2006). The 413 winemaking facilities located around Australia that crushed 50 tonnes or more of grapes were owned by 366 wine companies (ABS 2005b). In addition, there were over 8,000 independently owned vineyard operations (ABS 2005a). While the target populations for this study were narrowed specifically to those wineries that sourced from independent grape growers and independent wine grape suppliers in order to examine the customer-supplier relationship, there was still an extensive population of potential respondents.

The diversity of business firms within the grape and wine industry is another favourable feature for the purposes of the research. The industry has a broad cross-section of firms which are representative of rural and non-rural businesses across Australia (Sutton-Brady 2004). The industry is dominated by small and medium-sized integrated wine grape growers and winemakers which are family-owned enterprises, partnerships or private companies (Batt and Wilson 2000). Yet in recent years, rationalisation has seen the emergence of larger winery and vineyard operations in response to growing consolidation at the retail end of the supply chain (RRATRC 2005). The three largest wine producers (Foster's, Hardys and McGuigan Simeon) account for 78 per cent of the market revenue, with the next four largest accounting for only 12 per cent collectively (Invest Australia 2005).

The grape and wine industry is also geographically dispersed with great diversity between regions. Although concentrated in the south east of Australia, it has a presence in all states. Some areas concentrate mainly on grape growing while others focus on winemaking; in some areas there is a proliferation of small owner operators and large firms predominate in other regions (Scales et al. 1995). Therefore, the research will seek to analyse findings across important moderating variables including production size and geographic location in order to increase the generalisability of research findings to other rural and non-rural industries.

Finally, the grape and wine industry makes a significant investment in research and development (R&D) in an effort to ensure a sustainable, innovative and profitable future for the industry. In 2006, A\$22.4 million was invested in various grape and wine R&D programs via the Australian Grape and Wine Research and Development Corporation (GWRDC 2006). These funds are then allocated to priority areas set up in consultation with industry bodies, and then

distributed to research projects such as the present study which is considered to be relevant to industry needs.

## **1.7. Outline of the thesis**

This thesis is presented in nine chapters. This first chapter has set the scene for the research with a brief description of the grape and wine industry, the research problem and objectives, the development of the research approach, the significance of the study and justification for choosing the grape and wine industry.

While the focus of the research is the value created in relationships between wineries and their wine grape suppliers, it is not possible to analyse these relationships without knowledge of their broader environmental context. Thus, Chapter Two will provide a comprehensive review of the current position of Australia within the global grape and wine market, plus a discussion of key industry trends including retail and winery consolidation that are likely to impact on business relationships in this industry.

Chapter Three is a review of literature which describes key aspects of industrial markets, industrial purchasing and marketing, together with a discussion of significant models of organisational buying behaviour. Further sections describe the IMP Interaction and Network approach and the management of customer-supplier relationships on which this study is based.

Chapter Four provides an introduction to the initial stages of the structural equation modelling process. An empirical three-phase model is developed from the literature to test the formation and composition of relationship value for wineries and grape suppliers. The hypothesised relationships among the proposed constructs are portrayed visually in a path diagram.

Chapter Five comprises the preliminary research methodology and findings from 16 in-depth interviews with wineries and their wine grape suppliers. The qualitative study findings were designed to verify the theoretical assumptions underlying the inclusion of each of the constructs in the theoretical model and to highlight aspects of the model which may be improved or altered to achieve a better match within the context of the selected industry. The chapter concludes with changes to the model based on a review of research findings.

Chapter Six presents the quantitative research methodology starting with the research design and the main features of data collection. In a discussion of the target populations, the conduct of a census survey of the wine industry and a sample survey of wine grape suppliers is provided. The statistical procedures used to analyse the data are explained and a summary of the methodology is provided in the final section.

Chapter Seven begins the presentation of results collected from the main quantitative study with a description of buyer and seller respondents, their firms and comprehensive background information on the trading of Australian wine grapes, which gives an insight into the business environment in which these firms are currently operating.

Chapter Eight presents the results of data analysis and hypothesis testing of the three-phase model of relationship value specific to the grape and wine industry in Australia. The results of a two-step structural equation modelling approach to test and confirm the proposed models will be presented and discussed.

In Chapter Nine, the research problem and objectives established in Chapter One will be revisited and discussed conclusively, from both a theoretical and managerial viewpoint. Finally, the chapter discusses the main limitations of the research and provides directions for further research.

## **2. An overview of the Australian grape and wine industry**

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### **2.1. Chapter outline**

Chapter Two will examine the key features of the Australian grape and wine industry in three sections. First, to provide the background and context for this research, Australia's position as a world wine producer, consumer and exporter will be examined. Second, the imbalance of the wine grape supply and demand in Australia and wine sales in international and domestic markets is detailed. Third, the need to increase competitiveness in these wine markets leads to a description of the international and domestic consolidation that is taking place. The chapter concludes with summary comments on the key environmental issues that impact on the relationship between wine and grape producers in Australia.

### **2.2. Global grape and wine industry**

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). As the world's fourth largest wine exporter (AWBC 2005a), Australia's position in the global wine market means considerable exposure to changes in the competitive environment and price pressures that are being experienced throughout the world.

International and domestic grape and wine oversupply is a major concern for the sustainability and profitability of wine producers and grape growers. At the domestic level, the Australian supply/demand imbalance is expected to improve in the medium term between 2008 and 2010 (ABARE 2005b, AWBC 2005a, Jackson, Cousins and Manning 2006, McGrath-Kerr 2005, Wine Australia 2005a). However, excess supply is not the only determinant of current market conditions. Other factors exerting downward pressure on prices include consolidation in the routes to market (AWBC 2005a, Jackson et al. 2006, Heijbroek 2003, KPMG 2003, Stanford 2005, Watson 2005), unfavourable exchange rates (AWBC 2005a, PIRSA 2005, Van der Lee 2004), increased competition for Australia's market share (Heijbroek 2003, PIRSA 2005, Wine Australia 2005a) and a consumer shift to lower retail price points (ABARE 2005b, AWBC 2005a, Van der Lee 2004, Wine Australia 2005a). Therefore, substantial changes in many aspects of wine production and marketing have provided a necessary response to this volatile market environment.

#### **2.2.1. World grape and wine supply**

Overproduction has existed in the world wine market for over three decades (PIRSA 2005). Initially, the problem was restricted to Old World wine production in countries such as France,

Italy and Spain and primarily to lower quality wines. Since peak production in 1982, supply control measures in the European Union (EU) have reduced wine output and have shifted production towards more marketable styles of wine. More recently, the decline has been counteracted to some extent with increases in wine production in the New World (non-European) countries such as the United States of America, Australia, South Africa and Chile. Surpluses are now a feature of most wine producing countries, and with improvements in technologies, the standard of wine is considerably better (Anderson 2001a).

### 2.2.2. World wine grape production

Globally, the area planted to grapevines has declined from 7,847 million hectares in 1994 to 7,485 million hectares in 2004 (Wittwer and Rothfield 2005). The fall in vineyard area has been mainly in the EU where there have been significant reductions in the bearing area in France (20%), Italy (24%) and Spain (28%) (Table 2.1).

**Table 2.1: International vineyard bearing areas 1985-2004**

Country	1985 '000 ha	1995 '000 ha	2000 '000 ha	2004 '000 ha	Change 1985– 2004 %
<b>Traditional</b>					
France	1063	927	917	847	-20
Italy	1103	927	908	837	-24
Spain	1593	1196	1174	1149	-28
<b>New World</b>					
Australia	64	73	140	164	157
Chile	106	54	104	111	5
USA	334	305	413	382	14
Argentina	295	210	209	202	-32
South Africa	110	103	117	126	15

Source: ABARE 2005b

The EU's wine regime has had controls to strictly regulate the acreage and allowed varieties, prohibiting new plantings until July 21, 2010 except to replace existing vines with more marketable varieties (Anderson 2001b, USDA 2005). The number of wine grape growers in France has fallen dramatically, from around 196,600 in 1994 to around 112,500 in 2003, as thousands opted to pull vines, retire or abandon the industry.

In contrast, vineyards have expanded in a number of New World countries over the same period. The area planted to vines in Australia increased from 1984 to 2004 by 157 per cent, with the area almost doubling in the five years from 1995 (73,000 hectares) to 2000 (140,000 hectares) (Wittwer and Rothfield 2005). Nevertheless, over the last four years, the lower returns

achieved in the Australian wine grape sector have caused vineyard expansion to slow. Expansion has also occurred in South Africa (15%), the US (14%) and Chile (5%), while Argentina reduced the area planted to grapevines by 32 per cent.

Since 1994, world wine grape production has increased from 34.2 million tonnes to 37.0 million tonnes in 2004 (Wittwer and Rothfield 2005). The decline in EU production has been offset by the increase in production in the New World countries. There has also been much variability between vintages due to seasonal influences.

Globally, the wine and grape sectors are quite concentrated. In 2004, the world's top ten wine grape producing countries accounted for 83 per cent of world production. Of those top ten countries, half were in the European Union. France, Italy, Spain, Germany and Portugal produced 21.5 million tonnes (58%) of global production (Table 2.2).

**Table 2.2: World wine and grape production in 2004**

Country	Wine grape production Vol, kt	% of wine grape production	Wine production ML	% of global production
Italy	7,066.7	19.0	5,300.0	18.2
France	6,882.4	18.5	5,850.0	20.1
Spain	5,333.3	14.4	4,000.0	13.7
USA	3,248.7	8.8	2,430.2	8.3
Argentina	1,880.0	5.1	1,410.0	4.8
<b>Australia</b>	<b>1,816.6</b>	<b>4.9</b>	<b>1,471.2</b>	<b>5.1</b>
South Africa	1,312.2	3.5	1,015.7	3.5
Germany	1,236.5	3.3	989.2	3.4
Portugal	958.7	2.6	814.9	2.8
Chile	877.1	2.4	657.8	2.3
<b>Top 10</b>	<b>30,612.2</b>	<b>82.5</b>	<b>23,939.0</b>	<b>82.2</b>
Other	6,473.2	17.5	5,185.5	17.8
<b>World</b>	<b>37,085.4</b>	<b>100.0</b>	<b>29,124.5</b>	<b>100.0</b>

Source: (Wittwer and Rothfield 2005)

The remaining five were New World producers — the US, Argentina, Australia, South Africa and Chile who collectively produced 9.1 million tonnes or a quarter of global production (Wittwer and Rothfield 2005).

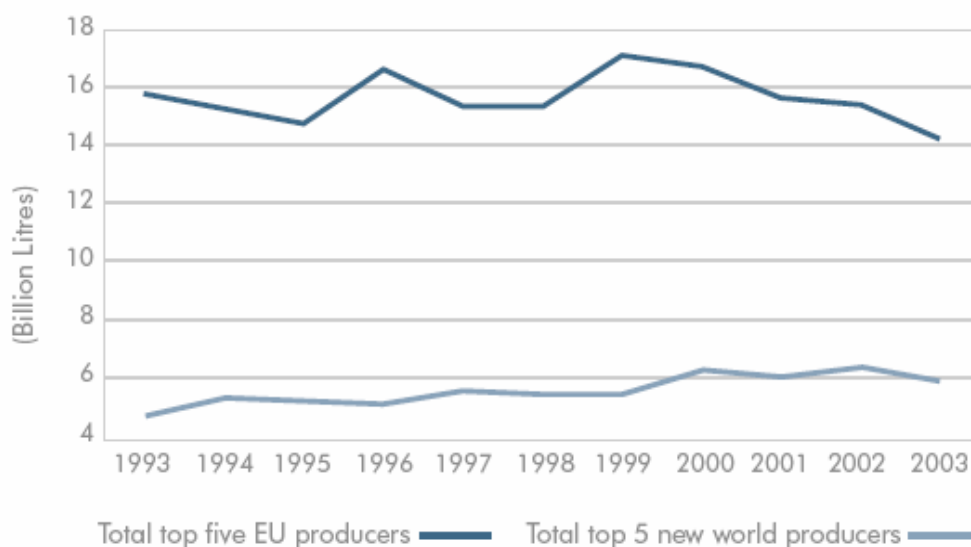
While Australia was the world's sixth largest producer of wine grapes, it contributed only 5 per cent of global production, well behind Italy (19%), France (18%), Spain (14%) and the US (9%).



### 2.2.3. World wine production

World wine production increased from 25.3 billion litres in 1993 to 26.8 billion litres in 2003 (AWBC 2005a). Since 1993, wine production in the top five EU countries has been declining at a compound annual rate of one per cent to 14.3 billion litres in 2003 (Figure 2.1). At the same time, wine production has been increasing in the top five New World countries at a compound annual rate of 2.4 per cent to 6 billion litres.

**Figure 2.1: Top five EU producers and top 5 New World producers, 1993–2003**



Source: AWBC 2005a

In 2004, global wine production increased to 29.1 billion litres, which further intensified problems with global oversupply (Table 2.2). Wine production in the top five EU countries increased for the first time since 2001 to 16.9 billion litres, compared to 7 billion litres in the top five New World countries (USDA 2005). France is the largest wine producer in the world, followed by Italy, then Spain. The US is the largest New World wine producer and the fourth largest producer in the world. Australia is the second largest New World wine producer and the fifth largest producer.

### 2.2.4. World wine demand

The problematic gap between supply and demand for wine continued in 2004. Global wine production rose to 29.1 billion litres, but consumption reached only 24.7 billion litres (Table 2.3). World wine consumption has gradually declined from its peak in 1979 of 28.6 billion litres (Wittwer and Rothfield 2005).

**Table 2.3: World wine consumption in 2004**

Country	Wine consumption (ML)	% of global consumption	Per capita consumption (L)
USA	2,896.7	11.7	9.8
France	2,873.3	11.6	47.6
Italy	2,674.0	10.8	46.5
Germany	1,949.9	7.9	23.6
Argentina	1,345.2	5.5	34.6
Spain	1,239.9	5.0	30.2
Australia	434.1	1.8	21.8
Portugal	410.4	1.7	40.6
South Africa	387.2	1.6	8.6
Chile	279.1	1.1	17.5
<b>Top 10</b>	<b>14,489.8</b>	<b>58.7</b>	<b>28.0</b>
Other	10,187.5	41.3	
<b>World</b>	<b>24,677.3</b>	<b>100.0</b>	<b>3.9</b>

Source: (Wittwer and Rothfield 2005)

The top five wine consuming nations — the US, France, Italy, Germany and Argentina — consume almost half the world's wine. The US is the leading wine consuming nation by volume, but France and Italy are the leaders in per capita consumption (48 and 47 litres respectively). Average per capita wine consumption in the top ten wine producing countries is much higher (28 litres), than the world average per capita wine consumption of four litres (Wittwer and Rothfield 2005).

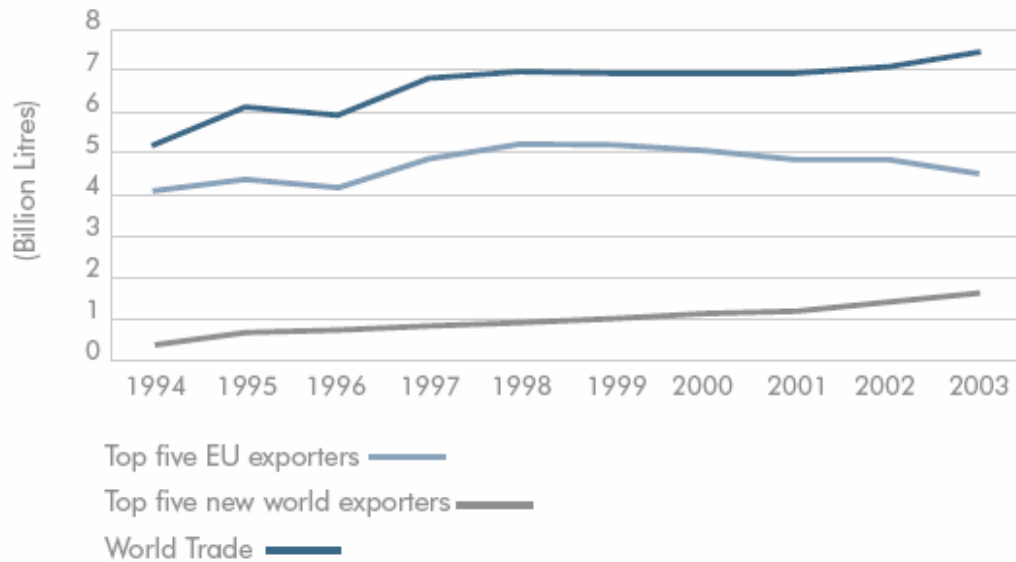
Nevertheless, wine consumption has been falling in France for forty years. Over the last decade, per capita consumption fell by nearly 20 per cent (Wittwer and Rothfield 2005). Wine consumption has also been decreasing in the other main European producing countries such as Italy and Spain. The significance lies in the sheer size of consumption and production in these countries and the consequences that any changes have on their net export potential (ABARE 2006). With consumption on the decline, their wine sector must rely increasingly on foreign markets.

Consumption growth tends to be located in countries with small production bases (Wine Australia 2005a). These newer consuming countries experience strong growth through rising incomes and changing preferences and lifestyles. The countries include the United Kingdom (the UK), the Netherlands, Ireland and Sweden (ABARE 2006). Wine consumption has also continued to increase in the US, Canada, the Russian Federation, Sweden and a number of emerging wine consuming countries in Asia.

### 2.2.5. World wine trade

From 1994 to 2003, the global wine trade was robust, rising from 5.1 billion litres to 7.5 billion litres (Figure 2.2).

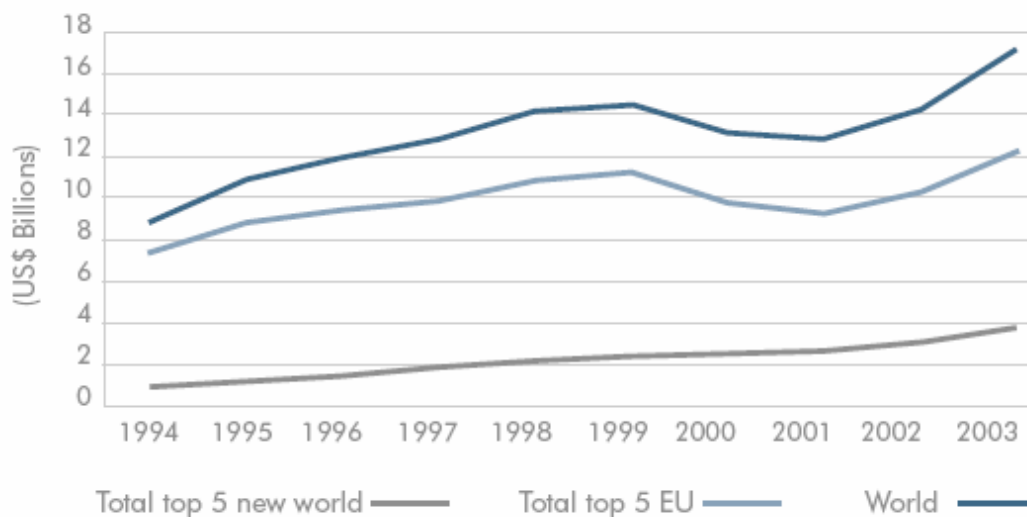
**Figure 2.2: World wine trade, 1994–2003**



Source: AWBC 2005a

During the same period, the trade value almost doubled from US\$8.7 billion to US\$17 billion (Figure 2.3).

**Figure 2.3: Value of world wine exported**



Source: AWBC 2005a

In 2004, the global trade in wine expanded appreciably to 7.9 billion litres, with a value of US\$19.5 billion (Table 2.4). The world's top ten wine exporters accounted for eighty seven per

cent of the international wine trade. Amongst the top ten exporters, wine exports from five EU countries — France, Spain, Italy, Portugal and Germany — were valued at US\$13.2 billion compared to the five New World countries — Australia, Chile, the US, South Africa, and Argentina — which were valued at US\$4.4 billion.

**Table 2.4: World wine exports in 2004**

Country	Wine exports ML	% of global export % Vol.	Export share of prod. %	Bottled exports ML	Sparkling exports ML	Bulk exports ML	Value exports US\$m	Unit value exports US\$/L
France	1,472.4	18.5	25.2	1005.2	161.4	305.8	6,878.4	4.67
Spain	1,428.4	18.0	35.7	433.5	81.3	877.9	1,599.2	1.12
Italy	1,414.8	17.8	26.7	882.4	116.9	451.1	3,542.3	2.50
<b>Australia</b>	<b>642.6</b>	<b>8.1</b>	<b>43.7</b>	<b>501.6</b>	<b>10.4</b>	<b>130.6</b>	<b>2,018.3</b>	<b>3.14</b>
Chile	474.6	6.0	72.1	275.6	1.2	197.8	896.0	1.89
USA	393.1	5.0	16.2	297.7	9.5	85.9	753.1	1.92
Portugal	360.1	4.5	44.2	202.7	0.5	156.9	662.5	1.84
S. Africa	295.4	3.7	29.1	199.5	2.1	93.8	534.8	1.81
Germany	271.9	3.4	27.5	212.5	12.4	47.0	594.3	2.19
Argentina	135.9	1.7	70.7	97.1	2.0	36.7	196.2	1.44
<b>Top 10</b>	<b>6,889.2</b>	<b>86.7</b>	<b>39.1</b>	<b>4,107.8</b>	<b>397.7</b>	<b>2,383.5</b>	<b>17,675.1</b>	<b>2.25</b>
Other	1,050.0	13.3		628.70	49.2	372.2	1,910.3	
<b>World</b>	<b>7,939.2</b>	<b>100.0</b>	<b>27.3</b>	<b>4,736.5</b>	<b>446.9</b>	<b>2,755.7</b>	<b>19,585.4</b>	<b>2.47</b>

Source: (Wittwer and Rothfield 2005)

The average dollar per litre paid to the top five EU producers was higher at US\$2.46 per litre than the US\$2.04 per litre received by the top five New World countries. France led the way with the highest average dollar per litre value of US\$4.67. Australia received an average of US\$3.14 per litre — the highest for the top five New World producers. The main contributing factors were Australia's high proportion of bottled products which achieved the highest average value per litre in the group (US\$3.66/L) (AWBC 2005a, Wittwer and Rothfield 2005). Nevertheless, higher average export prices were achieved by several other New World countries including New Zealand (US\$5.92/L), Japan (US\$4.67/L) and Canada (US\$4.36/L).

The top five EU wine producers account for 62 per cent of global trade. They export an average of 30 per cent of their wine production. France is the world's leading wine exporter, whereas Australia is the fourth largest wine exporter in the world and the largest New World exporter (Wittwer and Rothfield 2005). A number of rapidly growing New World producers are geared significantly to the export market including Chile (exports 72% of production) and Australia (44%). Market access and the ability to meet quality expectations are the key factors for survival and growth in international markets.

Just as wine exports are highly concentrated, so too are imports. The top ten importing countries accounted for all but 21 per cent of the value of global imports in 2004 (Wittwer and Rothfield 2005). Half the value of all imports continued to be bought by the three biggest importers: the UK (21%), the US (17%) and Germany (13%). Australia has gradually increased its market share in all three markets, especially the UK and the US.

#### **2.2.6. World wine trade policy**

Although France and Italy dominate the world wine market, their export shares are expected to continue to decline given the superior performance of New World producers in responding to changing consumer tastes. Anderson et al. (2000) suggests a couple of ways by which EU producers may increase market share. First, there is the protectionist approach which could target the 1994 EU-Australia Wine Agreement. This agreement has enhanced Australia's access to European markets and has been crucial to Australia's wine export growth. However, given that the EU seeks to be WTO-compliant, increased trade protection is unlikely to be considered a suitable option. Second, the Old World may slow the loss of global market share by removing some of the regulatory barriers that increase the costs of production. Reforms along these lines may enable EU producers to adapt more readily to changing consumer tastes.

In Europe, the wine sector continues to benefit from agricultural subsidies. Wine and grape producers in the EU received financial assistance of US\$1.57 billion in 2004 (USDA 2005) for export refunds on products from the wine-growing sector, storage of wine and grape must, distillation of wine, storage measures for alcohol, aid for the use of must, permanent abandonment premiums for areas under vines, and restructuring and conversion of high yielding low quality vines to international varieties. The vine conversion efforts are mainly concentrated in Spain, the largest producer of basic table wine in the EU, France and southern Italy, where low quality 'table' wine still dominates production (ABARE 2005b).

These subsidies continue to support inefficient and excess wine production. For example, French vineyards function with an average of one employee for every hectare, while in Australia, the ratio is one employee for every 50 hectares (Crabb 2006). In recognition of rising stocks, the European Commission (EC) has been forced to find additional 'crisis funds' to distil 560 million litres of unwanted wines into industrial alcohol.

More often, governments prefer to provide indirect financial assistance. Most major wine exporters currently have government funded foreign market promotion programs. In 2004, the focus was on the top five markets for wine including Germany, the UK, the US, Japan, and Canada (Wittwer and Rothfield 2005).

### **2.3. Australian grape and wine industry**

The Australian grape and wine industry dates back to the beginning of European settlement in the early 1800s (USDA 2004). Over the years, Australia has experienced a number of boom periods, but it wasn't until the latter 1960s that any significant industry began to develop (Anderson et al. 2000). Significant growth in domestic wine sales came about with the rapid intake of post-war migrants from continental Europe who brought with them their well-established wine culture.

In contrast, the most recent boom which began in the mid 1980s has been driven by wine exports (Scales et al. 1995). Aided with a surplus of premium grape varieties, Australia entered the traditional markets of Europe with fruit driven white styles and robust reds. Increases in exports have been spectacular, rising from around 11 million litres in 1985–86 to 642.6 million litres in 2004–05 (AWBC 2005a, Wittwer and Rothfield 2005). Lured by the opportunity to make a significant return on their investment, farmers and investment syndicates invested heavily in vineyard expansion (Hobley and Batt 2005). Much of the planting has been due to the Federal Government's tax incentive system which was effective from 1993 to 2003 (PIRSA 2005). Tax deductions calculated on the basis of the number of vines planted encouraged growers and corporate investors to plant more vines in order to maximise the benefit of this tax break. "Accelerated depreciation" granted the value as a tax benefit to be received all in one instalment when the vines were planted. From 1996 to 1999, an estimated 40,000 hectares of grapevines were planted, and the area to vine doubled in the 10 years ended 1998 (Wine Australia 2000). Now in 2005, the wine industry is Australia's fastest growing agricultural industry, ranking as the ninth largest in value terms (USDA 2004).

Nevertheless, the grape and wine sectors are currently oversupplied. This situation has had an adverse impact on many wineries and grape growers. Declining returns in the Australian wine industry now threaten the financial viability of all but the major wine producers (Deloitte 2005), and a period of restructure and reorganisation is now underway.

#### **2.3.1. Australian wine grape production**

In 2005, grapes are grown on 8,347 vineyards in six Australian states (ABS 2005b). The grapes are used for winemaking, drying and fresh (table) consumption; however, the wine grape sector comprises 90 per cent of total production.

Rapid investment in grape plantings in the last decade has seen the area of vines expand from 67,000 hectares in 1994 to over 164,200 hectares in 2004 (Wittwer and Rothfield 2005). Oversupply was evident in the 2005 vintage as many growers left grapes on the vine or dropped them on to the ground.

Nevertheless, industry consensus suggests that the supply/demand balance should return in the medium term in 2008–10 (ABARE 2005b, AWBC 2005a, Jackson, et al. 2006, McGrath-Kerr 2005, Wine Australia 2005a). The industry has responded to the oversupply problem and put a cap on one of the main underlying structural causes - overplanting. Lower average prices have seen progressive falls in new plantings after 1998. In 2005, there was a marginal increase in the bearing area of 1.8 per cent to 153,204 hectares (Table 2.5).

**Table 2.5: Australian wine grape production in 2004–05**

State	Including not yet bearing	% of total	Bearing (ha)	Wine grape production tonnes	% of wine grape production	% change from 2004
SA	71,413	42.8	66,979	856,038	47.1	-2.7
NSW	39,278	23.6	35,777	475,974	26.2	23.7
Victoria	38,764	23.3	35,049	392,963	21.6	-12.8
WA	12,971	7.8	11,747	79,948	4.4	-8.7
Queensland	2,556	1.5	2,307	6,689	0.4	29.6
Tasmania	1,269	0.8	981	6,136	0.3	-21.9
<b>Australia</b>	<b>166,665</b>	<b>100.0</b>	<b>153,204</b>	<b>1,818,426</b>	<b>100.0</b>	<b>0.1</b>

Source: Winetitles 2006

With 13,461 hectares of non-bearing vines, which is eight per cent of the total 166,665 hectares of vines planted, small increases in bearing area are predicted to continue over the next three years (ABARE 2005a).

Instead, short term seasonal influences are sustaining the oversupply of grapes with above-average yields in the past two seasons, and three out of four seasons in the warm inland districts (Wine Australia 2005a). In 2004, the national yield was 13.2 tonnes per hectare, 20 per cent above the long-term average and well above the 10.3 tonnes per hectare achieved in 2003 (KPMG 2004). The rate of sales growth is expected to exceed future supply growth from 2010 (AWBC 2005a). On this basis, stocks will inevitably be drawn down and future shortages are even possible.

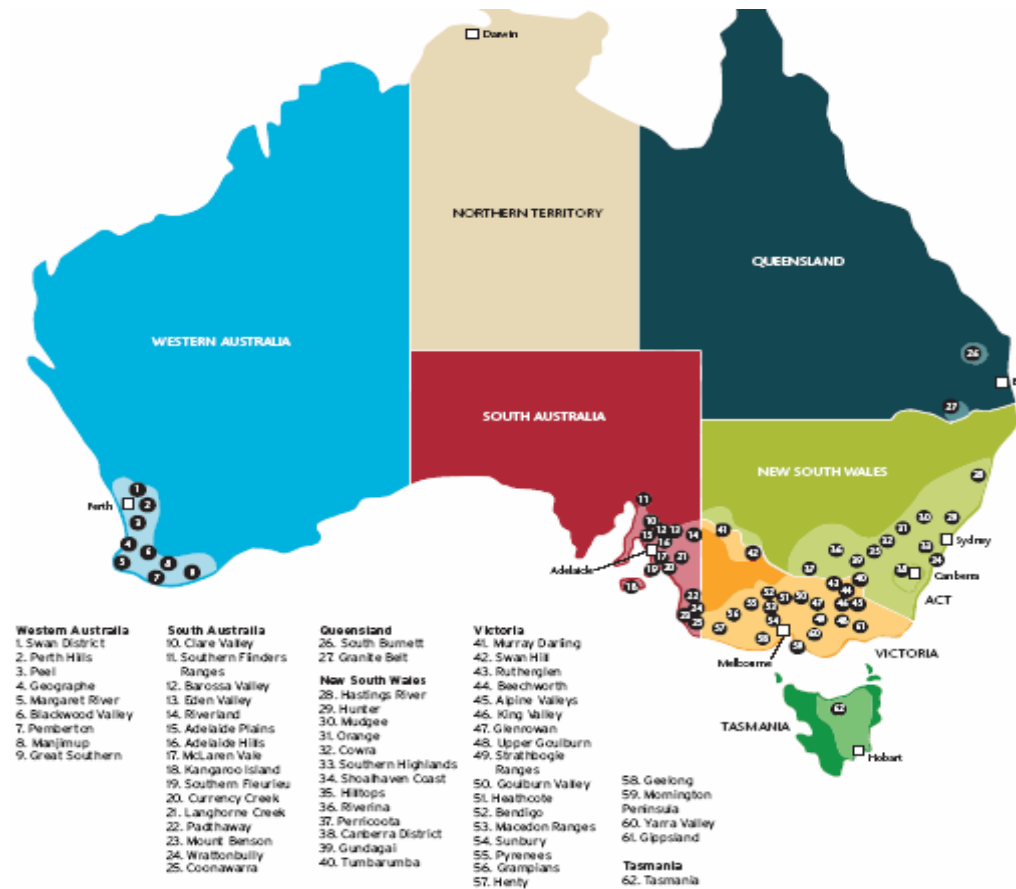
In 2005, a record 1,818,426 tonnes of grapes were harvested for winemaking in Australia, a small increase on the 1,816,556 tonnes harvested in 2004 (ABS 2005b). The largest producer was South Australia which contributed nearly half of national production (47%). Victoria and New South Wales produced around 48 per cent while Western Australia, Queensland and Tasmania produced the remaining 5 per cent.

### ***Regional grape and wine production***

Regional recognition of grapes and wine making has been possible with the adoption of Geographic Indicators (GI) in Australia (AWBC 2006a). The GI system geographically divides

the grape and wine industries within Australia into 28 wine zones, 51 wine regions and nine sub-regions (Figure 2.4).

**Figure 2.4: Australia’s major geographical grape/wine regions**



Source: AWBC 2006a

The GI system can be likened to the Appellation naming system used in Europe (e.g. Bordeaux, Burgundy, Chablis) but has been designed to be less restrictive. By law, a regional name is used to describe wines that are produced using at least 85 per cent of grapes grown within that region (AWBC 2006a). The system recognises that wine regions have a “terroir” with different attributes arising from its climate, soil type and viticulture practices.

Therefore, the regional name denotes the unique quality and type of grapes or wine. This system is used to govern the winemaking process and the marketing of wine to both the domestic and overseas consumer markets.

Industry characteristics vary between the different climatic regions. Climate comprises many elements – temperature, rainfall, relative humidity, evaporation, wind, sunshine and frost (Iland and Gago 2002). Temperature is of foremost important as insufficient or excessive heat can have a dramatic effect on the growth of the vine and berry ripening. Within each climatic region, the various grape varieties will grow and ripen at different times. Grape varieties can be



grouped into early (eg. Chardonnay, Verdello and Pinot Noir), mid (eg. Chenin Blanc, Merlot and Shiraz) or late (Muscat, Grenache, Petit Verdot) ripening varieties.

Different berry temperatures during ripening produce different combinations of components in the berry at harvest including alcoholic strength, acidity, colour and tannins, and types of aroma and flavour (Iland and Gago 2002). These characteristics will determine the wine style.

Australia has both warm and cool climate wine regions. The warm climate regions of Australia are found in the Riverina and Murray Darling areas of New South Wales and Victoria, and the Riverland region of South Australia (PIRSA 2006). These regions rely extensively on irrigation to grow grapes. These warm climate regions grow about 65 per cent of Australia's wine grapes and generally have higher yields, lower operating costs and receive lower prices than the cool climate regions (RRATRC 2005). Cool climate grapes tend to be targeted to wines at higher price points. The lower yields per hectare in cool regions lead to a higher production cost per tonne.

**Table 2.6: Australia's 10 main grape producing regions 2004–05**

Regions	State	Warm climate (t)	Cool climate (t)	Total
Riverland	SA	465,417.0		
Murray Darling	Vic.	241,815.4		
Riverina	NSW	219,517.2		
Murray Darling	NSW	129,832.6		
Barossa Valley	SA		83,329.9	
McLaren Vale	SA		60,400.8	
Langhorne Creek	SA		55,045.7	
Swan Hill	Vic.	47,386.0		
Margaret River	WA		37,639.7	
Padthaway	SA		35,265.5	
<b>Top 5 regions</b>		<b>1,103,968.2</b>	<b>271,681.6</b>	<b>1,375,649.8</b>
<b>% of total prod.</b>		<b>60.7</b>	<b>15.0</b>	<b>75.7</b>
<b>Other regions</b>		36,103.2	406,678.3	24.3
<b>% of total prod.</b>		2.0	22.3	100.0
<b>Australia</b>				<b>1,818,426.3</b>

Source: AWBC 2006b

In 2005, 61 per cent of Australia's wine grapes were produced in the top five warm climate regions produced compared to 15 per cent in the top five cool climate regions (Table 2.6).

#### *Australian grape varieties*

In 2004–05, the production of red wine grapes (1,009,983 tonnes) exceeded white wine grape production (808,443 tonnes) (Table 2.7).

**Table 2.7: Top 5 red and white grape varieties produced in Australia - 2005**

<b>Red Varieties</b>	<b>Tonnes</b>	<b>% of Total</b>	<b>Yield</b>	<b>White Varieties</b>	<b>Tonnes</b>	<b>% of Total</b>	<b>Yield</b>
Shiraz	415,300	41.0	11.1	Chardonnay	378,253	46.8	14.8
Cabernet Sauvignon	283,876	28.0	10.2	Semillon	96,654	12.0	16.3
Merlot	132,517	13.0	12.8	Colombard	77,501	9.6	30.0
Pinot Noir	36,873	3.6	9.3	Muscat Gordo Blanco	48,412	6.0	23.4
Ruby Cabernet	33,559	3.3	20.3	Riesling	41,219	5.0	10.3
<b>Top 5 varieties</b>	<b>902,125</b>	<b>89.3</b>	<b>12.7</b>	<b>Sub Total</b>	<b>642,039</b>	<b>79.4</b>	<b>19.0</b>
All other red grapes	107,858	10.7		All other white grapes	166,404	20.6	
<b>Total</b>	<b>1,009,983</b>	<b>100.0</b>		<b>Total</b>	<b>808,443</b>	<b>100.0</b>	

Source: ABS 2005b

Red wine grape production was dominated by Shiraz (41%), Cabernet Sauvignon (28%) and Merlot (13%). The main white wine varieties are Chardonnay (47%) and Semillon (12%). White grape varieties tend to be higher yielding than the red varieties.

White wine grapes are currently in balance, both in aggregate and in terms of the cool/warm climate split (McGrath-Kerr 2005). In contrast, as a result of successive high yielding vintages, there is a significant surplus of red grapes, both at the national level and in terms of the climatic split. Wine Australia (2005a) suggests that with a few exceptions, the medium term (i.e. through to 2009) supply and demand will generally be in balance. Cabernet Sauvignon is the main exception with supply from both warm and cool regions expected to remain in excess of winery demand. Cool climate Merlot and Petit Verdot appear to be the other main “problem” varieties with excess availability (KPMG 2004).

Australian wineries source their grape requirements from their own vineyards, contracted growers and/or the open market (Scales et al. 1995). In 2005, an average of 79 per cent of grapes were purchased from independent grape growers, with the remainder sourced from the wineries’ own vineyards (AWBC 2005b) (Table 2.8). Winemakers tend to outsource non-premium grapes much more than they do premium grapes so there were significant regional variations in the percentage purchased (Scales et al. 1995). In the three main warm climate regions — Riverland, Murray Valley and the Riverina — wineries purchased 85 to 90 per cent of their grape requirements. The amount purchased from growers in the selected cool climate regions was generally lower, ranging from 80 per cent in the Barossa to 36 per cent in Padthaway.

**Table 2.8: Winery intake and grape prices in Australia's 10 top regions by crush**

Regions	State	Total crush %	Purchased %	Wgt'd avge A\$/t 2004	Wgt'd avge A\$/t 2005	CAPV* % change
Riverland*	SA	26.0	90	532	479	-10
Murray Valley*	Vic./ NSW	23.9	90	567	483	-15
Riverina*	NSW	13.5	85	490	452	-8
Barossa Valley	SA	4.6	80	1,222	1,086	-11
McLaren Vale	SA	3.5	71	1,367	1,256	-8
Langhorne Crk	SA	3.3	68	1,168	1,072	-8
Coonawarra	SA	2.0	41	1,097	982	-11
Padthaway	SA	1.8	36	1,070	1,041	-3
Margaret River	WA	1.6	52	n/a	1,438	n/a
Clare Valley	SA	1.6	55	1,373	1,258	-4
<b>Top 10 regions</b>		<b>81.8</b>				
Other regions		18.2				
<b>Australia</b>		<b>100.0</b>	<b>79</b>	<b>796</b>	<b>712</b>	<b>-11</b>

Source: AWBC 2005b

\*warm climate regions

\*CAPV: Calculated Average Purchase Value for total crush.

Average wine grape prices vary across regions. For example, in 2005 the average price paid for cool climate grapes in the Barossa Valley was A\$1,086 per tonne, in Margaret River it was A\$1,438 per tonne and in the Clare Valley, the average price was A\$1,258 per tonne (AWBC 2005b). Average prices were lower in the warm climate regions such as the Riverina (A\$452/tonne), Riverland (A\$479/tonne) and the Murray (A\$483/tonne). In 2005, grapes prices declined 11 per cent on average against prices in the previous year.

Perhaps the most enduring aspect of the current oversupply is that cooler climate fruit is structurally out of balance with demand (AWBC 2005a, Wine Australia 2005a). The consequences have been critical in price and profitability outcomes for many grape growers. Cool climate fruit accounted for around 37 per cent of grape production, but there is only a 15 to 20 per cent share of sales at the higher price points for which this fruit is normally destined (Wine Australia 2005a). In total, sales at the lower price points account for around 80 to 85 per cent of Australian wine sales.

As wine producers attempt to optimise quality, downward pressure is 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. During the same vintage, spot prices as low as A\$140 per tonne for premium grapes in the Riverland were reported, and A\$100 to

A\$200 in the Murray Valley (RRATRC 2005). It is not viable for growers to accept the spot prices being offered for these grapes, which are well below the cost of production (KPMG 2004). Resolution of cooler climate oversupply may occur through either lower costs of production or growth in the market for Australia's higher end offer (AWBC 2005a).

### 2.3.2. Australian wine production

Since 1994, wine production has increased in Australia from 587.4 million litres to 1,471.2 million litres in 2004 (Wittwer and Rothfield 2005).

Several factors were expected to reduce the crush in 2005, including the management of yields for red grapes, tired vines after the massive yield in the previous year and reports that around 40,000 tonnes had been left on the vine or dropped to the ground due to limited market prospects (AWBC 2005a, Wine Australia 2005a). However, favourable seasonal conditions contributed towards a record grape crush of 1.92 million tonnes, which yielded 1,420.3 million litres of wine (Table 2.9). Unfortified wine accounted for 98.6 per cent of the total beverage wine.

**Table 2.9: Beverage wine by state ('000 L) in 2004–05**

State	Unfortified	Fortified	Total
South Australia	679,538	9,711	689,249
New South Wales	455,218	7,269	462,487
Victoria	212,200	3,265	215,465
Western Australia	50,489	15	50,504
Tasmania	2,157	11	2,168
Queensland	472	4	476
<b>Total</b>	<b>1,400,047</b>	<b>20,275</b>	<b>1,420,348</b>

Source: Winetitles 2006

Red wine made up 760.7 million litres (54%) of the beverage wine produced in 2004–05. This was a six per cent decrease on the red wine produced in 2003–04 (Winetitles 2006). White wine accounted for 639.4 million litres, a rise of 12 per cent on the previous year.

In 2005, Australia is producing more wine than it can sell or comfortably store. Clearly, inventories have risen sharply over the last five years, due in part to growth in the industry (Jackson et al. 2006). Inventories are calculated as: (inventory at the end of Year 1) + (wine production in Year 2) – (total wine sales in the Year 2, i.e. export + domestic). In 2005, inventories rose by 11.3 per cent and reached a record of over 2 billion litres (Table 2.10).

**Table 2.10: Beverage wine held by winemakers 30th June**

Year	Inventory ('000 L)	Year	Inventory ('000 L)
1994	656,706	2000	1,191,791
1995	642,459	2001	1,376,884
1996	782,281	2002	1,570,536
1997	815,558	2003	1,581,843
1998	900,299	2004	1,854,506
1999	1,089,583	2005	2,063,200

Source: ABS 2005b and RRATRC 2005

(figures include only winemakers who crush more than 400 tonnes annually).

The stock-to-sales ratio is the main indicator of the balance between supply and demand used in the wine industry. The ratio of existing stock levels to sales is measured in years and measurements taken on the 30<sup>th</sup> June each year. As a rule, 1.5 to 1.7 years of white wine stock and 2.0 to 2.2 years for red wine are the level of inventories that wineries aim for (McGrath-Kerr 2005). In 2004–05, the overall ratio was 1.94, however, the ratio for red wine was 2.63 years which indicates that stocks are too high (PIRSA 2005) (Table 2.11).

**Table 2.11: Stock-to-sales ratio**

Year	Ratio	Year	Ratio
1994-95	1.50	2000-01	1.98
1995-96	1.78	2001-02	2.16
1996-97	1.67	2002-03	1.96
1997-98	1.69	2003-04	2.07
1998-99	1.93	2004-05	1.94
1999-00	1.82		

Source: PIRSA 2005

Storage capacity is limited and stock in hand has to be cleared for ensuing vintages. Stock write-downs, including to below the cost of production, are often necessary to provide required storage capacity (Jackson, et al. 2006). Potentially, this can lead to lower prices in domestic and export markets. Nevertheless, the demand prospects for Australian wine in volume terms remain strong (Wine Australia 2005a).

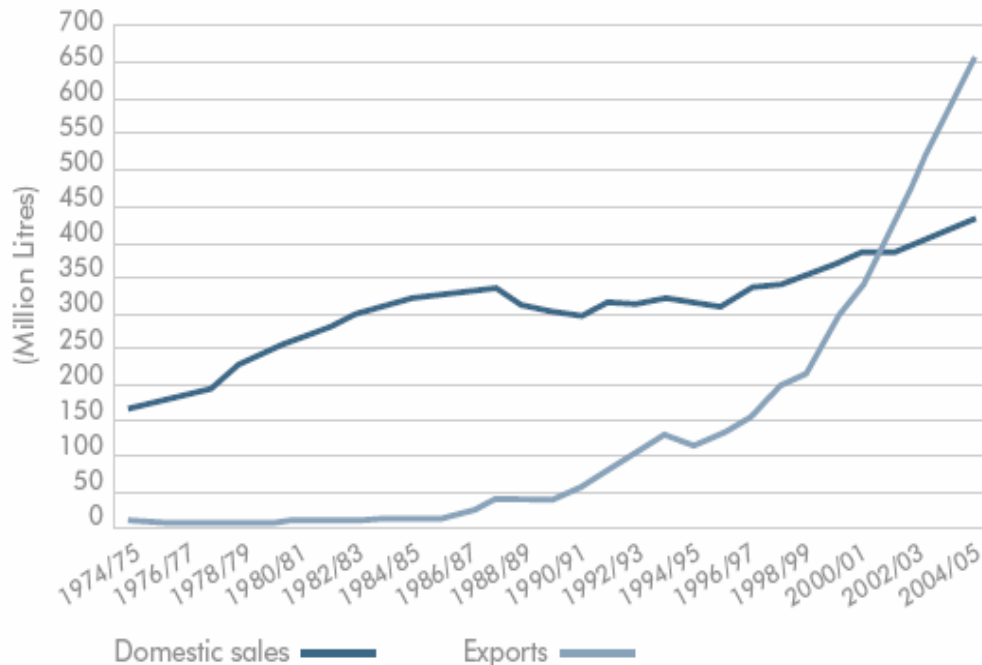
### 2.3.3. Australian wine sales

Strong growth in Australian exports has been evident since the mid 1980s and export sales have surpassed domestic sales and have been continuing to increase as a proportion (Figure 2.5).

In 2004–05, sales of Australian wine reached just over 1091 million litres, with a value of A\$5.1 billion (ABARE 2006). Exports accounted for 61 per cent of Australian wine sales with the remaining sales in the domestic market. With this level of international exposure, winemakers

are becoming increasingly vulnerable to fluctuations in exchange rates. The fluctuations affect international pricing and the industry's competitiveness, which in turn impacts on margins, brand investment (PIRSA 2005), and the prices winemakers can afford to pay for wine grapes.

**Figure 2.5: Australian wine sales over thirty years — domestic and export**



Source: AWBC 2005a

***Australian domestic wine market***

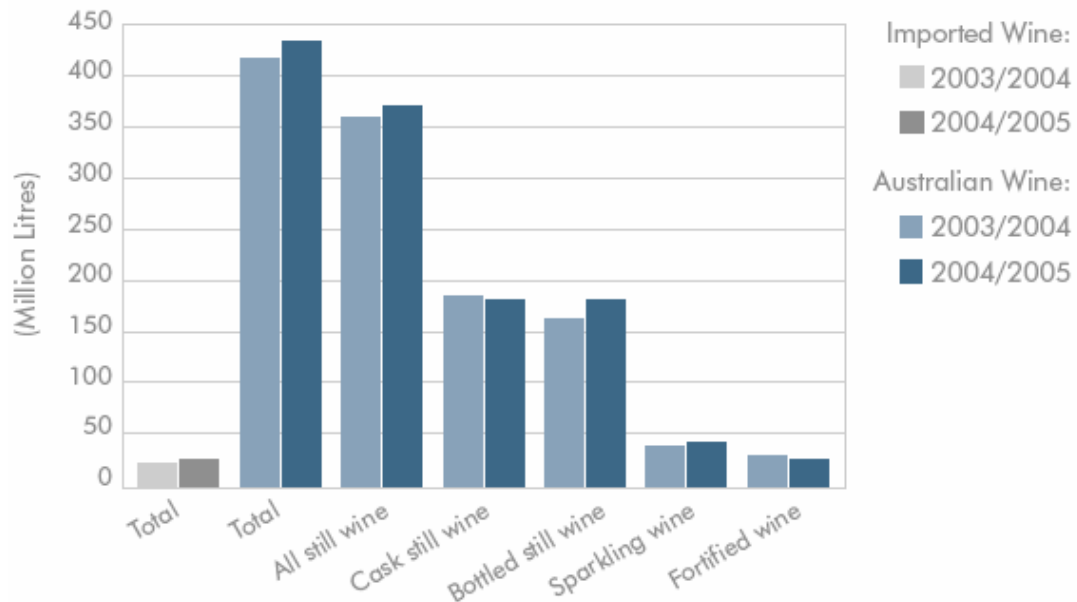
Australia is a highly developed and mature wine drinking nation which has lifted its wine consumption (by persons 15 years and over) from 18.6 litres in 1994 to 27.5 litres in 2003–04 (Wittwer and Rothfield 2005, Winetitles 2006). Lifestyle changes, eating out and entertaining informally, whilst retaining excellence and quality, has expanded the occasionality of favourably priced Australian wine (Wine Australia 2000).

Domestic sales of Australian wine have continued to grow at moderate levels (3%) over the past few years to achieve a record level of 430.1 million litres in 2005 (ABS 2005b, Winetitles 2006) (Figure 2.6). Wine imports into Australia represent 4.9 per cent of domestic wine sales and continue to fill a niche in the domestic market. Sales of imported wine were 22 million litres (up 19%) with the value exceeding A\$188 million (up 23.5%).

Still wine accounted for 84 per cent of sales of Australian wine (AWBC 2005a). Consumers preferred white still wine to red still wine, purchasing 209 million litres of white wine compared to 155 million litres of red. Sales of still wine consisted of approximately half cask (51%) and half bottled (49%). Consumers purchased nearly twice as much white cask wine (65%) over red cask wine. For the first time, sales of bottled red still wines (51%) marginally exceeded sales of bottled whites.

In 2004–05, sparkling wine sales were 38 million litres which represented an increase of 11 per cent of sales the previous year (McGrath-Kerr 2005). Following two years of growth, fortified wine sales declined six per cent to 20 million litres (Figure 2.6).

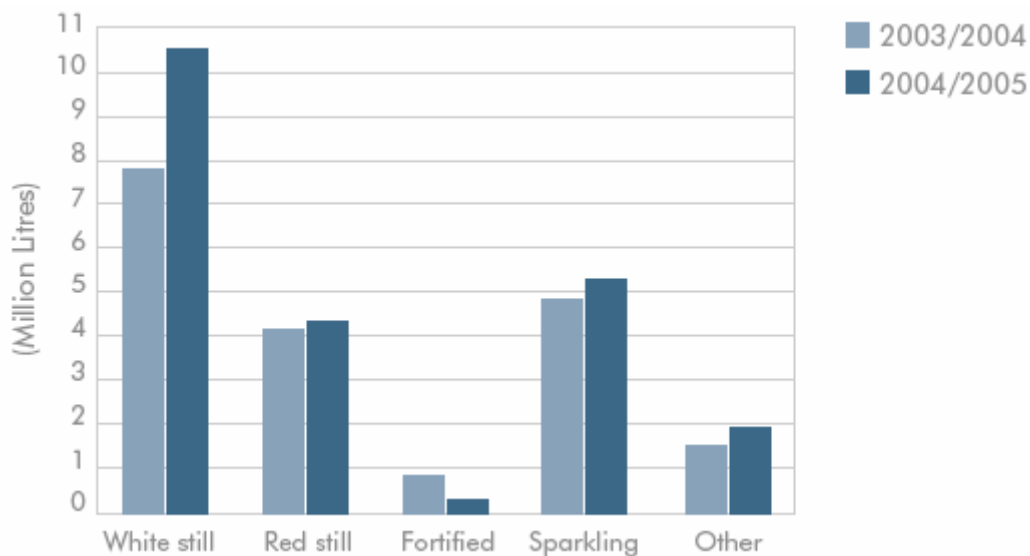
**Figure 2.6: Composition of Australian and imported wine sales in Australia**



Source: AWBC 2005a

The increase in imported wine sales was mainly driven by the demand for bottled white still wine which increased 65 per cent to 9.4 million litres (Figure 2.7). Imports of bottled red wine increased four per cent to 4.2 million litres. Collectively, sales of imported bottled still wine accounted for 62 per cent of wine imports.

**Figure 2.7: Composition of imported wine sales in Australia**



Source AWBC 2005a

In 2004–05, sales of sparkling wine imports increased 8 per cent to 5 million litres. Bulk fermented imports increased 86 per cent (to 974,000 litres), in contrast to a 66 per cent decline in the demand for imported fortified wines and brandy (to 253,000 litres) (AWBC 2005a).

Imported wine is mainly from New Zealand (42% by value), France (36% by value) and Italy (13% by value) (Winetitles 2006). France had the most highly valued wine at A\$19.18 per litre. Wine was also imported from Spain, Germany, the US, Portugal and Chile.

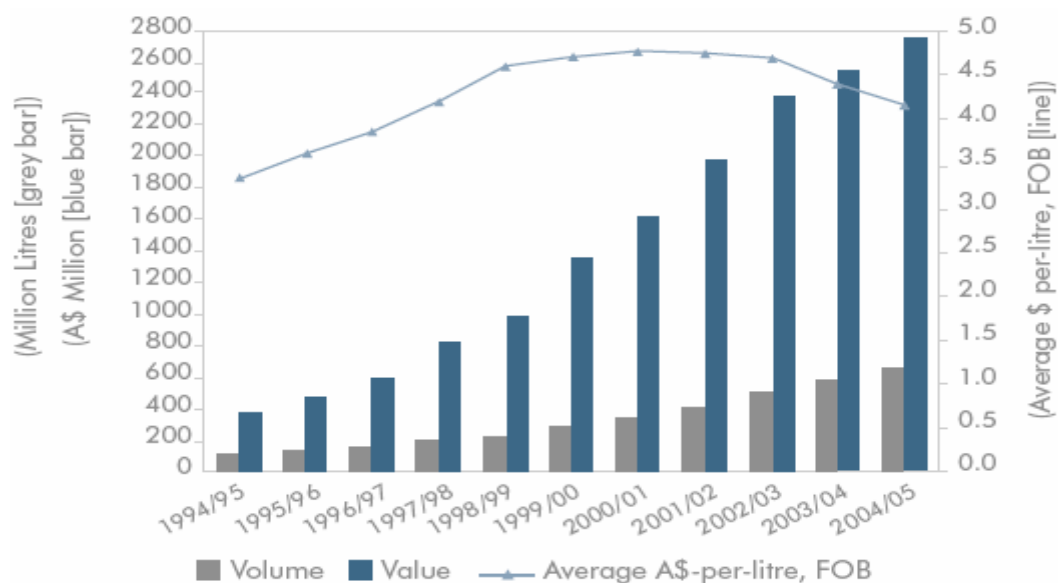
According to Jackson et al.(2006), competition in the domestic wine market intensified in 2004–05, due to the mounting inventory position in the industry. Increasing competition between wine producers has intensified the competition for shelf space in the two major grocery channels, Coles and Woolworths. At lower price points, there was a proliferation of unbranded and private label product.

### ***Australian export wine market***

The export market has driven the demand growth for Australian wine. Since 2002, exports have exceeded sales in the domestic market (Jackson et al. 2006). Industry marketing strategies have successfully built the profile and brand value attached to Australian wine and falling grape prices have increased cost competitiveness.

In 2004–05, new records were established for the volume and value of Australian wine exports. Wine exports achieved a record 661 million litres, a 14 per cent increase on the previous year (Figure 2.8).

**Figure 2.8: Moving Annual Total (MAT) export performance**



Source: AWBC 2005a

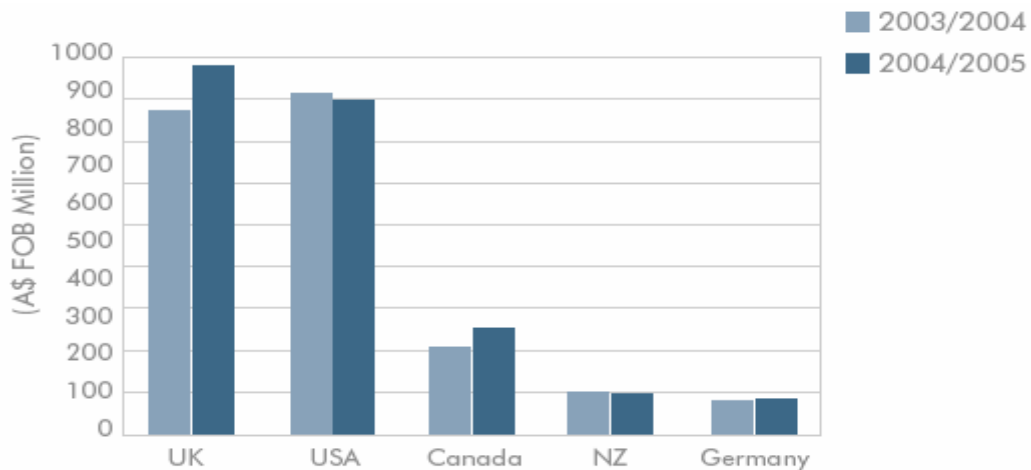
In 2004–05, the export value was A\$2.748 billion FOB, an increase of eight per cent on the previous year (ABS 2005b). However, the average price per litre declined for the fourth



successive year, by five per cent to A\$4.16 FOB (Winetitles 2006). Most of the decline in the per litre value was explained by the strengthening of the Australian dollar relative to the US dollar and the currencies of other competitors (PIRSA 2005).

Two thirds of Australia’s wine shipments went to the UK and the US (Figure 2.9). The UK was the largest overseas market taking 263.6 million litres of wine (valued at A\$960.8m).

**Figure 2.9: Major destinations for Australian wine**



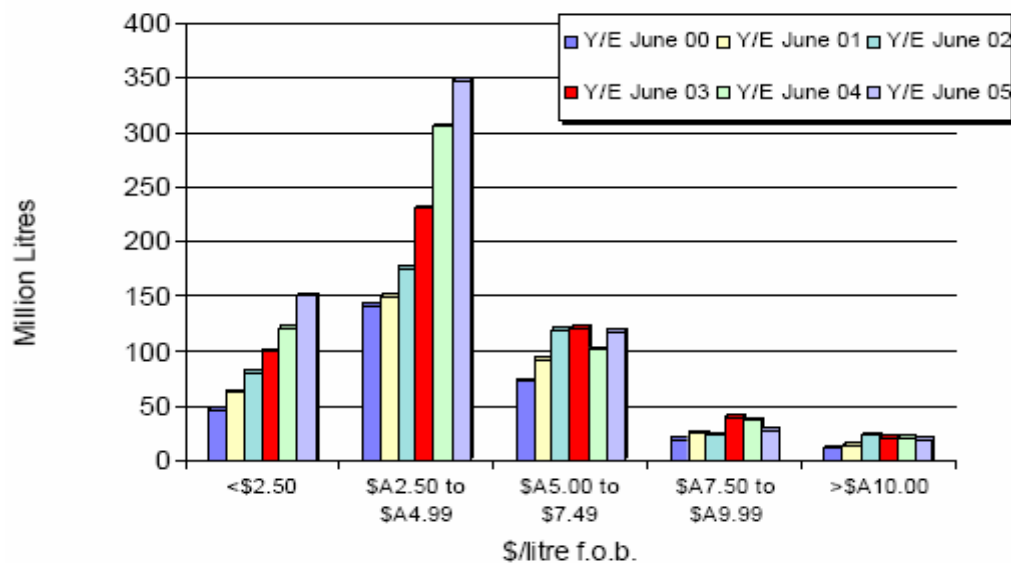
Source: AWBC 2005a

Nevertheless, the strongest growth in recent years has been observed in the US, which imported 188.7 million litres of wine (A\$866.7m), and Canada which imported 44.4 million litres of Australian wine (worth A\$239.0m) (ABS 2005b). Other markets in the top five export destinations were New Zealand (A\$94m) and Germany (A\$72m).

FOB export sales of bulk wine (less than A\$2.50/litre) and popular premium wine (A\$2.50 to A\$4.99/litre) have risen dramatically over the past five years. In 2004–05, three quarters of wine exports sold for less than A\$5/L (

Figure 2.10).

**Figure 2.10: Exports by price points**



Source: McGrath-Kerr 2005

As a rule of thumb, a A\$5.00 FOB would equate to around A\$10.00 retail (Strachan 2005). Conversely, sales in the middle price bracket (A\$5.00 to A\$7.49 per litre FOB) are currently at 2001 levels. Nevertheless, there was an encouraging turnaround following a year of decline, with 18 per cent growth in 2004–05 (AWBC 2005a).

Exports in the premium segments above A\$7.50/litre have declined. According to McGrath-Kerr (2005, p. 8) this “highlights the difficulty that high-cost grape production has to supply to those winemakers who service these markets”. Nevertheless, while growth in higher-priced wines has not matched that of lower price points, average export value has not fallen when viewed in US\$ terms (PIRSA 2005). Australian exporters are evidently maintaining market share in premium segments by meeting the current prices for their existing products in the various international markets.

#### ***Australian wine export policy***

International trade objectives have been designed to achieve better access to overseas markets, as well as a more transparent and fair, rules-based trading environment (Vaile 2004). Australia’s participation in the World Trade Organisation (WTO) negotiations has provided an opportunity to address high tariffs on imported wine in some countries of Asia and South America. Furthermore, Australia has been able to put pressure on the high levels of domestic support provided to EU winemakers and their access to export subsidies. According to Vaile (2004), the government has been working closely with international organisations including the International Office of Vine and Wine (OIV) and the World Wine Trade Group to improve access for Australian wine to international markets.

Bilateral and regional trade opportunities also exist for wine exporters. Australia has free trade agreements with the US and Thailand that provide for gradual tariff reductions on wine exports to these countries (USDA 2004).

Australia's competitiveness in global markets and returns to producers are heavily impacted by the exchange rate of the Australian dollar. The Australian dollar has appreciated markedly against the currencies of major trading partners over the past several years (USDA 2004). For example, the Australian dollar was valued at US\$0.69 in mid-May 2004, down from its peak of US\$0.80 in early 2004, but up 6 percent from the average of US\$0.65 in 2003 and about 36 percent higher than the average of US\$0.54 in 2002.

Australia could not have achieved its current market share and consumer franchise without some good marketing, especially since it is not the lowest cost producer nor does it receive subsidies from government (Van der Lee 2006). The marketing has been partly generic through Wine Australia, which is the export promotion arm of the Australian Wine and Brandy Corporation (Wine Australia 2000). The industry has built brand, regional and varietal images abroad to capitalise on the improvements in the quality of its grapes and wines (Anderson et al. 2000). Wine Australia promotion programs have been held in major export destinations including the UK, the US, Canada, Japan, Netherlands, Germany, Sweden, Denmark, Norway, Finland, Ireland and Asia. Programs include participation in trade fairs, consumer and trade tasting seminars, and sponsored visits of key journalists and trade personnel to Australia (AWBC 2006c). The strategy has been to grow Australian export sales, margins and brand franchise (Van der Lee 2004).

According to Van der Lee (2004), the greatest challenge to successful implementation of the industry export strategy is the market power of the consolidating distribution channels. To shift significant quantities of wine, a producer needs a listing in the grocery channel. As the producer needs the listing more than the supermarket needs the wine, the onus on getting sufficient throughput is placed with the producer. Wine is price-elastic and the way to shift the wine is to discount it (Goode 2006). Funding this promotional activity has reduced margins for producers. The consequence is that many consumers have become bargain hunters, buying whatever happens to be discounted at the time of purchase.

The over reliance on short-term price promotion will compromise or subvert the long-term marketing strategy designed for sustainable and profitable export growth (Van der Lee 2006). Present industry export strategy emphasises the need for a more diverse offering, based on stronger differentiation, across a wider range of channels. Australia has the opportunity to successfully penetrate the higher price points. However, different marketing strategies and tactics are necessary given the different benefit propositions and fragmented routes to market. For medium and small-sized wineries to successfully grow sales at higher price points will

require major reform in the decisions relating to the choice of specific markets, channel selection, wine offer, pricing, market promotion and the trading relationships with distributors and market intermediaries.

## 2.4. Consolidation in routes to market

In the past 20 years, wine retailing has undergone enormous change. The focus has shifted away from the traditional independents towards the grocery channel (KPMG 2003). The deregulation of liquor retailing which permitted wine sales through grocery channels has broadened the consumption base, particularly in non-traditional consuming markets such as the UK. The initial trigger for the growth in Australian wine exports was the change in licensing laws in the UK in the 1970s which allowed supermarkets to retail wine (Anderson 2001a). By the mid-1980s, supermarkets — dominated by Marks and Spencer, Waitrose, and Tesco — accounted for more than half of all retail wine sales in the UK. These structural changes have given the market power to a few large retailers and wholesalers in most major markets (PIRSA 2005).

Liquor laws are country-specific as shown by the variation in the various retail distribution channels in the five selected countries (Table 2.12). Supermarkets have the advantage of convenience, one-stop shopping and competitive pricing (KPMG 2003). In Australia, the major grocery chains — Coles and Woolworths — have grown their retailing operations through the acquisition of independent liquor chains, specialised fine wine stores and hotels (KMPG 2004).

**Table 2.12: Retail distribution by channel, selected markets**

Country	Supermarket/ Hypermarket	Other food	Specialists/ Liquor Stores	Drug store	Government controlled
Australia	ACT, NT & Vic only	NA	All states	NA	NA
Canada	NA	NA	Alberta & Quebec	NA	All provinces (excl. Alberta)
New Zealand	Countrywide	NA	Countrywide	NA	NA
UK	Countrywide	Countrywide	Countrywide	NA	NA
US	36 states	33 states	48 states	38 states	18 states

Source: KPMG 2003

In New Zealand, the deregulation of retail liquor laws has increased the grocers' share of the wine market to 60 per cent. The UK and US grocery channels also continue to grow market share both organically and through acquisition. Increasingly, wine specialist stores and other food outlets are losing market share to supermarkets and wine discounters (Table 2.13). To survive and prosper, the independent stores must offer a point of difference, whether it is a more varied product choice or better customer service. In other words, they must offer the consumer something the bigger chains cannot (Watson 2005).

**Table 2.13: Global retail volume sales of wine by distribution format, 1995–99**

Distribution format	% retail volume 1995	% retail volume 1999	% actual growth 1995–99
Supermarkets/Hypermarkets	36.0	39.8	21.2
Specialists	26.2	24.2	1.3
Other food outlets	16.2	14.7	-0.5
Discounters	8.6	10.4	32.6
Others	13.0	10.9	-8.1

Source: KPMG 2003

The changes in the retail and distribution channels present substantial challenges for wineries because the wine buyers have much more bargaining power than small liquor stores. The impact on those upstream in the wine supply chain is to force them to reassess their operations in view of the changing competitive environment. All wineries find themselves facing pricing pressure from the retail and distribution channels which are consolidating at a faster rate (PIRSA 2005). The natural consequence is for wine producers to get bigger to deal with the increasing retail power.

Internationally, wine production is very fragmented when compared to other consumer goods, particularly in the EU wine sector (PIRSA 2005). The EU has many small, privately-owned wineries that have been operated by families for years, even centuries. In contrast, the New World has a number of large, publicly-held corporations that are progressively performing a more extensive role in the marketplace (Table 2.14).

**Table 2.14: Top 10 wine companies by global sales in 2004**

Company name	Country	Net wine sales US\$m	Wine share (%) of total revenue	Mergers at the date of publication in 2005
Constellation Brands	USA	2,767	61.3	Acquired Robert Mondavi (Dec 2004)
E & J Gallo Winery	USA	2,687	87.2	
Fosters	Australia	1,245	43.6	Acquired Southcorp (June 2005)
Allied Domecq	UK	1,019	18.8	
Southcorp	Australia	840	88.7	
Pernod Ricard	France	756	13.7	Acquired Allied Domecq in partnership with Fortune Brands (July 2005)
Diageo	UK	592	6.6	
Robert Mondavi	USA	453	100.0	
Bacardi & Martini	UK	356	11.5	
Brown-Forman	USA	353	21.9	

Source: Wittwer and Rothfield 2005

For example, France has over 230,000 wineries, only one of which has a significant market share, while in Australia four firms account for 75 per cent of sales in the domestic market (PIRSA 2005). Through consolidation it becomes possible to achieve economies of scale in production and marketing. This is critical to the wineries who want to penetrate the large-scale grocery distribution networks (Anderson 2001a). The grocery channel is seeking to reduce transaction costs through dealing with fewer and larger wine suppliers. In addition, suppliers are usually expected to bear the cost of the infrastructure needed to sell wine to grocery networks (logistics, IT, warehouses, sales people, merchandisers and brand managers) (PIRSA 2005).

Often small and medium-sized wineries choose to merge or cluster to achieve the size necessary to amortise these functions efficiently. In turn, wineries use their size to gain efficiencies in the purchase of inputs, including grape prices.

Wine grape growers exceed wineries in number, with the former heavily dependent on the latter to process their highly perishable product. In the present position of global oversupply, the non-winemaking wine grape growers are vulnerable. The importance of producing consistent high quality wine and the fact that much of that quality is determined in the vineyard provides the impetus to improve working relationships between wineries and their contract grape growers (Anderson 2001a).

Wineries and growers have much to gain from jointly finding ways of managing the surplus. Market surplus will push down the spot price, unsettle markets for bulk and branded wine and threaten the viability of vineyards on which they both depend.

#### **2.4.1. Australian wineries**

According to Winetitles (2006), there were 2,008 companies in Australia that commercially sold wine in 2005 (Table 2.15), a 5.7 per cent increase from 2004. Most of the wine companies (91%) are located in Victoria, South Australia, New South Wales and Western Australia. Western Australia showed the greatest growth in 2005 with a 10.6 per cent increase from 282 companies in 2004 to 312 in 2005.

The majority of Australia's wine producers (70%) crush less than 100 tonnes. There is some variation within states; for example, 77 per cent of the wineries in Victoria crush less than 100 tonnes whereas only 56 per cent of the wineries in South Australia crush less than 100 tonnes (Winetitles 2006).

**Table 2.15: Number of wine producers by tonnes crushed, by state**

Tonnes crushed	Vic	SA	NSW/ ACT	WA	Qld	Tas	NT	Total	%
< 10	96	42	56	28	24	30	1	277	13.8
10–19	121	68	58	44	18	15		324	16.1
20–99	231	14	178	139	45	21		785	39.1
100–499	84	120	77	66	14	7		368	18.3
500–999	13	29	16	13	1	2		74	3.7
1,000–2,499	14	24	12	15	2	2		68	3.4
2,500–4,999	9	9	7	2	0	0		27	1.4
5,000–9,999	5	16	5	2	0	0		28	1.4
10,000 or more	9	18	13	1	0	0		41	2.1
Unknown	1	5	6	1	1	0		14	0.7
<b>Total</b>	<b>583</b>	<b>502</b>	<b>428</b>	<b>312</b>	<b>105</b>	<b>77</b>	<b>1</b>	<b>2,008</b>	<b>100.0</b>
<b>% of Total</b>	<b>29.0</b>	<b>25.0</b>	<b>21.3</b>	<b>15.5</b>	<b>5.2</b>	<b>4.0</b>	<b>0</b>	<b>100.0</b>	

Source: Winetitles 2006

Queensland shows the highest concentration of boutique wineries with 96 per cent of its wine companies crushing less than 500 tonnes, while Tasmania has 95 per cent. South Australia has the highest number of wineries that crush more than 1,000 tonnes, followed by Victoria then New South Wales.

The Hardy Wine Company (Hardys) has been owned by the US Constellation Brands since a A\$1.9 billion takeover in early 2003. Constellation is the largest alcoholic drinks company in the world (Evans 2006) and in 2004–05, the Hardy Wine Company was Australia’s largest wine producer by sales of branded wine (Table 2.16). Some of Hardys’ major brands within this portfolio include Hardys, Banrock Station, Leasingham, Houghton, Stonehaven and Barossa Valley Estate (Constellation 2006). In 2004–05, Southcorp Wines and Beringer Blass Wine Estates operated separately, but now operate as Foster’s Wine Estates (Winetitles 2006). Individually, Southcorp Wines was Australia’s second largest wine producer of branded wines and Beringer Blass Wines was placed sixth. Foster’s Wine Estates is the world’s leading premium wine company with brands including Beringer, Lindemans, Wolf Blass, Penfolds, Rosemount, Matua Valley, Wynns Coonawarra Estate and Castello di Gabbiano (Foster’s Group 2006).



**Table 2.16: Australia's largest wine producers by sales of branded wine**

2005	2004	2003	2002	2001	Wine company
1	1	2	2	2	Hardy Wine Company
2	2	1	1	1	Southcorp Wines (Fosters)
3	3	3	3	3	Orlando Wyndam Group
4	5	6	9	15	Casella Wines
5	6	4	4	4	Beringer Blass Wine Estates (Fosters)
6	4	5	7	nr	McGuigan Simeon Wines
7	7	7	5	6	De Bortoli Wines
8	8	9	8	5	McWilliams Wines
9	9	12	12	11	The Yalumba Wine Company
10	12	10	nr	nr	Evans & Tate
11	10	11	10	10	Angove's
12	11	13	14	13	Brown Brothers Milawa Vineyard
13	15	15	15	nr	Lion Nathan Wine Group
14	13	16	17	16	Kingston Estate Wines
15	14	18	18	18	Peter Lehmann Wines
16	17	19	22	nr	Beelgara Estate
17	16	14	13	17	Warburn Estate (Riverina Estate)
18	19	20	19	19	Wingara Wine Group
19	18	24	nr	nr	Grant Burge Wines
20	20	17	16	14	Tyrell's Vineyards

Source: Winetitles 2006

In Australia, the top four wine companies dominate the domestic industry with 75 per cent of wine sales (PIRSA 2005). The twenty largest companies hold 95 per cent of the market share.

#### **2.4.2. Australian wine grape growers**

In view of the consolidation in the wine producing and distribution sectors of the wine industry it would seem inevitable that growers must also consolidate or improve their efficiency and bargaining power in some way. Three areas are emerging for wine grape suppliers to consolidate:

- (i) Use of a collaborative body to strengthen the negotiating position of wine grape producers by selling fruit from a common pool (e.g. CCW Co-operative Limited). This cooperative is able to negotiate prices with Hardy Wine Company Limited each vintage to ensure the CCW members receive a commercially competitive price.
- (ii) Large scale investment vineyards with professional managers

- (iii) Replacement of individual ownership of capital equipment, technical expertise etc., with use of specialist viticulturalists and equipment owners to service vineyards

Source: PIRSA 2006

There are significant scale economies in wine grape production. For example, a Riverland vineyard producing premium grapes must be about 50 hectares to achieve an eight per cent return on investment at A\$650 per tonne (PIRSA 2005). If the price per tonne is A\$450, the minimum size increases to 150 hectares which clearly demonstrates the sensitivity of production costs to vineyard size. As the majority of vineyards in Australia are small in size, the pressure of rising input costs becomes an immediate concern. Average vineyard size ranges from 25 hectares in South Australia and New South Wales, to 16 hectares in Victoria and 13 hectares in other states (ABS 2005b cited in RRATRC 2005). Large vineyards are generally owned and operated by wineries or large corporate producers and range up to several hundred hectares in size.

Production costs for wine grapes vary considerably depending on a range of factors, including regional characteristics (soil and climate), vineyard size, the grape variety planted, viticultural technologies employed and the level of mechanisation (Scales et al. 1995).

## **2.5. Conclusion**

Since the late 1980s, New World wine producers have gained recognition as important players in the global marketplace. Conversely, the traditional wine producing regions of Europe, restricted by EU regulation, have had trouble adapting to a different market environment. Consequently, there has been considerable change in terms of production shares, consumption shares and trade patterns by region. Australia has emerged as a leading New World wine exporter with strong prospects for continued growth in present and emerging markets as incomes grow, agricultural trade barriers are reduced, and international transportation and communication costs fall.

A global oversupply of wine, international and domestic retail consolidation, and decreasing returns for wineries and grape growers are the key challenges currently facing the Australian wine industry. The wine surplus has had serious implications for the profitability of wine business in Australia as it erodes pricing power. Declining returns in the Australian wine industry now threaten the financial viability of many wine and grape producers. As the underlying structural causes of the domestic oversupply of grapes have been addressed with a reduction in planting, popular industry consensus suggests that returns will improve in the medium term.

Retail-driven consolidation in the supply chain has increased in order to capture the scale economies required for survival and competitiveness. The Australia wine industry is well

positioned to meet the challenges of consolidation because it has several global wine companies with established brands. Winery consolidation is expected to continue as wholesalers and retailers consolidate even faster. These changes are reshaping production and marketing opportunities and redefining the business competencies necessary for continued success. While small and medium-sized wineries may be disadvantaged by the consolidation of the larger wine companies, they can benefit from opportunities that arise in small, specialist markets.

Collaborative efforts between wineries and their grape suppliers are necessary to achieve efficient production of grapes and wine styles to meet market demands (Hobley and Batt 2005). With the consolidation that is occurring in Australia's largest wine companies, and industry difficulties due to grape and wine over-supply, many in the industry consider that the previous high level of collaboration has deteriorated in recent times. Nevertheless, the assimilation of vineyard and winemaking practices is critical to wine sector success. Wineries and their grape suppliers can address these issues together with a value-driven relational marketing approach to profitably grow the demand for Australian wine.

## **3. Industrial purchasing and marketing**

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### **3.1. Chapter outline**

Chapter Three draws on the industrial purchasing and marketing literature to gain a better understanding of the factors that influence the purchasing and marketing of wine grapes in Australia. Even though buying and selling in business-to-business markets often entails different tasks, there is a need for both parties to manage their relationships with preferred trading partners. Understanding each side's perspective provides the mutual understanding needed for successful long-term management.

This chapter describes the fundamental nature of industrial markets, industrial purchasing and marketing, together with a discussion of significant models of organisational buying behaviour. Following this, sections describe the IMP Interaction and Network approach and the management of customer-supplier relationships on which this study is based.

### **3.2. Industrial markets**

In the industrial purchasing and marketing literature, the term “market” is used as a noun to describe the traditional market structure as: (i) a place where goods and services are bought and sold (Arndt 1979); or, (ii) to describe the supply and demand for a single type of commodity, (e.g. wine grapes) (Levitt 1983, Moriarty 1983, Weiner 1983, Bonoma and Shapiro 1984, Haas 1992, Anderson and Narus 2004). Alternatively, the market describes: (iii) a large group of buyers and sellers of many classes of goods, (e.g. the capital market) (Lysons and Gillingham 2003); or (iv) the general economic conditions relating to the supply of goods and services at a particular time, especially in terms of the distinction between a buyers' and a sellers' market (Lysons and Gillingham 2003).

Alternatively, the term “market”, when used as a verb, describes an active process (Robinson, Faris and Wind 1967, Webster and Wind 1972 and Sheth 1973). “Markets have evolved as socioeconomic processes and means intended to satisfy the needs of people and organisations through trading or exchange transactions” (Barnhill and Lawson 1980, p. 50). Markets are “an active process involving the exchange transactions of buyer and sellers and the actions of other bodies that facilitate such transactions, (e.g. stock exchanges, promoters, agents, shippers, etc)” (Barnhill and Lawson 1980, p. 51).

Markets have a widespread global presence and function to varying degrees of optimality in all political systems. Generally, these markets are: (i) purposive (ii) allocative (iii) active (iv) operative activities or functions (v) dynamic and, (vi) have flows and processes (Barnhill and Lawson 1980).

### **3.2.1. Key characteristics of industrial markets**

Although a common body of knowledge spans all purchasing and marketing functions, important differences exist between industrial and consumer markets in the nature of the market, the demand patterns, buyer behaviour and the buyer-seller relationship (Hutt and Speh 1998). In industrial markets, firms, institutions or governments purchase goods and services for use in the goods and services that they in turn produce for resale or consumption by other industrial customers (Corey 1991). In contrast, consumers purchase goods and services for their own personal consumption and do not supply to other customers. Thus the distinction between industrial and consumer markets can be drawn primarily in terms of intended customers and the intended purpose or use of the purchase. According to Dwyer and Tanner (2006), industrial purchases account for more than half of the economic activity in industrialised countries such as the US, Canada and France.

The demand for industrial products is derived from the ultimate consumer demand (Hutt and Speh 1998). Environmental forces in the competitive, economic, political and legal environment potentially influence the demand. Therefore, demand patterns need to be monitored for changing preferences in consumer markets, often on a global basis. Market-driven firms are distinguished by the ability to sense events and trends in their markets ahead of competitors (Anderson and Narus 2004). Firms that adopt a market orientation, with a focus on the markets they serve, will generally demonstrate superior skills in understanding and satisfying the requirements of their customers to create superior value (Narver and Slater 1990, Helfert, Ritter and Walter 2001, Sharma, Krishnan and Grewal 2001).

Industrial buyers will tend to focus on the functionality and performance of the market offering, whereas consumers will predominantly focus on the aesthetics and/or taste of the product (Anderson and Narus 2004). Industrial customers consider the functionality and performance of the 'market offer' in value terms which are the economic, technical, service and social benefits received in exchange for the price paid (Anderson, Jain and Chintagunta 1993). These are net benefits, as any costs incurred in obtaining the desired benefits, except for purchase price, are also included. Similarly, Ford, Gadde, Håkansson, Lundgren, Snehota, Turnbull and Wilson (2002, p. 13) define a supplier's offering as "...a package consisting of different proportions of the elements of physical product, service, advice, adaptation and logistics and the costs that it involves".

The customer will also evaluate the suppliers themselves as well as their offerings, so even if the functionality of a product is similar to other suppliers, each may offer a different level of service or a range of other desired benefits. Therefore, a supplier must understand exactly what their customer requires in order to create and deliver a market offer which provides superior customer value (Anderson and Narus 2004).

When goods and services are exchanged in industrial markets, the volume of goods traded and the amounts of money involved in transactions between buyers and sellers is far greater than in consumer markets (Corey 1991).

Industrial purchase decisions are often undertaken by a group of people. The decision making process can be a multiphase, multidepartmental and multiobjective process (Johnston and Lewin 1994). With often a large number of people involved, each of whom may have different needs and objectives, the decision to purchase is often much more complex and may extend over a longer period of time than those decisions made by consumers (Moriarty 1983, Ford et al. 2002).

Frequently, industrial customers purchase sufficiently large quantities as to warrant considerable attention from their suppliers (Anderson and Narus 2004). The buyer-seller relationship often involves direct and ongoing contact, unlike those in consumer markets (Moller and Wilson 1995). Similarly, suppliers can be individually important to a customer (Ford et al. 2002). In both situations, closer, continuing, more cooperative and interdependent relationships are seen to be of greater value than purely transactional relationships when there is potential for the customer and supplier to combine collaborative effort to achieve better business outcomes (Wilson 1995, Ryssel et al. 2000, Werani 2001, Ford et al. 2003, Thomas and Wilson 2003, Anderson and Narus 2004). For this reason, industrial markets cannot be regarded as a simple extension of consumer markets with each purchase viewed as a discrete transaction (McLoughlin and Horan 2002).

Further grounds for differentiation of industrial markets pertain to the paradigmatic changes in the last decade as a result of greater integration among the world's economies. Trade liberalisation, technology (particularly information technology) and people have been among the principle drivers in the globalisation of markets (Dunne 2001, Lysons and Gillingham 2003). In today's dynamic and increasingly competitive markets, consumers hold real power and are demanding higher levels of service, product satisfaction and safety. To ensure prosperity in consumer-driven global markets, firms need to be inherently flexible and more innovative than ever before.

Market changes have led to changes in industrial purchasing and marketing philosophies, processes and procedures. Traditional markets are rapidly being replaced by networks of cooperating companies competing against other firms along the entire supply chain (Spekman, Kamauff and Myhr 1998). The need for closer collaboration between customers and their suppliers is transforming business-to-business relationships into more transparent and long-term alliances. A more efficient and effective supply chain provides confidence to retail firms that are increasingly operating on a global scale, with the need to satisfy a discerning and informed end-market.

### **3.3. Purchasing and marketing in industrial markets**

There is growing recognition that industrial purchasing and marketing can no longer be regarded as discrete functions, but as activities within an integrated supply chain. A supply chain model directed at achieving value and satisfaction for the end consumer can deliver improved returns to all participants (Dumond 1994).

A supply chain is that network of organisations that are involved, through upstream and downstream linkages, in the different processes and activities that produce value in the products and services in the hands of the ultimate customer.

(Christopher 1999)

The network of firms comprises a series of suppliers and customers; every customer becomes in turn a supplier to the next downstream activity or function until the finished product reaches the consumer.

To achieve supply chain efficiency, there must be a focus on transport, logistics and inventory management (Lysons and Gillingham 2003). However, efficiency in product management and delivery is not enough. Supply chains require connectivity, integration, visibility and responsiveness. These qualities need a high level of communication that can only occur if the chain practices, processes and transactions occur in a way that is transparent to all chain partners. The information exchange supporting such transparency must be timely, accurate and meaningful, especially with regard to forecasts (Cannon 2002).

Cannon (2002) explains that supply chain management should not be about minimising the effectiveness and profitability of individual firms, but optimising the whole chain to achieve better service at lower cost. Some examples of ways in which this can be achieved are reductions in handling or excess inventory, a reduction in lead times and better coordination between all component links in the chain.

A strategic relationship perspective to industrial purchasing and marketing considers the “value chain” and “supply chain networks”. In Porter’s (1985) exposition on value chains, the purchasing function is viewed as a support activity which contributes to the competitive advantage of a business by adding value, mainly through cost leadership and differentiation. However, the principal focus in Porter’s model is the profitability of participant firms in a downstream push system linking firms from raw materials to consumers. In contrast, Hines (1993) presents a consumer-orientated model, with an upstream, pull system from consumer to raw material source in which teams work collaboratively on marketing, materials, engineering, quality, research and development and design.

Lamming, Zheng and Johnsen (2001) describe “supply chain networks” as a set of supply chains which collectively depict the flow of goods and services from their original source to the end users. In this approach, managers have to look upstream and downstream at their supply

chain and at the supply network as a whole. Thus, it is not sufficient to establish strong relationships with each one of the firm's customers and suppliers. It is beneficial to know and position these relationships within the web of relationships among those customers, suppliers and even competitors (Krackhardt 1996).

The functioning of these networks depends on the capabilities of the firms as well as the working relationships between them (Ritter, Wilkinson and Johnston 2004). Synergy results from the cooperation of network partners (Lysons and Gillingham 2003). Adaptive supply chain networks can leverage technology to rapidly extract relevant information across the network and build in robust planning and execution capabilities to adequately respond to variability. Further, they are able to do so without a significant compromise on operational and financial efficiencies.

### **3.3.1. Industrial purchasing**

The literature covers industrial purchasing from several perspectives which include those of function (Barnhill and Lawson 1980, Håkansson and Turnbull 1982, Anderson, Håkansson and Johanson 1994, Leenders and Fearne 1997, Trent and Monczka 1998, Duffy 1999, Ryssel et al. 2000, van Weele 2000), as a process (Robinson et al. 1967, Ozanne and Churchill 1971, Webster and Wind 1972, Kelly 1974, Bradley 1977, Barnhill and Lawson 1980), and as a supply or value chain (Porter 1985, Hines 1993, Hines, Lamming, Jones, Cousins and Rich 2000, van Weele 1994,).

The role of purchasing as a *function* is to procure supplies (Lysons and Gillingham 2003). Leenders and Fearne (1997) and Duffy (1999) describe the goals of the purchasing function to be: (i) an uninterrupted flow of materials, supplies and services; (ii) the management of inventory with minimal investment; (iii) quality improvement through careful supplier evaluation and choice of products; (iv) the development and management of supplier relationships; (v) achieving products and services at lowest total cost; (vi) reducing administrative costs; and, (vii) advancing the firm's competitive position by capitalising on the capabilities of suppliers.

In terms of the purchasing process, the considerable situational diversity that exists in purchasing such as strategic importance, amount of spend, contribution to profitability, supplier relationships and the responsibilities and recognition given to those employed in purchasing means any definition is open to criticism. Lysons and Gillingham (2003, p. 8) offer a composite definition:

“...purchasing is the process undertaken by the organisational unit which, either as a function or as part of an integrated supply chain, is responsible both for procuring supplies of the right quality, quantity, time and price and the management of the suppliers, thereby contributing to the competitive advantages of the enterprise and the achievement of corporate strategy”.



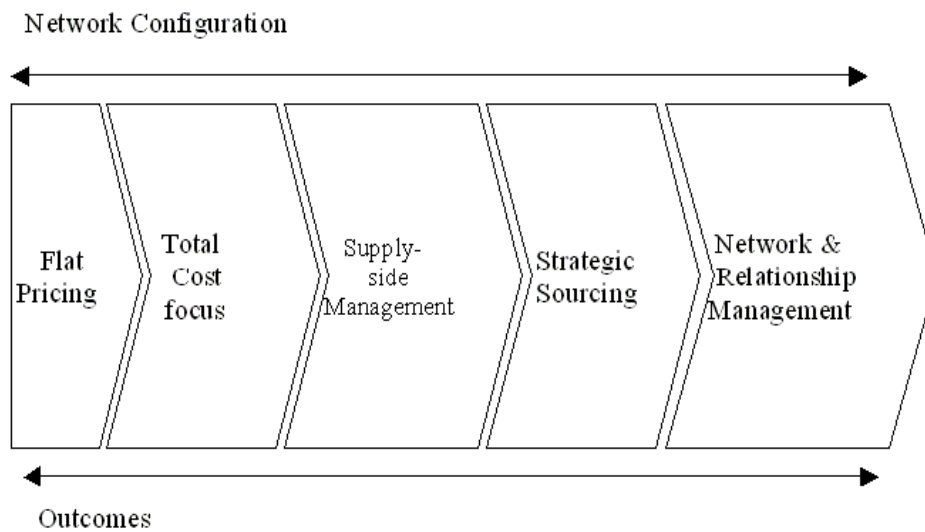
In the purchasing firm, the 'organisational unit' may be a department, team, cost or profit centre responsible for all procurement and supplier management activities. The purchasing function may exist as a discrete unit or comprise formerly discrete units such as purchasing, production and sales. The purchasing function has the responsibility for purchasing activities which includes sourcing, negotiation and evaluating supplier performance. The firm's purchasing power and well-developed supplier relationships potentially offer a means to achieve a competitive advantage over competitors.

The 'right' quality, quantity, time and price are situational as every firm will define these terms differently and the meaning will change with the overall purchasing context and environment (Crow and Lindquist 1982, Hartmann, Ritter and Gemueden 2001). To focus solely on the basic objective of the purchasing function (to buy the right item at the right time at the right price and quality) will increase competition among suppliers which tends to increase the cost of production for the supplier (Carr and Pearson 1999). Such a short-term purchasing orientation is not consistent with the long-term corporate planning process (Watts, Kim and Hahn 1992). Each of these four specified variables — quality, quantity, time and price — must be aligned to the firm's strategic goals and objectives from which the functional goals are derived. However, in practice, not all aspects of this definition are reconcilable, as it may be possible to obtain the right quality, but not at the right price (Lysons and Gillingham 2003).

Hines et al. (2000) have presented a transitional model describing the sequential development in purchasing in five distinct phases: (i) flat pricing (purchasing is a tactical operation, the main focus is low prices, adversarial relations and transaction-focused); (ii) total cost focus (low prices but also lifetime costs of the product, low involvement with multiple suppliers); (iii) supply-side management (closer relationships, fewer suppliers, interest in supply service package, access to supplier expertise); (iv) strategic sourcing (working jointly with one or a few suppliers to increase value in the whole value chain, strategic supply management, purchasing integrated with other business processes); and, (v) network and relationship management (focus is on supply, demand and mutual development with a network of key single suppliers, total commitment, mutual network development and total understanding) (Figure 3.1).

Relational involvement will normally increase with the strategic importance of the purchase and the financial or commercial complexity (Davis and Spekman 2004). Relational behaviour can range from cooperation, to coordination, to collaboration. Where there is a strong focus on price and low involvement, suppliers tend to be compliant and commitment is achieved through a reduction in the number of suppliers that operate under long-term contracts. While cooperative relationships with compliant suppliers can achieve high levels of efficiency, they might not be as competitive, relative to other relationships where commitment has been fostered through integration, joint planning and technology sharing.

**Figure 3.1: Development of purchasing: the transition model**



Source: Hines *et al.* (2000, p. 195)

Firms will aim to achieve competitive advantage through a value adding combination of supply relationships (Killen and Kamauff 1995). This requires different managerial action from each level of management to form different relationships with suppliers, depending on the purchase situation (e.g. product, market, supplier and relationship characteristics) (Carr and Pearson 1999, Hartmann *et al.* 2001, Lysons and Gillingham 2003). Evidence from industry research (data collected annually from leading firms worldwide) supports the increase in strategic attention to the net benefits that can be gained from purchasing and supply management (Trent and Monczka 1998), whilst acknowledging that closer working relationships with key suppliers also incur associated costs and require high resource intensity (Hartmann *et al.* 2001) and commitment (Davis and Spekman 2004). Therefore, not all supplier relationships can be or should be strategic partnerships that need to establish long-term relationships (e.g. Gadde and Snehota 2000, Wagner and Johnson 2004): conducting business transactions as a single exchange is quite appropriate in some situations (Webster 1992).

### **3.3.2. Industrial marketing**

Industrial marketing refers to all the measures a supplier takes to improve its exchange with its customers (Håkansson 1980). It involves a process of defining, developing and delivering value to customers (Hutt and Speh 1998) — at a profit (Morris, Pitt and Honeycutt 2001). In competitive markets, a supplier must understand and clarify what constitutes value to the customer, then create a differential advantage to become a preferred supplier (Doyle 2000). Successful marketing strategies will aim to identify opportunities where the firm can deliver superior value to customers based on its distinctive competencies and problem-solving abilities. Superior value can be achieved through offering customers greater benefits, lower costs or some combination of the two. Customers are more inclined to develop strong, ongoing relationships

with preferred suppliers who add significant value to the market offer (Kothandaraman and Wilson 2001).

“Marketing is the way that a company brings the benefits of its own and other companies’ technologies to its customers and integrates them with their own”

(Ford et al. 2003)

Lambert and Cooper (2000 p. 72), point out that a trading relationship will only be successful if it makes economic sense for each firm. From a supplier’s perspective, choosing the right customers is important because some customers do not offer the potential to create value, either because the costs of trading with them exceed the benefits they generate, or because the firm does not have the appropriate skills to serve them effectively (Doyle 2000). The supplier will seek to satisfy specific objectives through the customer (e.g. maximise net benefits), just as the customer will seek to satisfy specific objectives through its suppliers. Aspects of the exchange between the two will involve products, services, money, knowledge, information and social interaction (Table 3.1) (Morris et al. 2001).

**Table 3.1: Industrial relationship marketing – two sides of the dyad**

Supplier	Differences	Customer
Objectives: sell products/services, stabilise demand, growth, etc.		Objectives: control costs, maintain quality, growth, etc.
Products/ services		Needs and requirements
Prices		Willingness and ability to buy
Marketing programs		Perceived alternative sources of supply
<b>Shared similarities</b>		
Expectations of trading partner		
Exchange experience		
Resources		
Expertise		
Employee motivations		
Other partners		
Operating constraints		
Competitive pressures		

Source: Morris et al. 2001

Relationship marketing represents a move towards greater cooperation between customers and suppliers to meet the changing requirements for competitive success (Morgan and Hunt 1994). The relationship marketing process involves four stages: (1) selecting customer accounts (should consider profit potential); (2) developing account-specific offerings (with appropriate relationship strategies — high involvement or low involvement); (3) implementing relationship strategies; and (4) evaluating relationship strategy outcomes (for performance and changes in

customer needs) (Hutt and Speh 1998). The tasks involved in the relationship marketing process include the problem of allocating resources to different relationships and managing interactions within each relationship (Håkansson, Johanson and Wootz. 1976, Ford 1980).

Morris, Brunyee and Page (1998, p. 361) define relationship marketing as “a strategic orientation adopted by both buyer and seller organisations which represents a commitment to long-term mutual beneficial collaboration”. The involvement of top management in marketing strategies is acknowledgement of the importance of this particular function. The development of effective marketing strategy entails continuing contact among senior executives to define broad goals or discuss changes in each firm. Supply firms can achieve valuable insights into the likely pattern a relationship will follow by consideration of the estimated time horizon of the customer’s commitment, switching costs, the level of perceived risk, and the importance of the purchase (Hutt and Speh 1998).

As the purchasing firm will aim to develop an external supply structure that is complementary to its own resources, the supplier firm must not treat its market in an overall way, but adapt and tailor the market offering to the requirements of the customer. A supplier can solve its problems by providing solutions to the problems of its customers (Ford et al. 2003).

### **3.3.3. Models of organisational buying behaviour**

Traditionally, in an effort to increase knowledge and offer guidance to purchasing and marketing managers, researchers have developed models of organisational buying behaviour which focus on discrete buying situations (Campbell 1985). Marketers need a thorough understanding of their customer firms in terms of who buys, why they buy, when they buy, where they buy and how they buy in order to build effective marketing programs. Three widely recognised models of organisational purchasing behaviour are the Buygrid Model by Robinson et al. (1967), the Webster and Wind Organisational Buying Behaviour Model (1972), and the Sheth Industrial Behaviour Model (1973).

#### ***Robinson et al. (1967) Buygrid model***

In 1967, Robinson et al. combined their Buyclass and Buyphase models into a single two dimensional Buygrid framework. The model’s simplicity as an analytical tool has been the key to its widespread popularity.

The three Buyclass situations are straight rebuy, modified rebuy, and new task, which are differentiated on three dimensions (newness of the problem, information requirements, and consideration of new alternatives). Of the three buying situations, the new task involves the greatest degree of perceived risk and the most complex decision process. New tasks require more information search and deliberation about choice alternatives than the ‘modified rebuys’, and less again for straight rebuys which are a simpler, relatively low risk purchasing situation.

Specifically, the “Buyclass” descriptive model recognises the considerable variation that exists between the three different buying situations (Moriarty 1983). Nevertheless, while Robinson et al. (1967) argue that the buying situation determines buyer behaviour regardless of the product type, there is much support for the view that the type of product being purchased, particularly its importance or complexity, is also very influential to buying behaviour (Cardozo 1980, Lehmann and O’Shaughnessy 1982, Anderson, Chu and Weitz 1987).

“Buyphase” outlines an eight stage process in a firm’s buying decisions. These stages are: (i) problem recognition and general solution; (ii) definition of the product; (iii) development of detailed specifications; (iv) search for qualified suppliers; (v) acquisition and analysis of proposals; (vi) evaluation of proposals and selection of supplier(s); (vii) selection of an order routine; and (viii) evaluation of supplier/product performance. However, the buying process will depend on the buying situation. For example, while buyers in a new task situation may choose to undertake all stages of the buying process, buyers in modified rebuy and straight rebuy situations may place greater emphasis on the later stages in evaluating suppliers and product performance.

Modelling the buyphase process has been problematic, as evident from the continual conceptual reformulations which range from four (Bradley 1977) to twelve stages (Wind 1978). Lehmann and O’Shaughnessy’s (1974) model has one extra product dimension to Buyclass (routine orders of frequently used products, procedural problem products, performance problem products and political problem products) on the basis of problems likely to be encountered if the product was purchased. This model implies that the “marketing strategy for industrial products should be adapted to variations in buyer perceptions of problems in selection, introduction and performance” (Lehmann and O’Shaughnessy 1974, p. 42).

Bunn (1993) classified products into casual purchases, routine low priority, simple modified rebuy, judgemental new task, complex modified rebuy and strategic new task. A combination of underlying buying activities distinguishes the categories: search for information, use of analysis techniques, focus on proactive issues, and reliance on control mechanisms. The framework is useful to purchasing and marketing managers at both the strategic level (for market segmentation and coping with shifts in the market) and tactical level (understanding the buying situation and tailoring a sales response).

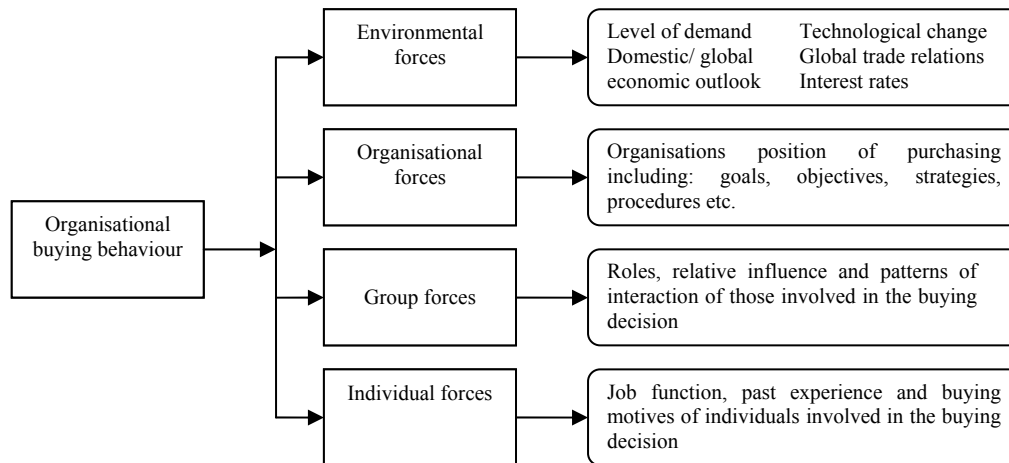
Research findings suggest that the buying process is complex and different across products, industries and buying situations (Kelly 1974, Bradley 1977, Wind 1978).

#### ***Webster and Wind (1972) Organisational buying behaviour model***

In 1972, Webster and Wind developed an integrated, multidimensional and highly conceptual model to describe aspects of industrial buyer decision making. The model encompasses environmental (physical, economics, legal, technological, political and cultural), organisational

(physical, technological, economic and cultural), interpersonal (the buying centre) and individual buying determinants (cognitive structure, learning, motivation, perceived roles and preference structures), where all these determinants affect individual and group decision making and the final buying decision (Figure 3.2).

**Figure 3.2: Forces influencing organisational buying behaviour**



(Lysons and Gillingham 2003)

Within each of these four situational factors are task variables (e.g. price, company goals and objectives) and non-task variables (personal values and off-the-job interactions between staff) (Webster and Wind 1972). The model implies that these four groups of variables influence the composition of the buying centre and its buying process (Wind and Thomas 1980).

Webster and Wind (1972, p. 35) define the buying centre as “those individuals who interact for the specific purpose of accomplishing the buying task”. They argue that each buying centre is unique due to the different combinations of firm and group characteristics. Members interact on the basis of their particular roles in the buying process — as influencers, users, deciders, buyers and gatekeepers — as well as from their purchasing experience. Each role may be performed by more than one individual and an individual may not be limited to more than one role. The interaction between members of the buying centre will influence the buying process and the final decision.

The model incorporates a large array of individual-specific factors of importance in industrial purchasing. Each participant in the buying centre brings to it a set of needs, goals, habits, past experiences, information and attitudes which they apply in each specific situation. Webster and Wind (1972) explain that while an individual’s behaviour is motivated by their own needs and search for satisfaction, there is also a collective need for members to strive for the accomplishment of the goals of their group and the firm. Based on examination of 21 different

industries, Spekman and Stern (1979) found buying centres average between three and eight members.

The model is purely descriptive. The major weakness is that the model is far too generalised, comprehensive and complex to allow empirical testing (Wind and Thomas 1980). Complexity arises from the interrelationships between the four groups of variables and the lack of uniformity in these factors between firms (Moriarty 1983).

From a marketing perspective, it is important for suppliers to know the composition of the customer's buying centre and to concentrate their efforts on those members of the buying centre who matter the most in the purchase decision, to tailor their market offerings to the preferences of those people, and to show why they deliver superior customer value (Anderson and Narus 2004). From a purchasing perspective, it is of interest that Webster and Wind make no reference to the purchasing link with overall strategies and procurement decisions aimed at enhancing competitive advantage for the firm, e.g. the make-or-buy decision.

#### ***Sheth (1973) Industrial buyer behaviour model***

Sheth (1973) demonstrates the complexity of industrial buyer behaviour in a descriptive, generalised stimulus-response model comprising four sections (the expectations of the individuals involved in the purchase decision, the industrial buying process, the decision-making process, and the situational factors). Sheth specifies five different psychological processes which are responsible for different expectations of buyers including the background of the individuals, their information sources and the results of their active search, perceptual distortions and satisfaction with past purchases. In depicting the industrial buying process, the model identifies two types of determinants: product-specific variables (perceived risk, type of purchase and time pressure) and company-specific variables (orientation, size and the degree of specialisation). In the model, there are three distinct aspects to industrial buyer behaviour: the psychological world of the individuals involved; the conditions which precipitate joint decisions between these individuals; and the conflict and resolution tactics (problem solving, persuasion, bargaining and politicking) among decision makers.

The main thrust of the model goes beyond the individual decision-making process to investigate the joint decision-making process (the recognition of need, gathering of information, evaluating alternative suppliers and resolving conflict among individuals who must jointly decide). Sheth includes two new constructs — conflict/negotiation characteristics and informational characteristics. Included in the conflict/negotiation characteristics are two positive resolution methods of problem solving and persuasion (which are useful and rational) as well as bargaining and politicking (which are non-rational and inefficient) (Johnston and Lewin 1994). 'Informational Characteristics' consider the type of information individual decision makers are exposed to and the extent of their participation in the active search.

Similar to the previous two models, Sheth's model is generic and attempts to describe all types of industrial buying decisions. Like Webster and Wind's model, it is comprehensive and complex; however, this model can be broken down into four sections. Sheth's model systematically depicts the most important explanatory variables in industrial buyer behaviour and in many ways succeeds in expanding on and integrating Webster and Wind's four groups of determining variables (Moriarty 1983). However, the model does not attempt to elaborate much on the buying process and how the relationships of the variables might change during that process.

While these three models give a systematic account of all the variables that may have a role in the purchase decision, they concentrate exclusively on the customer's side. Such models ignore the interactive process between buyers and sellers of industrial goods which provides the foundation for this research. Conversely, the IMP Groups Interaction and Network approach (Ford 1990; Axelsson and Easton 1992; Anderson, Håkansson and Johanson 1994; Håkansson and Snehota 1995) are considered to aptly represent the emergence of new industrial marketing and purchasing paradigms as firms' strategies shift toward the development of long-term partnerships with a limited number of suppliers.

### **3.4. Customer–supplier relationships**

What the Industrial Marketing and Purchasing (IMP) Group offer is a fundamentally different understanding of exchange in industrial markets which builds on the interactive processes between customers and their suppliers (Håkansson 1987, 1989, Axelsson and Easton 1992, Ford et al. 2003). This approach shifts away from more traditional notions of marketing and purchasing strategy based on controlling and directing system behaviour to one that emphasises the participation, learning and adaptation of firms' strategies and actions within complex self-organising systems (Wilkinson and Young 2002).

The IMP Group has contributed significantly to the development of theories and evidence concerning the nature and development of inter-firm relations and networks in business markets (Wilkinson 2001). Initial IMP Group studies focused on the dyadic relation between two business firms (Håkansson et al. 1976, Håkansson and Wootz 1979, Håkansson 1980, Frazier 1983, Dwyer et al. 1987, Anderson and Weitz 1989, Anderson and Narus 1990). As the interaction model was articulated and extended, the Actor-Resources-Activity (ARA) model of inter-firm relations evolved with a network focus (Håkansson and Snehota 1995).

The literature acknowledges the similarity between marketing and purchasing relationship management tasks (Ford et al. 2003, Lysons and Gillingham 2003), which include the problem of allocating resources to different relationships and managing interactions within each relationship (Håkansson et al. 1976, Ford 1980). Both the interaction and ARA models give



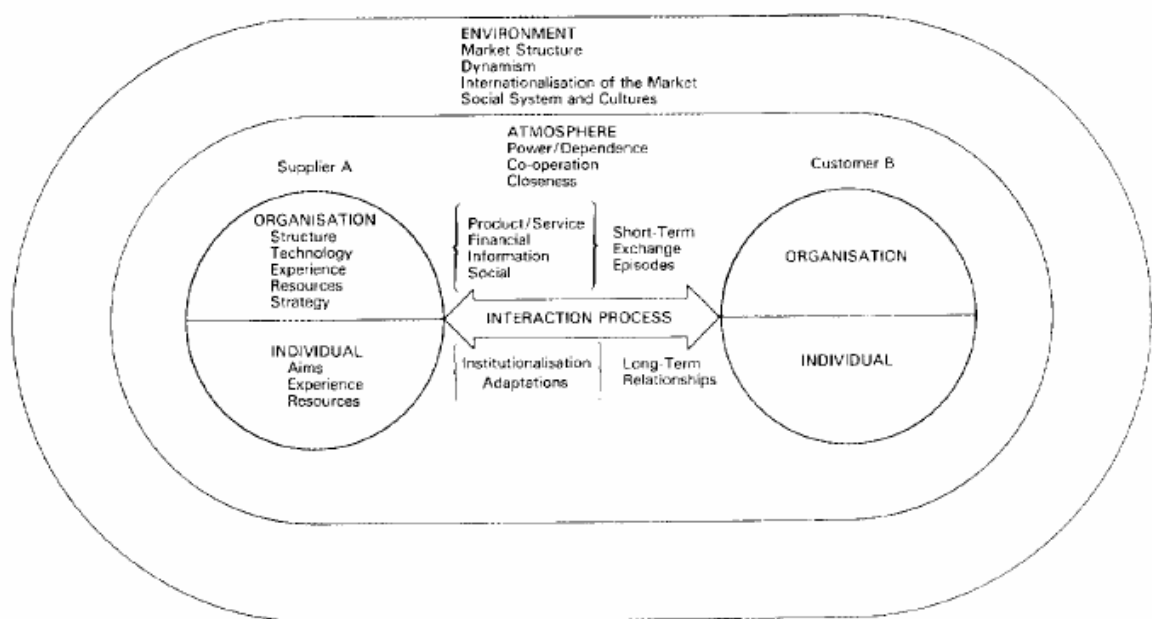
marketing and purchasing firms the problem-solving tools necessary in relationship management.

### 3.4.1. Håkansson (1982) Interaction model

The IMP Group developed a dynamic “interaction” model of buyer–seller relationships in industrial markets. The model extends outside the boundaries of a single firm to include interaction between two firms. The model is based on the assumptions that customers and their suppliers actively interact within a continuing business relationship (Håkansson 1982), which, over a long period is dynamic rather than stable (Håkansson and Wootz 1979) and interdependent rather than independent (Turnbull, Ford and Cunningham 1996).

The model is not sequential; instead it analyses inter-firm relationships in industrial marketing and purchasing at both firm and individual levels using four basic elements: (i) the interaction process; (ii) the interacting parties; (iii) the interaction environment; and, (iv) the relationship atmosphere (Håkansson 1982) (Figure 3.3).

**Figure 3.3: An illustration of the Interaction Model**



Source: Cunningham 1980

The IMP view of industrial markets focuses upon the *interaction process* in short-term episodes and long-term relationships between suppliers and customers (Håkansson 1982). An ‘episode’ describes a group of interrelated actions that are involved in a process such as making a payment or negotiating a sale. Other episodes pertain to the delivery of physical products and services, information and payments or social encounters. Each episode takes place within the context of the overall relationship. Social exchange episodes are particularly important in the establishment of long-term trading relationships.

Continuing trading relationships comprise the longer-term processes of ‘adaptations’ (Håkansson 1982, Turnbull et al. 1996, Brennan and Turnbull 1999, Brennan, Turnbull and Wilson 2003, Brennan and Canning 2004) and ‘institutionalisation’ (Håkansson 1982, Ford 1980, Turnbull et al. 1996), which serve to bind the two firms together. Continuity provides the opportunity to better meet a partner’s needs through adaptative changes to the core product or service or some other aspect of the exchange. These adaptations can improve the economic efficiency of the exchange and also demonstrate the commitment and trust of a business partner. Nevertheless, continuity may lead to institutionalisation in a relationship where certain activities and process become routine. High levels of institutionalisation can potentially lead to dissatisfaction with a relationship and should therefore be regularly reviewed or avoided by relationally aware firms (McLoughlin and Horan 2000).

The second element comprises the *interacting parties* (Håkansson 1982). The extent and nature of the interaction is influenced by the characteristics of the respective firms and the individuals involved. Firm characteristics which influence interaction include the structure, technology levels and available resources. The individual’s attitudes, goals and experience will influence their behaviour during each episode. The varied personalities, experience, expertise and motivations of the individuals from each firm will result in varied ways in dealing with episodes, which in turn will affect the development of the long-term relationship between the individuals and between the firms.

The third element is the *interaction environment* or context, which consists of the vertical and horizontal market structure, the degree of dynamism or change within the market and relationship, the position of the relationship in the supply chain and the general social influences (Håkansson 1982). Any analysis of interaction between firms must be considered in the wider context of the environment. Firms need to continually ‘fit’ relational strategies to their environmental and strategic context as the relationship evolves (Håkansson et al. 1976). Over time, the interactions taking place within a particular environment will give rise to a fourth element which is the relationship atmosphere.

The *relationship atmosphere* is a multidimensional construct comprising power/dependence, cooperation, closeness and the mutual expectations of the respective parties (Håkansson 1982). The atmosphere determines the ability of either party to control the other which is derived from the perception of the power exercised by the other party in the relationship. The power can be come from such factors as size, volume of business, environmental conditions (e.g. buyers’ or sellers’ market) and the possession of a valuable asset (Lysons and Gillingham 2003). The atmosphere is the product of the relationship and it also mediates the other three variables which have been discussed (Cunningham 1980). Marketing and purchasing strategy will address the atmosphere of a trading relationship.

Ford et al. (2003, p. 38) use the term “relationship” to describe “the pattern of interactions and the mutual conditioning of behaviours between two firms over time”. Consequently, each business relationship tends to be unique in content, dynamics, how it evolves, how it affects the respective firms involved and what is required for successful outcomes. Interaction between firms can be characterised by the complexity, symmetry and informality (Håkansson and Snehota 1995). According to Turnbull et al. (1996, p. 46), inter-firm relationships are complex and “it is simplistic to suggest that they can or should develop along a single continuum between “distant” and “close”, “good” and “bad”.

In summary, the interaction approach takes the dyadic relationship as its unit of analysis rather than the individual transactions or exchange episodes (Turnbull et al. 1996, Ford et al. 2003). The model demonstrates the existence of complex and multilevel patterns of exchange surrounding each transaction, which over time create a relationship atmosphere in a customer–supplier relationship, a set of local norms and behaviours that are characterised by variables such as cooperation, conflict, information exchange, conflict resolution, adaptations, commitment and trust (Campbell 1985).

From a research perspective, a dyadic paradigm permits a more precise examination of these variables (Iacobucci and Zerrillo 1996). Researchers have the opportunity to achieve parallel corresponding perceptions from both partners in the dyad and to examine the convergence in views of their mutual relationship (Anderson and Narus 1990). Such research is still valued within the IMP Group (McLoughlin and Horan 2002).

Nevertheless, the “interaction” model is not without limitation. First, the model gives the impression that closeness and continuity in exchange relations is always a good thing (Ford 1997). Not only do close relationships have a dark side (Håkansson and Snehota 1995), but the extent of closeness and continuity that is appropriate will depend upon the perceived net benefits of being involved with the counterpart (Ford et al. 2003).

#### **3.4.2. IMP Group Network Approach**

Network theory begins with the assumption that the single dyadic relationship operates in the context of many other relationships (Anderson, Håkansson and Johanson 1994) and so it is impossible to understand their behaviour without understanding the relational context in which they function (Ryssel et al. 2000, Walter et al. 2001, Walter et al. 2002b). Where the “interaction” approach recognised that firms are linked via relationships, the concept of general connectedness is taken one step further where all firms are interconnected to form networks. Numerous empirical studies have examined the relationships between firms in networks (e.g. Håkansson 1982, Axelsson and Easton 1992, Henders 1992, Gadde and Håkansson 1993, Iacobucci 1996, Raesfeld-Meeijer 1997, Halinen 1997, Wilkinson and Young 1997, Naude and Turnbull 1998, Ford 2001 and Ford et al. 2002).

Håkansson and Snehota (1995, p. 19) explain networks:

“In principle the chain of connectedness is without limits and can span over several relationships that are (indirectly) connected ... (this) generalised connectedness of business relationships implies existence of an aggregate structure, a form of organisation that we have chosen to qualify as a network”

Ford et al. (2003, p. 18) give an abstract definition:

“...a network is a structure where a number of nodes are related to each other by specific threads. A business market can be seen as part of a network where the nodes are business units, such as producers, customers, service companies and suppliers of finance, knowledge and influence. The threads are the relationships between the companies. Both the threads and the nodes have their own particular content in a business network. Both the threads and the nodes are heavy with tangible and intangible resources: physical, financial and intellectual in many different forms. The business units or nodes consist of physical, technical and human resources bound together in a variety of different ways. Similarly, each relationship is a “quasi-organisation” that arises from investment of physical and human resources by both companies. The network is not a world of individual and isolated transactions. It is the result of complex interactions within and between companies in relationships over time”.

The industrial network approach is influenced by social exchange theory (Araujo and Easton 1996), channels research, resource dependency theory, evolutionary economics and sociology, resource-based theory (Axelsson and Easton 1992) and transaction cost economics (Johanson and Mattsson 1987).

The central tool for analysis of business relationships in the industrial network theory is the Actor-Resource-Activity (ARA) model (Håkansson and Snehota 1995) which theorises the evolution of networks as a result of the dynamic interplay between actors, activities and resources. The model proposes three analytical levels of interaction (firms, relationships, networks). The firm's *actors, resources and activities*, together with their analogues at the relationship (*actor bonds, resource ties, activity links*) and network (*actor web, resource constellation, activity pattern*) levels “condition” each other (Medlin 2002). Relationships may vary in strength, depending on the bonds established between individual actors, the connections between resources and the complementarity of the activity structures. While the ARA model is conceptually simple, complexity arises in its application (McLoughlin and Horan 2002).

In terms of the ARA model, value is created through three critical processes that underlie the formation of all relationships: (i) interaction between individual actors leading to the formation of *actor bonds* (e.g. technical, social, time based, knowledge based, administrative, economic and legal); (ii) coordination of the activities of the two firms leading to the formation of *activity links* (e.g. technical, administrative or commercial); and, (iii) the adaptation of resources of the two firms leading to the formation of *resource ties* (Håkansson and Snehota 1995). Conversely, asymmetry in a relationship seems to preclude the development of strong bonds between actors, the tying of resources and the linking of activities (Johnsen and Ford 2001).

Relationships are established, developed and maintained for functional purposes (Håkansson and Turnbull 1982). Each of the respective parties has an expectation of net benefit or value to result from either the immediate focal relationship (from primary or direct functions) or from its impact on future business in connected relationships (from secondary or indirect functions) (Cunningham and Homse 1982, Campbell and Cunningham 1983, Gemunden, Schaettgen and Walter 1992, Håkansson and Johanson 1993, Anderson, Håkansson and Johanson 1994, Moller 2000, Walter and Ritter 2000, Walter et al. 2001).

In terms of the ARA model, individual actors can create value through direct and indirect functions with tight *activity links* and close coordination to achieve greater combined cost efficiencies (Frazier, Spekman and O'Neil 1988, Anderson, Håkansson and Johanson 1994, Ford et al. 2003). With strong *resource ties* the two parties learn about each others resources and find new and more effective ways to combine them (Lundvall 1985, Ford et al. 2003). Through strong *actor cooperative bonds* the benefits that each firm receives may increase (Kelley and Thibaut 1978, Axelrod 1984, Anderson, Håkansson and Johanson 1994), providing access to other parts of the network through their relationship with particular customers and suppliers (Ford et al. 2003).

In more recent years, research focus has shifted from understanding buyer–seller relationships to the management of business relationships (Ford et al. 2003). Firms need to manage relationships with the trading partners on whom they rely for success. While the interaction model provides insight into the substance of a dyadic relationship, the network approach sensitises managers to the embeddedness and dynamics of relationship management in a network context.

### **3.5. Relationship management**

In the last twenty years, there has been a greater academic focus on management and performance implications (Ford et al. 1998), and strategic issues that arise for firms involved in network relationships (Gadde and Håkansson 2003). Purchasing and marketing management philosophies have pursued a proactive, strategic orientation to support the intensified global competition which has increased the need to develop and implement strategies that yield competitive advantage.

As a firm's relationships are important for the value they provide, being able to manage business relationships is imperative. The management implications of the network perspective pertaining to purchasing and marketing can be simplified into two issues: the management of specific relationships and the management of the network position (McLoughlin and Horan 2002). This study is concerned with the management of specific relationships.

Campbell (1985) developed guidelines for managerial action by focussing on the interaction strategies that firms use in their relationships with trading partners. Trading relationships can be classified as being independent, interdependent or dependent as a result of the use of competitive, cooperative or command interaction strategies. This classification enables attention to focus on the critical variables which give rise to the different purchasing and marketing strategies.

Three groups of variables are discussed: the product and (for customer and supplier) the characteristics of their industry, their firm and the individual actors involved in the interaction. For example, according to the model, an interdependent relationship arises when both parties use a strategy of cooperation. Subsequently, the conditions favouring cooperative purchasing and marketing strategies are described in terms of product (e.g. high switching costs), industry (e.g. both industries are concentrated), firm (e.g. both firms seek a cooperative relationship) and individual characteristics (e.g. product is perceived as being important by both parties). The model specifies the management implications of a mutually cooperative strategy for customers (adapt, cooperate and work together) and for suppliers (customise, specialise, differentiate and innovate). This early IMP management model concentrates solely on customer-supplier relationships and does not consider connectedness within a network context.

In the following decade, Moller and Halinen (1999) distinguished four levels of management of business relationships and networks: (i) industries as networks — level one (need to understand networks, their structures, processes and evolution); (ii) managing focal nets and network positions “firms in a network” — level two (need to identify, evaluate, construct and maintain network position and relationships); (iii) managing relationship portfolios — level three (need to manage a portfolio of exchange relationships in an integrated manner); and managing exchange relationship — level four (need to create and manage important relationships).

All four levels are interrelated, but understanding individual customer and supplier relationships is the prerequisite for management on all the other three levels. Management of individual relationships requires knowledge of how to produce mutual value in the relationship, how to evaluate the lifetime value of a trading partner including investments needed in a specific relationship and how to develop, maintain and if necessary conclude a relationship. Management practice includes well-planned procedures and personnel with knowledge of the partner’s expectations to ensure the smooth management of relationship episodes. A firm’s ability to develop and manage successfully its relationships with other firms is considered to be a core competence in business networks (Dodgson 1993, Dyer and Singh 1998, Moller and Halinen 1999).

More recently, Ritter et al. (2004) suggest that management in business relationships and networks arises at the individual (actor), group (dyad, portfolio), and firm (connected, network)

level, which are all interrelated. Management in business relationships and networks involves relationship-specific (exchange and coordination aimed at initiating, developing, routinising and dissolving relationships) and cross-relational tasks (planning, organising, staffing and controlling aimed at dividing the overall value creation system into work packages and coordinating and integrating those). These tasks are ongoing and part of a continuous intra- and inter-firm interaction process.

Relationship portfolios can provide a mechanism for the development of a coherent relationship management strategy (Zolkiewski and Turnbull 2000). Overall, the aim is to maximise the return across the portfolio (Ford et al. 2003). However, the challenge is first, in the development of different firm-based solutions for different types of customers and suppliers according to their requirements and value generation potential, and second, in addressing the analytical issues such as being able to assess and predict the future value of individual customer and supplier relationships when long-term effects are very difficult to foresee (Ford et al. 1996). Finally, the choice of portfolio models or dimensions is not simple and consideration needs to be given as to which are the most pertinent variables (Zolkiewski and Turnbull 2000). So far, portfolio analysis has been limited to the development and testing of formal, matrix-form models. However, there has been no research to date which has studied a firm's actual portfolio analysis use in business and its long-term performance.

### **3.5.1. Purchasing portfolios**

Purchasing portfolio models tend to identify (un)important items and develop different strategies for different categories. Kraljic's (1983) portfolio model was the first comprehensive decision-making management tool. The model distinguishes between different purchasing situations and then provides logical recommendations for managerial action for strategic (high profit impact, high supply risk), leverage (high profit impact, low supply risk), bottleneck (low profit impact, high supply risk) and non-critical (low profit impact, low supply risk) purchases. Recommendations include: strategic items — exploit, diversify or balance (depending on the balance of power); leverage items — exploit power; bottleneck items — volume insurance; and non critical items — efficient processing. A comparison of the portfolio models to follow (e.g. Elliott-Shircore and Steel 1985, Lilliecreutz and Ydreskog 1997, Olsen and Ellram 1997, Bensaou 1999, van Weele 2000) identified similar categories and/or recommended purchasing strategies.

Bensaou's (1999) model sought to differentiate between different buyer-supplier relationships on the basis of power and dependence. Bensaou concluded that:

“No one type of relationship, not even the strategic partnership, is inherently superior to the others. Each contained low and high performing relationships, suggesting that each type of relationship can be well or poorly managed.”(1999, p. 37).

Unlike other models which tend to establish supplier segments on the basis of market or product variables, Ford et al. (2003) propose a model that differentiates on relationship features. This management approach recognises the relational variation between 'low involvement' and 'high involvement' relationships which are of either a short or long-term duration. A customer will develop closer relationships where they can obtain benefits in the form of cost reductions or increased revenue. Higher involvement relationships usually have high rather than low continuity with efficiency improvement through adaptations leading to cost and revenue benefits over time. These relationships require resource investments and must be monitored and developed in accordance with changing circumstances (Gadde and Snehota 2000). High involvement with low continuity relationships can achieve efficiency from price pressure (Ford et al. 2003). In comparison to high involvement relationships, low involvement arm's-length relationships are more routinised, have less face-to-face communication, less assistance and fewer relationship-specific investments. However, they reduce the buyer's search and transaction costs. Buyers in these relationships, avoid higher involvement either because the costs of involvement are higher than the corresponding benefits or because of the need or the desire to change suppliers.

The capacity to cope with a variety of relationships in different ways has a strong impact on firm performance. To make the most of supplier relationships, a customer must know the benefit (cost benefits, revenue benefits) – cost (direct procurement costs, direct transaction costs, relationship handling costs and supply handling costs) consequences to ensure economic justification (Gadde and Snehota 2000). Consideration must also be given to the extent to which a supplier relationship fits into the customer's operations and its other relationships.

### **3.5.2. Marketing portfolios**

Similarly, suppliers may use a portfolio approach to better understand the potential of the customer base, maximise profitability over the long term and achieve competitive advantage (Turnbull et al. 1996).

Turnbull (1990, p. 7) defines customer portfolio analysis as:

A useful management tool for enforcing a discipline in the allocation of a supplier's limited resources to an optimal combination of customers.

When it comes to investment and management decisions, either an individual or group level analysis of current and projected profits arising from existing and potential customers, together with an assessment of the stage of customer relationships, will provide necessary information on the customer base (Turnbull 1990). For firms with a few major relationships, individual analysis is both achievable and worthwhile. Those firms with large numbers of customers are more likely to opt for group level analysis.



The primary focus of customer portfolio approaches tends to be either on profitability, balancing costs and financial benefits (e.g. Fiocca 1982, Dubinsky and Ingram 1984, Shapiro, Rangan, Moriarty and Ross 1987, Storbacka 1994), or relationships (Campbell and Cunningham 1983, Krapfel, Salmond and Spekman 1991, Dick and Basu 1994). Collectively, they focus on resource allocation (including attention, investment, service, technical support and interaction) between different types of customers.

Krapfel et al. (1991) propose a customer relationship model in which relationship types and relationship management modes are mapped together to assess the optimal relationship portfolio. They propose a relationship classification matrix based on the “interest commonality” and “relationship value”. Compatible goals for customer and supplier firms are considered to lead to high interest commonality and a more cooperative attitude. Relationship value is defined as a function of the criticality of a relationship to the two sides, the volume of business involved, the replaceability or switching costs involved and the ability to reduce costs in the relationship. The model examines four classifications (partner, friend, rival, and acquaintance) emerging from the relationship value and interest commonality variables. The authors suggest that the relationship management style should be varied according to the perception of power and interest commonality (with either an accommodative, collaborative, administrative, submissive, negotiative and dominative approach). This portfolio model is quite unique because the interests of the customer firms are included in the matrix.

Zolkiewski and Turnbull (2000) use a three-dimensional customer classification matrix comprising relationship cost, net price achieved and relationship value. The two dimensions of relationship cost and net price achieved provide a picture of current relationship profitability. The dimension of relationship value is concerned with longer-term potential. The potential may be expressed in terms of volume, profitability, technological development or network access. Although a customer relationship may be marginal or unprofitable at a particular time, its strategic importance could mean that it should be retained and developed.

With all these studies, the basic recommendation is that suppliers conduct detailed analyses of customers, the environment, competition and their own skills before making important management decisions or investments of significant resources. Very few portfolio matrices have been empirically tested (one of the exceptions is the testing of the Krapfel et al. 1991 matrix by Turnbull and Zolkiewski in 1997). Input from customers is mainly limited to cost related issues such as ‘cost to serve’ (Shapiro et al. 1987), ‘price sensitivity’ and ‘difficulty in managing’ (Fiocca 1982). Only the Krapfel et al. (1991) relationship matrix considers the purchasing perspective using ‘interest commonality’.

### **3.6. Conclusion**

There is a diverse cross-section of buyers and suppliers of wine grapes in Australia. Thus, the grape and wine industry provides an interesting study — from the corporate winery fed by a large grape supply base to the boutique winery growing its own grapes and sourcing the balance from small growers in the neighbourhood (Taylor 2001). Business operations at both ends of the size spectrum need to formulate effective purchasing and marketing strategies to generate satisfactory profits.

Webster and Wind (1972) were responsible for the concept of the buying centre and the identification of the various purchasing roles of influencer, user, decider, buyer and gatekeeper. In the Australian wine industry, the number of individuals involved in the purchasing decision will depend upon the size and structure of the organisation. At the corporate end (e.g. Foster's Group and Constellation), the purchasing function is a strategic multilevel, multidepartment, multiphase, multiperson and multiobjective process. At the other end of the scale, the purchasing decisions in many small and medium-sized winery operations are often handled by a small group of individuals including the vineyard manager, winemaker, general manager and in many cases, the owner may be the sole decision maker (Wilson 2000).

From a purchasing viewpoint, a firm can make the most of its supplier relationships with a thorough knowledge of the scope (i.e. the extent and importance of buying to the firm's overall business), the structure (i.e. the number and type of suppliers the firm chooses to have), and the posture (level of involvement, type of management) of its supply relationships (Baker 2002). Business marketers rely on understanding the dynamics of organisational buying behaviour for coherent strategic and operational planning. Planned marketing action is based on an anticipated response of customers to changes in price, product, distribution, advertising and promotion.

Common to the three models developed by Robinson et al. (1967), Webster and Wind (1972) and Sheth (1973) is the concept of organisational buying as a process (Johnston and Lewin 1994) which takes place in discrete buying situations. The Buygrid framework introduces the organisational buying process as a series of eight buyphases, which is repeated in a similar nature and sequence in the Webster and Wind (five stages) and Sheth (four stages) models.

No single model adequately explains all the complexities of the organisational buying process, but collectively, the models identify eight factors that may have a role in the purchase decision: (1) environmental factors (physical, political, economic, suppliers, competitors, technological, legal, cultural and global); (2) organisational factors (size, structure, orientation, technology, rewards, tasks and goals); (3) group participation (size, structure, authority, membership, experiences, expectations, leadership, objectives and background); (4) purchase factors (buy task, product type, perceived risk, prior experience, product complexity and time pressure); (5) the product offer (evaluative criteria for suppliers include price, ability to meet specifications,

product quality, delivery time and service); (6) conflict/negotiation (problem solving, persuasion, bargaining and politicking); (7) information (source, type, extent of search); and (8) stages in the buying process (Johnston and Lewin 1994).

Business-to-business exchange is characterised by complex interaction processes between customers and suppliers (Håkansson 1987, 1989, Axelsson and Easton 1992, Ford et al. 2003). The IMP interaction approach emphasises the participation and adaptation of firms' strategies and actions within complex self-organising systems (Wilkinson and Young 2002), while the network approach stresses the need to understand the dyadic relationship within the relational context in which they function (i.e. connections with suppliers and customers) and the potential to create value through interaction, coordination and adaptation with preferred trading partners (Ford et al. 2003). Firms can use relationship portfolio analysis to determine purchasing/marketing strategy to maintain, strengthen and protect existing relationships against growing competitive pressures and to maximise returns.

## **4. Developing a three-phase model of relationship value in the Australian grape and wine industry**

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### **4.1. Chapter outline**

This chapter will propose a theoretical three-phase structural equation model to provide a comprehensive description of relationship value between Australian buyers and sellers of wine grapes. As recommended by Hair et al. (2006), each phase uses a multiple-group model to capture and compare buyer–seller perceptions.

In this initial stage of structural equation modelling (SEM), the relationships will be theoretically justified in preparation for further SEM stages. On the basis of construct definitions, and further clarification and refinement in the industry context (Chapter 5), suitable item measures are selected (Chapter 6) and confirmation of the relationships will be made (Chapter 8).

### **4.2. Introduction**

Australia's rise as a leading world wine exporter has had an enormous impact on the domestic grape and wine industry. The global wine market grows bigger and more complex with every vintage. 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 (Withey 2000). 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 (Beuman and McLachlan 2000) 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 value outcomes. While customers continue to increase their value expectations from supplier relationships (Gadde and Ford 2000), suppliers too are seeking increased value from their customer relationships (Walter et al. 2001).

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 (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).

There has been a dearth of empirical research on what the antecedents and outcomes of value in business relationships are (Walter et al. 2002a). 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). For this reason, three sequential models will be 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. The research will focus on the relationships between the relational constructs (cooperation, commitment, trust, performance satisfaction, communication, power asymmetry and conflict resolution) and the relational value outcomes. The research results will provide practical guidelines for grape and wine industry managers to optimise value in their management of trading relationships.

### **4.3. Phase One: A multigroup model of relational antecedents to relationship value**

#### ***Relationship value***

Although research on the concept of relationship value in business-to-business markets has increased in recent years (Wilson 1995, Lapierre 2000, Walter, Ritter & Gemuenden 2001, Werani 2001, Walter, Holzle & Ritter 2002, Ford, Gadde, Håkansson and Snehota 2003, Forsström 2004, Pardo et al. 2006, Ulaga and Eggert 2006), as yet there is no generally accepted measure of the relationship value concept (Walter et al. 2001, Lindgreen and Wynstra 2005).

Fundamental to the concept of value in business relationships is the recognition that customer and supplier firms do not trade with each other solely on the basis of the value of the good or service being exchanged (Lindgreen and Wynstra 2005). There are other social elements of the relationship “atmosphere” that make one trading partner more attractive or more valuable than another (Ford and McDowell 1999).

According to IMP theory (Håkansson 1982, Axelsson and Easton 1992, Håkansson and Snehota 1995, Ford 2001, Ford et al. 2002, Ford et al. 2003), the process of joint value creation occurs through the synergistic combination of customer and supplier interaction. Coordination and adaptation processes provide the means to create value between trading partners through activity, resource and actor relationship dimensions (Håkansson and Snehota 1995, Wilson 1995, Ford et al. 2003). As part of the value creation process, each firm must be prepared to acquire a good understanding of the exchange partner’s requirements, preferences and processes to ensure that their resources and capabilities have the greatest potential to create and deliver value. This interactive approach emphasises the need for continuous interaction and communication as these requirements and preferences are constantly changing (Wilson and Moller 1995, Ford et al. 2003, Forsström 2004). Consideration must be given to each actor actively involved in the relationship as value perceptions are very much influenced by personal

values and individual expectations of value outcomes (Ford and McDowell 1999). Each firm must be clear about their specific value focus in the relationship in order to optimise activities and resource allocation (Iacobucci 1996).

Relationship value is multidimensional (Werani 2001) and most often defined in terms of benefits and sacrifices (Ravald and Gronroos 1996, Gronroos 1997, Lapierre 2000, Walter et al. 2001, Werani 2001, Walter et al. 2002a, Ulaga and Eggert 2003). Although benefits may be created by one trading partner for the other partner, or by the relationship itself, what counts as a benefit is defined through the other partner's perceptions (value expectations) (Pardo et al. 2006).

Sacrifices are the economic and non-economic costs that are required to gain access to the relationship benefits. Developing and sustaining customer-supplier relationships is resource-intensive and is only viable when the negative value components (costs/sacrifices) are exceeded by the positive value components (benefits). Consequently, the relationship value construct developed for this research must identify the two dimensions of "relationship benefits" and "relationship sacrifices".

Werani (2001) defines relationship value as "the difference between estimated relationship benefits and sacrifice" (p.5), from the viewpoint that "value" is not measurable, but is a subjective perception of what has been gained in the relationship, against what has been foregone or sacrificed. Similarly, other authors have adopted subjective value definitions which include: (i) a trade-off between all relevant benefits and sacrifices in a specific use situation (Flint, Woodruff and Gardial 1997); (ii) a trade-off between desirable attributes compared with sacrifice attributes (Woodruff and Gardial 1996); (iii) ratio of perceived benefits relative to perceived sacrifice; and (iv) a perceived trade-off between multiple benefits and sacrifices (Walter et al. 2001).

The value of relationships has been studied from a number of different perspectives. Traditionally, the focus has been on customer value: (Flint and Woodruff 2001, Ulaga and Chacour 2001, Anderson and Narus 2004). By comparison, there are few studies that explore value from the supplier's perspective. This shortcoming in the literature was addressed by Walter et al. (2001) with an empirical study examining supplier value.

Yet another approach has been the buyer-seller (interaction) perspective which examines how customers and suppliers can create value jointly through their business relationships (Wilson 1995, Hirvonen, Sallinen, Seppanen and Alajoutsijarvi 2000, Werani 2001, Forsström 2003, Mandjak et al. 2003, Pardo et al. 2006). Wilson and Jantrania (1994) present a conceptual view of relationship value as an aggregation of three dimensions: economic, behavioural and strategic. The economic dimension includes cost reductions that contribute directly to profitability. Cost savings are derived from a smaller supply base or just-in-time concepts. The

behavioural dimension ensures the long-term growth of the relationship through social bonding and trust. The strategic dimension captures the need to use relationships for competitive advantage, to strengthen core competencies, and to create market position.

Assuming that a mutually beneficial relationship can be of value to both trading partners (Beuman and McLachlan 2000, Osborn 2000), from a customer perspective, the potential benefits of a long-term relationship can include: better product performance and reliability (Ulaga and Chacour 2001), access to a range of accompanying service elements (Hutt and Speh 1998), access to valued resources and technologies (Dwyer 1993), reduced time-to-market and improved market information (Wilson and Jantrania 1994) and various cost efficiencies (Wilson and Jantrania 1994, Walter et al. 2001). From a supplier perspective, the firm can potentially secure access to a market through greater customer loyalty; achieve more consistent returns through being better able to meet customer quality specifications; achieve cost efficiencies through economies of scale (Walter et al. 2001); and gain access to know-how offered by the customer firm. Both parties benefit from being able to better plan and forecast production schedules (Lohtia and Krapfel 1994), optimise operational processes (Werani 2001) and coordinate deliveries (Easton and Araujo 1994). As a result, buyers can become less sensitive to price competition and suppliers may benefit from higher prices (Kalwani and Narayandas 1995).

#### **4.3.1. Selected relational antecedents which lead to relationship value**

In this section, the selected relational constructs will be defined and hypotheses established between these relational antecedents and relationship value.

##### ***Cooperation***

Cooperation in a working relationship implies a joint effort, team spirit and collaboration towards achieving both intra-firm and inter-firm goals (Ford, Håkansson and Johanson 1986, Dwyer et al. 1987, Cannon and Perreault 1999). For the exchange partners, there is an expectation of a balanced exchange, reciprocity and mutuality over time (Anderson and Narus 1990, Morgan and Hunt 1994, Leonidou 2004).

Cooperation is a key dimension for coordinating the activities and resources between parties involved (Håkansson 1982, Anderson and Narus 1990, Morgan and Hunt 1994, Håkansson and Snehota 1995). This construct is fundamental to closely linked relationships where the importance of supply is high and purchase requirements are complex (Cannon and Perreault 1999). More cooperative relationships may be characteristic of the trends emerging in the supply of products previously viewed as commodities (i.e. wine grapes for bulk wine), in which suppliers are now using more advanced technology, information and customer support to create competitive advantage in specialised markets (i.e. grapes for premium-branded wine products).

The extent of cooperation between customers and their suppliers will depend on: (i) the degree to which the parties believe that they can simultaneously achieve their goals, (ii) the existence of mutual agreement between the parties concerning their actions in achieving individual goals, (iii) the perceptual clarity of the information processed by the interacting parties, (iv) the establishment of mutually accepted norms upon which the achievement of individual goals are approved and disapproved, and (v) the acceptance of norms of exchange, which protect the exchange parties from opportunistic and self-centred behaviour (Childers and Ruekert 1982).

Norms of exchange are shared expectations of how trading partners will, and should behave (Macneil 1979, 1980, Axelrod 1986). While Macneil (1980) has argued that relationalism is manifested in some 28 overlapping types of exchange norms, similar to previous relational studies (eg. Dwyer 1993, Cannon and Perreault 1999, Cannon et al. 2000) this study will focus on three norms - flexibility, solidarity, and mutuality – “because they seem central and related to the domains of the other norms” (Dwyer 1993, p.2). Cannon and Perreault (1999) suggest that cooperative norms such as flexibility, solidarity and mutuality reflect how trading partners expect to work together to achieve mutual and individual goals together. Importantly, these norms do not mean one partner’s acquiescence to the other’s needs (reactive), but are an acknowledgement by both partners that they need to behave in a manner that suggests they understand they must work together to be successful (proactive) (Anderson and Narus 1990, Morgan and Hunt 1994). Because they involve expectations rather than rigid requirements of behaviour, they create a cooperative environment for negotiating adaptations, thereby promoting continuity in the exchange (Cannon et al. 2000).

Flexibility provides for relationship-specific adaptation through the modification of agreement terms and/or agreement focus in response to unforeseen events and changing circumstances (Macneil 1980, Bercovitz, Jap and Nickerson 2006). The extent to which norms of flexibility develop will depend upon how easy it is to alter practices and policies should changes require it (Dwyer 1993, Gundlach et al. 1995). Relationships between customers and their suppliers are flexible when they share an attitude that the purchase agreement is just the starting point which can be modified as the market and the relationship and the fortunes of the two parties evolve (Cannon et al. 2000).

Solidarity exists where both partners want to preserve and continue the trading relationship (Kaufmann and Stern 1988). The extent to which solidarity norms prevail will depend upon the extent to which unity or fellowship arises from common responsibilities and interests that dominate the relationship (Gundlach et al. 1995). Solidarity in relationships between customers and their suppliers occurs when cooperation becomes an instrument of strategy where both parties believe success comes from working cooperatively together. A cooperative strategy dictates that they stand by one another in the face of adversity and uncertainty (Cannon et al. 2000, Werani 2001).



Mutuality provides for equity in the distribution of surpluses and burdens over the course of the exchange rather than on a transaction-by-transaction basis (Macneil 1980). The extent to which norms of mutuality develop is determined by the degree to which individual transactions are tempered by trust (Gundlach et al. 1995). The attitude of both trading partners must be that each firm's success is a function of everyone's success and that one cannot prosper at the expense of one's partner. Mutuality expresses the sentiment of joint responsibility (Cannon et al. 2000).

Cooperation can raise the value of business relationships (Holm, Eriksson and Johanson 1996, Werani 2001). Cooperation is the means by which joint productivity of the value system is improved (Wilkinson and Young 2002). Firms simultaneously cooperate to increase the rewards and resources available to them. Those firms which actively cooperate are more likely to survive in the long run.

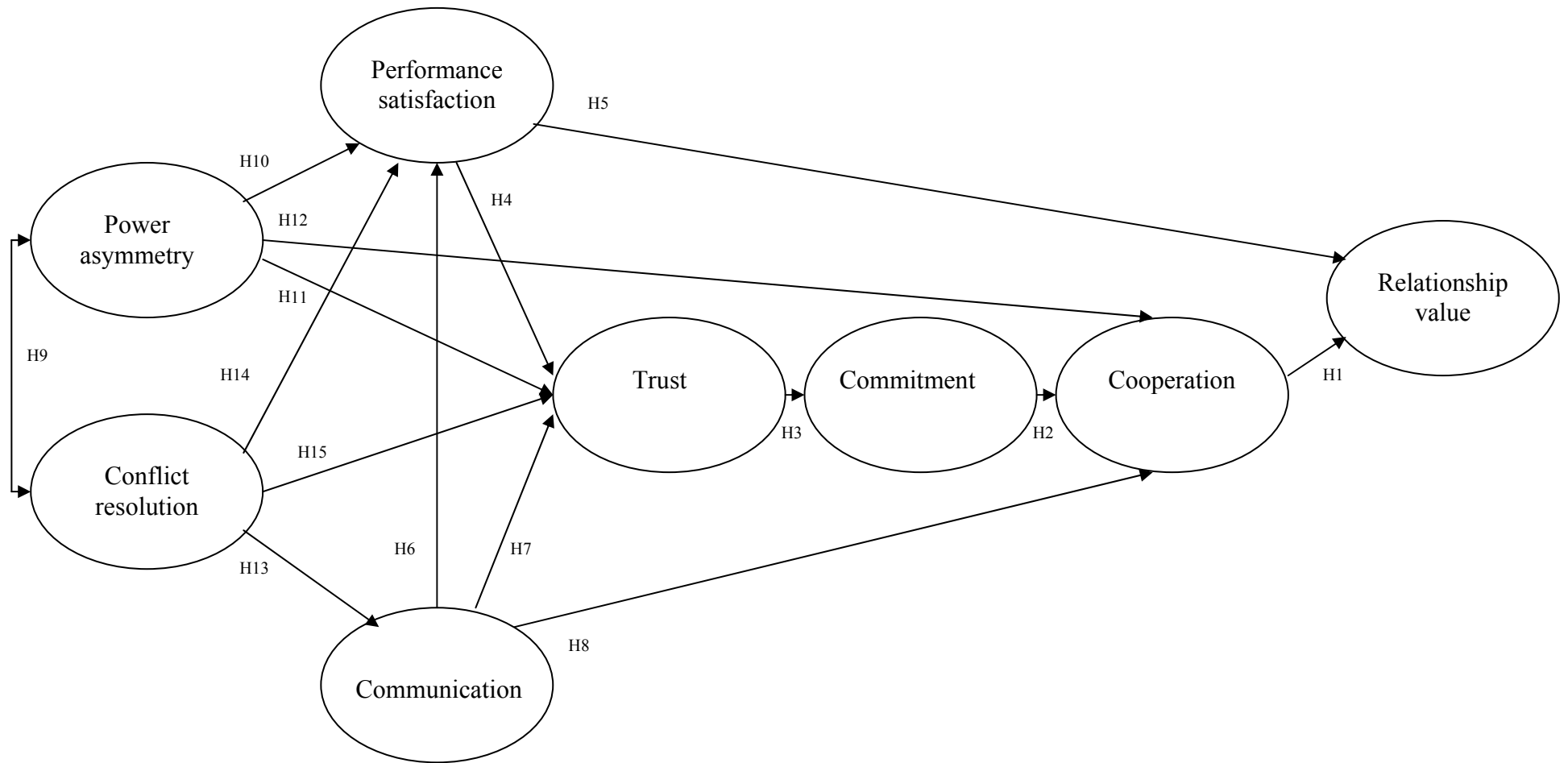
The view that cooperation between exchange parties is instrumental in the creation of joint value is supported by Anderson and Narus (1990, p. 45) who state that "...coordinated, joint efforts will lead to outcomes that exceed what the firm would achieve if it acted solely in its own best interests". To encourage cooperation, firms promote shared norms which influence how they will work together, how they will jointly create value and how they will share benefits (Anderson and Narus 2004). Hence, it is hypothesised that:

Hypothesis 1: *Cooperation will have a positive association with relationship value* (Figure 4.1).

### ***Commitment***

Commitment implies the adoption of a long-term orientation toward the trading relationship. It entails a desire to develop a stable relationship; a willingness to accept short-term sacrifices, costs, or restrictions to maintain the relationship in order to achieve long-term benefits (Dwyer et al. 1987, Anderson and Weitz 1992, Anderson and Narus 2004). Dwyer et al. (1987, p. 19), believe that commitment is an "implicit or explicit pledge of relational continuity between exchange partners". As such, it is an important discriminator between the 'stayers' and the 'leavers' (Mummalaneni 1987). According to Heide and John (1990) and Ganesan (1994), the degree of long-term orientation rather than the duration of the relationship is a better indicator of commitment in relationships.

Gundlach et al. (1995), describe the structure of commitment as having three different dimensions: attitudinal, instrumental, and temporal. *Attitudinal* commitment (behavioural intentions) describes a positive attitude towards the future existence of the relationship. *Instrumental* commitment is shown whenever some form of investment (time, other resources) in the relationship is made. Finally, the *temporal* dimension of commitment indicates the consistency of inputs and attitudes brought to the relationship over time.



**Figure 4.1: Phase One model**

Self-interest stakes as a result of investments made bind trading partners to future courses of action and they cease to explore alternative trading opportunities and rewards. However, not all investments lead to long-lasting and successful relationships. Gundlach et al. (1995) argue that the structure of the initial inputs: (i) shape the quality and quantity of long-term commitment; and (ii) provide a foundation for the development of cooperative norms of governance which are considered important mechanisms for regulating long-term relational exchanges and reducing opportunism (Macneil 1980).

According to Porter, Steers and Mowday (1974), commitment refers to the willingness of trading partners to make an effort to ensure the relationship functions well. A high level of commitment provides an atmosphere within which customers and their suppliers can achieve individual and joint goals without raising the spectre of opportunism (Mohr and Spekman 1994).

Morgan and Hunt (1994) believe that commitment only exists when the relationship is considered to be important and the focal firm wants the relationship to endure indefinitely and is willing to work at maintaining it. In these circumstances, firms are willing to dedicate the people and resources necessary to develop working relationships. The extent, magnitude and duration of resources exchanged can then be expected to influence the willingness of a partner to cooperate to make the relationship work.

Moorman, Zaltman and Deshpande (1992, p. 316), define commitment as an enduring desire to maintain a valued relationship. Therefore, a partner committed to the relationship will cooperate with another partner because of a desire to make the relationship work (Morgan and Hunt 1994). Similarly, Wilson (1995) proposes that commitment and cooperation results in cooperative behaviour which ensures trading partners work together to enable both parties to receive benefits from the relationship.

Thus a common theme emerges from the various literatures on the positive relationship between commitment and cooperation: committed partners are more likely to have a cooperative attitude in order to create and maintain a stable and long-term relationship in which they can realise the desired long-term economic benefits. Thus, the following hypothesis is proposed:

Hypothesis 2: *Commitment will have a positive association with cooperation*

### ***Trust***

Trust is a fundamental building block in most long-term relationships (Anderson and Weitz 1989, Anderson and Narus 1990, Ganesan 1994, Mohr and Spekman 1994, Morgan and Hunt 1994, Håkansson and Snehota 1995, Kumar et al. 1995, Wilson 1995, Doney and Cannon 1997, Geyskens, Steencamp and Kumar 1998, Helfert et al. 2001).

Four frequently cited definitions of trust include: (i) a willingness to rely on an exchange partner in whom one has confidence (Moormann et al. 1992); (ii) when one party believes that its needs will be fulfilled in the future by actions taken by the other party (Anderson and Weitz 1990); (iii) a firm's expectation that another firm desires coordination, will fulfil obligations and will put their weight into the relationship (Dwyer et al. 1987); and, (iv) the belief that a firm's word or promise is reliable and a firm will fulfil their obligations within an exchange relationship (Schurr and Ozanne 1985) (cf. Wilson 1995).

It is widely accepted that trust is a multidimensional construct (Medlin and Quester 2002). In previous research, the various dimensions of trust have been operationalised more often as a global measure (Schurr and Ozanne 1985, Anderson and Weitz 1989, Anderson and Narus 1990, Moorman et al. 1992, Morgan and Hunt 1994, Geyskens, Steenkamp, Scheer and Kumar 1996, Doney and Cannon 1997); however, the construct has also been operationalised as a composite measure (Kumar et al. 1995) and as two dimensions (Ganesan 1994). Medlin and Quester (2002) argue that measuring trust can be problematic because of a degree of overlap between the constructs.

Two dominant theoretical dimensions of trust are benevolence and credibility (Ganesan 1994, Doney and Cannon 1997). Trust signifies an attitude by one party to have confidence in, attach credibility to, and show benevolence towards the other party in a working relationship (Moorman et al. 1992, Morgan and Hunt 1994, Doney and Cannon 1997, Leonidou 2004). Credibility comprises characteristics of honesty, reliability and expectancy (Medlin and Quester 2002). It exemplifies a common belief by one trading partner that the other partner is honest, dependable, reliable, and honours its word (Kumar 1996). Furthermore, credibility is based on the belief that the other partner has the necessary expertise to perform the task effectively and reliably (Dwyer et al. 1987, Anderson and Narus 1990).

The benevolent component of trust involves a belief, attitude or expectation that relationship partners will act in the best interests of the other partner (Wilson 1995). Benevolent trust has been defined as "the firm's belief that another company will perform actions that will result in positive actions for the firm, as well as not take unexpected actions that would result in negative outcomes for the firm" (Anderson and Narus 2004, p. 407). Benevolence comprises aspects of fairness and goodwill (Medlin and Quester 2002). These characteristics in relationships reduce the tendency for firms to take advantage of each other when the possibility of opportunism arises (Luhmann 1979, Bromiley and Cummings 1995).

Trust is strengthened when: (i) the party has a reputation for being fair and is concerned about achieving mutual welfare; (ii) past outcomes from the working relationship have been satisfactory; and (iii) the two parties have successfully resolved any critical problems which have arisen during the period of the relationship (Ganesan 1994, Leonidou 2004).

In customer–supplier relationships, trust arises from within the social structures that exist in firms and relationships and from individual and group interpretations of ‘past events’ (Medlin and Quester 2002). Anderson and Narus (1990, p. 54) believe that informants give a present state report when asked about their perceptions of their firm’s trust in a working relationship. In other words, they answer on how much their firm trusts the partner’s firm at the current point in time. Nevertheless, Medlin and Quester (2002), argue that while the decision to trust or not can be decided based upon whether credibility or benevolence were displayed in the past, trust is reliant upon future credibility and benevolence. On this basis, trust is essentially an orientation towards the future. Wilson (1995) suggests that time is only one of many elements that need to be taken into consideration when trust is used as a variable in relationship research.

Williamson (1985) states that trust is fundamental in the development of long-term relationships because short-term inequities are inevitable in any relationship. Through trust, partners in a trading relationship develop confidence that, over the long term, short-term inequities will be corrected to yield long-term benefits (Dwyer et al. 1987). Trust diminishes the perceived risk and vulnerability in a relationship (Ganesan 1994), so relationships can be more effectively managed through times of environmental stress and uncertainty (Williamson 1985, Morgan and Hunt 1994).

Trust is an antecedent of commitment (Dwyer et al. 1987, Geyskens, Steenkamp and Kumar 1999, Walter et al. 2000). According to Dwyer et al. (1987), the credible component of trust is formed during the exploration phase of relationship development, but the rudiments of benevolence do not emerge until trading relationships enter the expansion phase when both parties form expectations of future interaction. Commitment does not develop fully until relationships enter the more advanced phase of customer–supplier relationship development, which is characterised by the parties purposefully engaging resources to maintain their relationship. Benevolence and commitment require a firm to make a more comprehensive assessment of its relationship on the basis of the expectations and projections for the future (Kumar 1996). On the other hand, if a trading partner does not perceive the other firm to be credible or benevolent enough to have a direct positive impact on the relationship, then the partner cannot rely on the other firm and will thus show no commitment towards the relationship (Morgan and Hunt 1994).

Not all researchers agree on the direction of the relationship between trust and commitment - building and sustaining relationships is an iterative process (Anderson and Narus 1990). As the model provides a single-time period perspective of ongoing partnerships in contrast to a dynamic model or inter-temporal perspective, given the extensive support provided by previous studies (eg. Hrebiniak 1974) it will be posited that at any one point in time commitment to a relationship with an exchange partner will be dependent upon trust. Previous studies that found trust leads to commitment include: Hrebiniak (1974 cited in Morgan and Hunt, p. 24)

who proposed that “relationships characteris Not all researchers agree on the direction of the relationship between trust and commitment - building and sustaining relationships is an iterative process (Anderson and Narus 1990). As the model provides a single-time period perspective of ongoing partnerships in contrast to a dynamic model or inter-temporal perspective, given the extensive support provided by previous studies (eg. Hrebiniak 1974) it will be posited that at any one point in time commitment to a relationship with an exchange partner will will be dependent upon trust. Previous studies that found trust leads to commitment include: ed by trust are so highly valued that parties will desire to commit themselves to such relationships”; Moorman et al. (1992) and Walter et al. (2000).

Hypothesis 3: *Trust will have a positive association with commitment.*

### ***Performance satisfaction***

Wilson (1995, p. 338) defines performance satisfaction as “the degree to which the business transaction meets the performance expectations of the partner ... it includes both product specific performance and non-product attributes”. From the customer viewpoint, it is important for suppliers to deliver high level satisfaction on the basic elements of the business transaction (superior quality, reliable delivery, competitive price). At the same time, the customer must satisfy the supplier’s business needs or they risk becoming marginalised.

Performance satisfaction in continuing trading relationships is defined most frequently as a positive affective state resulting from the appraisal of all aspects — economic and non-economic — of a firm’s working relationship with another firm (Gaski and Nevin 1985, Frazier, Gill and Kale 1989, Geyskens et al. 1999). Geyskens et al. (1999, p. 224) define economic satisfaction as a firm’s “... positive affective response to the economic rewards that flow from the relationship with its partner,” in terms of the general effectiveness and productivity, and resulting financial outcomes. Non-economic satisfaction (p.224) is defined as a firm’s “...positive affective response to the non-economic, psychosocial aspects of its relationship, in that interactions with the trading partner are fulfilling, gratifying and easy”. Social satisfaction enhances the functioning of trading relationships and therefore helps to overcome current economic dissatisfaction by increasing the potential for future relationship performance (Geyskens and Steenkamp 2000). In the management of these relationships, it is incumbent upon trading partners to assess their current performance satisfaction and to communicate any changes in expectations, role requirements and growth opportunities (Dwyer et al.1987).

Satisfaction levels pertaining to partner performance affect the morale and the incentive for trading partners to participate in collective activities (Schul, Little and Pride 1985). Those trading partners who are satisfied with their partner’s performance are more likely to want to continue the relationship and are less likely to seek contractual safeguarding (Hunt and Nevin 1974, Werani 2001).

Walter et al. (2000), suggest that the most effective way for a trading partner to make another partner believe in his credibility and benevolence is to provide them with a positive performance experience. A partner justifies trust with a continuous and complete fulfilment of economic and non-economic performance requirements which reduces uncertainty.

Over time, ongoing satisfaction with past outcomes builds equity (Ganesan 1994), which in turn gives a trading partner confidence that they are not being taken advantage of in the relationship and that both parties are concerned about the other's welfare. When a firm has previously found their trading partner to be willing and able to satisfy their requirements and are reliable and predictable, they are more likely to trust the trading partner (Dwyer et al. 1987, Ganesen 1994, Geyskens et al. 1999).

A review of past performance in comparison with expectations leads to the firm's evaluation of the extent to which the partner firm will follow through on its current promises. On the basis of a positive review, the firm engages in trusting responses or actions (Anderson and Narus 1990). Therefore, it is hypothesised:

*Hypothesis 4: Performance satisfaction will have a positive association with trust.*

Firms are predominantly concerned about functionality and performance in business markets (Anderson and Narus 2004). A thorough understanding of a partner's requirements and preferences will enable a firm to know where their resources and capabilities have the greatest potential to create and deliver superior value. Value for a firm depends on the "promise" of a partner's offering. More importantly it depends on the partner's ability to fulfil that promise to the firm's satisfaction.

A supplier may seek to increase performance satisfaction for a customer through the provision of innovative ideas or a highly customised product (Ford et al. 2003). A customer may increase performance satisfaction for a supplier by providing some technical support, paying higher prices or by being flexible in negotiating contractual arrangements. These changes have the potential to directly increase a firm's satisfaction with the performance of the other partner.

Usually, a firm will regularly assess the partner firm in terms of the extent to which they are providing performance satisfaction. A business relationship with another firm is not likely to continue if there is some doubt over the partner's ability to provide superior value, by comparison to alternative partners in the marketplace (Walter et al. 2002a). It is reasonable to assume that those firms who are strong performers in terms of their ability to deliver high level satisfaction on important elements of their business transactions will thereby increase their partner's perceptions of the value of the relationship. Therefore, the following is hypothesised:

*Hypothesis 5: Performance satisfaction will have a positive association with relationship value).*

## ***Communication***

Communication is the basis of interaction between suppliers and customers (Ford et al. 2003). It is “the formal and informal sharing of meaningful and timely information between firms,” (Dwyer et al. 1987), concerning day-to-day, tactical or strategic issues (Anderson and Narus 2004). Communication processes underlie most aspects of inter-firm activity (Kapp and Barnett 1983, Snyder and Morris 1984, Mohr and Nevin 1990). Communication offers a means to understand a partner’s expectation, solve problems, build trust and demonstrate commitment (Ford et al. 2003). Mohr and Nevin (1990, p. 36) describe communication as “the glue” that holds trading relationships together.

The various aspects of communication include communication quality, the extent of information sharing and the level of participation and input into joint concerns (Mohr and Spekman 1994, Mohr and Sohi 1995). Facets of communication quality include accuracy, timeliness, adequacy and credibility (Stohl and Redding 1987).

Communication quality refers to the extent to which interaction between customers and their suppliers is frequent, formal/explicit, bidirectional (to include positive and negative feedback) and non-coercive (Mohr, Fisher and Nevin 1999). Cooperative business relationships imply intensive mutual coordination through a high frequency of two-way interaction (Werani 2001). This occurs across all types of communication including face-to-face, video conferencing, telephone calls and email. There is also a formal aspect to these communications with some reliance on set policies and procedures. Non-coercive influence tactics emphasise common goals such as discussions, simple requests and recommendations rather than more explicit forms of influence (Mohr et al. 1999).

The regularity and duration of communication are indicators of the amount of information exchanges in business relationships. Cannon and Perreault (1999, p. 441) define information exchange as “expectations of open sharing of information that may be useful to both parties.” Information sharing refers to the extent to which critical, often proprietary information is communicated to a trading partner (Mohr and Spekman 1994). Through information sharing and by being knowledgeable about each others business, partners are able to assume a proactive role in maintaining the relationship over time. The systematic availability of information allows people to coordinate and complete tasks more effectively (Guetzkow 1965) and is associated with mutually fulfilled partner expectations (Frazier et al. 1988) and increased levels of performance satisfaction (Schuler 1979). Storer (2005) found that interorganisational information systems were positively associated with satisfaction with the interorganisational information system and satisfaction with performance.

In the context of the Australian wine and grape industry, Osborn (2000) describes how there is a significant amount of communication and information exchange between wineries and grape



suppliers, depending upon their individual needs. Grape growers need advice on what grape varieties to grow; timely support from winery viticultural staff; and constructive feedback on the vineyard assessments, the resultant quality of the grapes and any recommendations to assist with improvement (Allen 2003). Likewise, wineries need the supplier to inform their representatives of any information or change that could affect the expected grape quality or yield. With this two-way provision of information, it is possible to improve performance satisfaction for both parties through improved grape quality and increased returns (Batt and Wilson 2001). Therefore, it is hypothesised that:

*Hypothesis 6: Communication will have a positive association with performance satisfaction.*

Communication strategies used by trading parties are critical in building trust (Mohr and Spekman 1994). The quality of information transmitted and joint participation by partners in planning and goal setting sends very important signals to trading partners. Joint participation in decision making ensures both parties understand the strategic choices facing each other. However, Mohr and Spekman (1994) suggest that such openness is not natural for management. Firms must learn to develop their communication skills and modify their demands for decision autonomy to better align partner's expectations, goals and objectives to gain a partner's trust.

Disclosing confidential information to an exchange partner exposes one's vulnerability. Therefore, a two-way flow of information is essential for creating and sustaining trust (Friman, Garling, Millett, Mattsson & Johnston 2002). In practice, this might involve sharing cost information, discussing future development plans or jointly providing supply and demand forecasts (Cannon and Perreault 1999). Communication, especially timely communication, fosters trust by resolving disputes and aligning perceptions and expectations (Morgan and Hunt 1994).

The literature supports the belief that a partner's perception that past communications from another trading partner have been frequent and high quality will result in greater trust (Anderson and Narus 1986, Anderson, Lodish and Weitz 1987, Anderson and Narus 1990, Morgan and Hunt 1994, Storer 2005). Therefore, it is hypothesised that:

*Hypothesis 7: Communication will have a positive association with trust.*

Anderson and Narus (1990) propose that communication leads to greater cooperation in dyadic exchange relationships. Their study produced empirical evidence for the positive influence effect of communication on the level of cooperation in a multiple-sample model of dyadic exchange. Their findings were theoretically substantiated from the work of Deutsch (1958, 1960).

Deutsch (1958, p. 279) studied the influence of communication on cooperation to find that where joint participation in planning and decision making exists between trading partners there

is a need to “communicate fully” the cooperative efforts each firm needs of its partner to achieve mutual and individual relationship goals. Storer (2005) found that interorganisational information systems were positively associated with perceived responsiveness. These findings effectively find communication to be antecedent to cooperation. Therefore, it is hypothesised that:

Hypothesis 8: *Communication will have a positive association with cooperation.*

### ***Power asymmetry***

Power is an integral component of customer-supplier relationships (Kumar 1996, Ford et al. 2003, Anderson and Narus 2004, Hingley 2005). Power resides in the ability of a firm to make another firm undertake actions it wouldn't undertake on its own (Emerson 1962). However, the presence of power does not necessarily mean that it will be explicitly exercised (Hingley 2005), as a firm's possession of power is separate from the way the power is applied (Frazier and Antia 1995, Ogbonna and Wilkinson 1996, Howe 1998, Cox et al. 2001).

According to French and Raven (1959), power is derived from six different bases: (i) reward; (ii) coercive; (iii) legitimate; (iv) expert; (v) information; and (vi) referent. A dominant partner has the power of reward and coercion by virtue of their position — its legitimate power to prescribe behaviour. Particularly between firms in which technical knowledge is valued, expertise is a basis of power, as is the control of information. Referent power differs from other forms, as it refers to the extent to which the more dependent firm identifies with the dominant firm. The imbalance is directly related to the perceived degree of one partner's dependence on the other (Wilson 1995). “Power is rooted in dependence”, (Ford et al. 2003, p. 148), and both are a function of available alternatives and the quality of the activities that link firms (Emerson 1962).

Kumar (1996) proposes that power asymmetry exists in the vast majority of dyadic relationships. Hingley (2005) further argues that the exercise of power in asymmetric relationships is a more common situation than the existence of perpetual cooperation and power symmetry, as it is a natural desire for all firms to gain advantage and to disrupt symmetry. While the imbalance often favours the customer, this does not mean that weaker partners cannot benefit in such relationships.

Compared to balanced power relationships that feature a participative decision structure, the dominant party in an asymmetrical relationship will generally influence the governance systems (Dwyer 1993). High power parties are motivated by the goals of greater decision-making control, efficiency and generally have the legitimate authority to pursue these goals. Often, more powerful partners assume responsibility for the inter-firm division of labour, monitoring outcomes, linking the discrete activities between actors, establishing and managing relationships between the various actors and organising logistics (Batt 2004).

A firm's ability to exercise control over its exchange partner is highly contingent on structural power and market concentration (Batt 2004). In the Australian grape and wine industry, power asymmetry in relationships may be subject to shifts in economic conditions (McGrath-Kerr 2005). Through periods of grape oversupply, market conditions will favour the wineries, operating in a buyers' market with plenty of alternative grape suppliers available. When adjustment is made in the supply market, then market conditions become more favourable for independent grape suppliers and shortfalls in the supply of grapes force grape prices to rise. Long-term grape buyers and sellers of wine grapes recognise the cyclic nature of demand and are more inclined to choose a collaborative approach to work together through both the good and the bad times.

When one party possesses inordinate power over the other, there may be an unwillingness on the part of the stronger party to respond to the complaints of the other firm or to participate in joint problem resolution. Therefore, it is hypothesised that:

*Hypothesis 9: Power asymmetry will have a negative association with conflict resolution.*

The economic and social dimensions of relationship performance are affected differently by the structures and processes of interaction, depending on the balance of power. Dwyer (1993) found suppliers were socially satisfied in their relationship with more powerful buyers for as long as the norms of stewardship were nurtured and tendencies to centralise and threaten were restrained. At the same time, buyers needed to check for supplier opportunism by avoiding temptations to exact too much authority or issue threats.

In most instances, some cost is involved in complying with a partner's requests. Consequently, a firm may experience lower economic satisfaction from its interactions with an exchange partner to the extent that it perceives that it has been coerced (Anderson and Narus 1990). Therefore, it is hypothesised that:

*Hypothesis 10: Power asymmetry will have a negative association with performance satisfaction.*

Researchers have consistently argued that inter-firm relationships with more asymmetric power are more dysfunctional because of the opportunities for exploitation that result from the imbalance (Geyskens et al. 1996). Furthermore, in many cases the more dominant firm will have little structural motivation to identify with or become attached to the more dependent partner (Robicheaux and El-Ansary 1975, Kumar et al. 1995). Consequently, these circumstances can reduce or eliminate feelings of trust on the part of the dependent party, which leads to the following hypothesis:

*Hypothesis 11: Power asymmetry will have a negative association with trust.*

Power can be used as a mechanism for achieving cooperation from exchange partners (Hingley 2005). A more dominant firm can use either coercive, negative types of power to achieve immediate cooperation or, alternatively it can exercise more positive, collaborative types of influence with the aim of increasing cooperation over the long term (Geyskens et al.1996). Therefore, power is not solely a negative force (Hingley 2005). When dominant firms choose to exercise their power collaboratively, the relatively dependent partner may interpret this as a signal that its dominant partner intends to work together to promote long-term joint goals and valuable outcomes.

This particularly applies in the Australian grape and wine industry where close cooperation between wineries and their contracted growers is needed to ensure superior quality grapes (Scales et al. 1995). Wineries, as the more dominant firm, can use their power as a means to establish shared cooperative norms and expectations. As directed by their winery customers, grape suppliers may be expected to cooperate in the management of their crops, comply with mandatory requirements for agrochemical use and application and adopt new technologies (Clancy 2005). In return, the grape suppliers are more secure in the knowledge that they have a contract for the purchase of their wine grapes. Therefore, it is hypothesised that:

Hypothesis 12: *Power asymmetry will have a positive association with cooperation.*

### ***Conflict resolution***

Conflict refers to the general level of disagreement between customers and suppliers (Anderson and Narus 2004). Although some level of conflict is normal in every relationship, if the conflict gets out of hand it may be harmful to the relationship or even cause its demise. Conflict is either attitudinal or structural (Leonidou 2004). Attitudinal conflict may be due to ill-defined and poorly performed roles, different expectations about potential outcomes, different opinions about the relationship or the capabilities of the parties involved. Structural conflict usually occurs due to the pursuit of different or even opposite goals by participants, the need to protect and maintain autonomy in the relationship and competition between the two parties for the same resources (Etgar 1979).

Firms in cooperative relationships are inclined towards joint problem solving since integrated outcomes satisfy more fully the needs and concerns of both parties (Mohr and Spekman 1994). Although, partners may attempt to persuade each other to adopt particular solutions, this approach is generally more constructive than the use of coercion. Sometimes partners may set up formal joint mechanisms to 'monitor' potential conflict situations to ensure better understanding of mutual concerns and prompt recognition of potential conflict situations (Kale, Singh and Perlmutter 2000). Joint problem solving entails mutual concern for 'win-win' for those concerned (Bazerman and Neal 1984). Other conflict resolutions are at odds with the cooperative approach such as smoothing over, ignoring/avoiding the issue, and harsh words.

The impact of conflict resolution on the relationship can be productive or destructive (Assael 1969, Deutsch 1969). The benefits of conflict resolution in dyadic relationships includes: (i) more frequent and effective communication between the parties and the establishment of mechanisms to express complaints; (ii) a more equitable review of relationship resources; (iii) a more balanced distribution of power; and (iv) standardisation of modes of conflict resolution (Assael 1969).

Joint conflict resolution demands the establishment of mutually accepted norms of redress (Dwyer et al. 1987). The way in which two parties resolve conflict has implications for continued communication and information exchange between trading partners. Thus, it is hypothesised that:

Hypothesis 13: *Conflict resolution will have a positive association with communication.*

Furthermore, firms that lower the overall level of conflict in their relationship experience greater satisfaction (Anderson and Narus 1990). Thus, it is hypothesised that:

Hypothesis 14: *Conflict resolution will have a positive association with performance satisfaction.*

Effective conflict resolution produces feelings of procedural justice and trust (Kale et al. 2000). According to Ganesan (1994), when two parties have successfully resolved critical problems in the relationship, mutual trust will strengthen. Thus, it is hypothesised that:

Hypothesis 15: *Conflict resolution will have a positive association with trust.*

To summarise, there are fifteen hypothesised pathways comprising the Phase One model (Table 4.1).

**Table 4.1: Proposed pathways for the Phase One model**

<b>Hypothesis</b>	<b>Proposed model path</b>	<b>Effect</b>
H1	Cooperation → Relationship value	Positive
H2	Commitment → Cooperation	Positive
H3	Trust → Commitment	Positive
H4	Performance satisfaction → Trust	Positive
H5	Performance satisfaction → Relationship value	Positive
H6	Communication → Performance satisfaction	Positive
H7	Communication → Trust	Positive
H8	Communication → Cooperation	Positive
H9	Power asymmetry ↔ Conflict resolution	Negative
H10	Power asymmetry → Performance satisfaction	Negative
H11	Power asymmetry → Trust	Negative
H12	Power asymmetry → Cooperation	Positive
H13	Conflict resolution → Communication	Positive
H14	Conflict resolution → Performance satisfaction	Positive
H15	Conflict resolution → Trust	Positive

#### **4.4. Phase Two: A multigroup model of relationship value in the Australian grape and wine industry**

Although buyers and suppliers may differ in the roles and functions they perform, symmetry is expected in the nature of the value created through relationships to achieve the firm's desired economic outcomes.

However, in order to conceptually meet the challenge of developing a two-group model, a more complete understanding of relationship value was needed. Werani (2001) suggests that any complex model of relationship value will need to be multidimensional to capture the direct and indirect relationship functions that create value, while simultaneously evaluating the sacrifices incurred in the business relationship.

In terms of the outcomes, each of the respective trading parties has an expectation of net benefit or value to result from either the immediate focal relationship (from primary or direct functions) or from its impact on future business in connected relationships (from secondary or indirect functions) (Cunningham and Homse 1982, Campbell and Cunningham 1983, Gemunden et al. 1992, Håkansson and Johanson 1993, Anderson, Håkansson and Johanson 1994, Moller 2000, Walter and Ritter 2000, Walter et al. 2001).

In a business relationship, the secondary functions can be as important, if not more so, than the primary functions (Anderson, Håkansson and Johanson 1994). Furthermore, a business relationship may serve to fulfil more than one direct and/or indirect function. Walter et al. provide conclusive evidence that both direct and indirect functions contribute to the perceived value of business relationships for customers (Walter et al. 2002a), and for suppliers (Walter et al. 2001). These functions are characterised by the trading partner's contribution to value in the partner's firm and in the network.

Walter et al. (2002a) found that the strongest contributors to relationship value were the direct functions. From a customer's perspective, relationships with suppliers lowered purchasing costs (cost reduction function), improved the offer quality and other attributes (quality function), and reduced the risk and uncertainty through the knowledge that a substantial volume of material could be provided by a single, proven supplier (volume function).

According to Walter et al. (2001), from a supplier's perspective, relationships with customers contributed to the profitability of the firm (profit function), contributed indirectly through better capacity utilisation and economies of scale or scope (volume function); and in some instances, provided insurance or a safeguard should problems arise with other customers (safeguard function).

These direct functions are characterised by the immediate beneficial effect on the economic goals of the firm. In contrast, the indirect functions have a beneficial effect for the firm either in the future or in other relationships in the network (innovation function, market function, scout function and access function) (Walter et al 2001, Walter et al. 2002a). However, neither study considers the sacrifice necessary to achieve these benefits; an omission which leads to a conceptualisation of relationship benefits not relationship value.

The benefits and sacrifices associated with the overall value of business relationships have been well documented in the empirical literature (Lapierre 2000, Werani 2001, Ulaga and Eggert 2003) (

Table 4.2).



**Table 4.2: Review on empirical studies of relationship value**

<b>Author</b>	<b>Perspective</b>	<b>Benefit dimensions</b>	<b>Sacrifice dimensions</b>
Lapierre 2000	Customer value	<ul style="list-style-type: none"> <li>• Product related benefits</li> <li>• Service related benefits</li> <li>• Relationship benefits</li> </ul>	<ul style="list-style-type: none"> <li>• Price</li> <li>• Relationship related sacrifices</li> </ul>
Werani 2001	Customer value	<ul style="list-style-type: none"> <li>• Building of strategic competencies</li> <li>• Product-related interaction</li> <li>• Economic effects</li> <li>• Personal interaction</li> </ul>	<ul style="list-style-type: none"> <li>• Direct costs of relationship management</li> </ul>
	Supplier value	<ul style="list-style-type: none"> <li>• Building of strategic competencies through personal interaction</li> <li>• Economic effects</li> <li>• Product-related interaction</li> </ul>	<ul style="list-style-type: none"> <li>• Direct costs of relationship management</li> </ul>
Ulaga and Eggert 2003	Customer value	<ul style="list-style-type: none"> <li>• Product benefits</li> <li>• Service benefits</li> <li>• Know-how benefits</li> <li>• Time-to-market benefits</li> <li>• Social benefits</li> </ul>	<ul style="list-style-type: none"> <li>• Process costs</li> <li>• Price</li> </ul>
Walter et al. 2001	Supplier value	<p>Direct outcomes:</p> <ul style="list-style-type: none"> <li>• Profit function</li> <li>• Volume function</li> <li>• Safeguard function</li> </ul> <p>Indirect outcomes:</p> <ul style="list-style-type: none"> <li>• Innovation function</li> <li>• Market function</li> <li>• Scout function</li> <li>• Access function</li> </ul>	
Walter et al. 2002a	Customer value	<p>Direct outcomes:</p> <ul style="list-style-type: none"> <li>• Cost reduction function</li> <li>• Quality function</li> <li>• Volume function</li> </ul> <p>Indirect outcomes:</p> <ul style="list-style-type: none"> <li>• Market function</li> <li>• Scout function</li> <li>• Innovation development function</li> </ul>	

However, Werani (2001) examined the value of cooperative business relationships from both the buyer and seller perspective. Relationship value for customers were grouped into four benefit dimensions (building of strategic competencies; product-related interaction; economic effects; and personal interaction) as well as one sacrifice dimension (direct costs of relationship management). Supplier value resulted from three benefit dimensions (building of strategic competencies through personal interaction, economic effects and product interaction) and one sacrifice dimension (direct costs of relationship management). Werani concluded that

differences in value concepts between customers and suppliers were necessary to represent divergent value perceptions.

Despite some degree of difference, the majority of value indicators were the same between groups (Werani 2001). Furthermore, the study used a number of relational variables in the “personal interaction” group that are typically treated as distinct constructs (e.g. trust and conflict resolution) that are antecedent to relationship value. All positive value factors, both economic and social, made a beneficial contribution towards the firm’s net economic value through cost reduction, through the transfer of technology and know-how in joint product development and through strengthening the firm’s strategic position and competitiveness. The sacrifice was incurred through monetary expenses as a result of the additional time required to facilitate inter-firm interaction and coordination costs to achieve the desired benefits.

Building on the existing body of research, this study will address the gaps that have been identified in previous empirical studies by proposing a structural model of relationship value comprising:

- customer and supplier perspective
- relationship benefits and sacrifices
- direct and indirect relationship value outcomes.

Customer and supplier firms considering an ongoing trading relationship with another firm will both have their expectations of results or outcomes that they would like to achieve. Although these outcomes are likely to be different between customers and suppliers and even within customer firms and supplier firms, there are certain expectations shared by all firms in business relationships (Morris et al. 2001). Firms will cease to continue trading with a partner who is not creating the desired direct and indirect net benefits, particularly where there are alternatives.

#### **4.4.1. Profitability benefits**

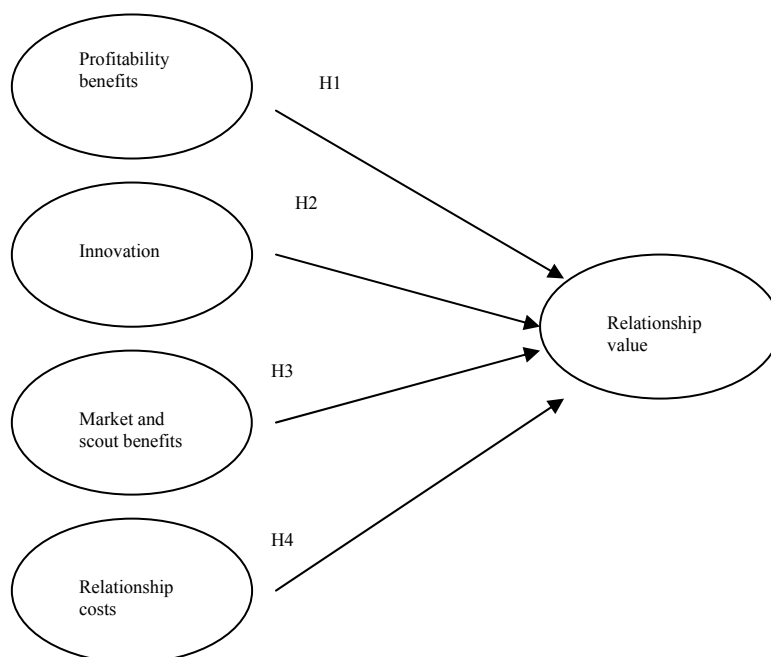
The expectation of better profits either through lower costs or higher revenues is a major incentive for long-term trading relationships for both customer and supplier firms (Ford 1984, Anderson and Narus 2004). However, the profit function is not merely a summation of the firm’s realisable profits, but comprises an index of economic and strategic outcomes that result through being in the relationship. On this premise, relationship benefits include the economic and strategic advantages derived through collaboration with a trading partner which enhances the firm’s competitiveness (Sweeney and Webb 2007).

Collaborative firms aspire to a range of strategic and operational benefits to increase their competitiveness and profitability. Firms can seek competitive advantage by strategically positioning themselves differently to rival firms (Anderson and Narus 2004) in domestic and global markets. Within the grape and wine industry, differentiation is mainly achieved through

effective marketing of branded wine products. Every winery has branded products in particular markets for which they must meet quality and quantity requirements (Donald and Georgiadis 2000). These requirements, particularly quantity, are determined by long-term sales forecasts. Effective segmentation of available tonnages into quality categories based on end use will determine how well the winery will meet the requirements of their customers in particular markets. Long-term supply arrangements between wineries and their grape suppliers reduce risk and uncertainty for both parties. Quality categories can be set for a grape supplier for a particular market and the vineyard can be accurately assessed and ultimately managed so that the harvested grapes will meet predetermined quality specifications. It is in the interests of both parties to work together to ensure that the vineyards are managed to the given specifications (Beuman and McLachlan 2000).

Operational effectiveness can be improved by focussing on technical development and production processes (Beuman and McLachlan 2000). Being able to perform similar activities better than rivals also increases the competitiveness of both firms. Ultimately, a jointly profitable business relationship ensures the provision of consistently good monetary returns for the supplier and also for the winery through a more consistent supply of better quality grapes. In this industry, both parties benefit from being able to optimise operational processes and coordinate harvest and grape delivery (Fraser 2002). It is reasonable to assume that the presence of factors which contribute to higher profitability and greater competitiveness will positively contribute to the overall judgement of relationship value. Therefore it is hypothesised that:

Hypothesis 1: *Profitability benefits will have a positive association with relationship value* (Figure 4.2).



**Figure 4.2: Phase Two model**

#### 4.4.2. Innovation

Innovation is commonly considered in terms of changes such as the adoption of a new or significantly improved technology or advanced business practice (OECD/Eurostat 1997). The innovation may be new to the world or just new to the industry or business concerned (Manley and McFallen 2005).

However, from a relational perspective, Ford et al. (2003) view relationships as a means to combine a firm's own resources and activities with those of others into a completely new resource constellation and in so doing achieve innovation:

Innovation is likely to be “a coupling and matching process, where interaction is a critical element, rather than being dependent on just a single new technology developed in one company. Further, innovation is not restricted just to change in the technical resources of a company, but occurs in and between dimensions of both companies” (p. 44)

Innovative changes may be developed through the activities and resources of trading partners over time (Håkansson and Snehota 1995, Ford et al. 2003). In close, participative relationships, the two parties have the opportunity to learn more about each other's operational resources and find new and more effective ways to combine them (Lundvall 1985, Ford et al. 2003). Resources may include: (i) operational resources (production, service or logistical facilities); (ii) technologies and know-how; and (iii) their relationships with other firms that in turn have valuable resources (Gadde and Håkansson 2001, Ford et al. 2003). Joint input into the development of new product and process innovations is usually accompanied by a willingness from partners to discount short-term financial gains for the long-term benefits of innovation development (Håkansson 1987, 1989, Walter et al. 2001). Generally, firms acknowledge that gains from innovation will be realised in future business together.

Those firms seeking to achieve competitive advantage in highly competitive markets will be more inclined to increase the value of their operations through innovation with competent trading partners (Anderson and Narus 2004). When both firms cooperate to exploit their distinctive competencies and technologies, there is the potential to improve the value of the suppliers offering to the customer and “expand the pie” of mutual benefits for both firms (Håkansson 1982). If indeed, the essential purpose for a customer and supplier firm engaging in a relationship is to work together in a way that creates value for them, it is reasonable to assume that innovations such as joint efforts to advance business practices and significant improvements to production and technical processes will increase long-term economic and strategic outcomes. Thus, it is hypothesised that:

*Hypothesis 2: Innovation will have a positive association with relationship value.*

#### **4.4.3. Market and scout benefits**

Relationship value is also a function of secondary relationships (Blankenburg-Holm et al. 1996, Walter et al 2002a, Anderson and Narus 2004), therefore it is important to examine the indirect benefits that may be achieved through connected network relationships (Granovetter 1992, Anderson, Håkansson and Johanson 1994). The extent to which constructive network benefits accrue also depends upon the transferability of resources, the complementarity of activities and the generalisability of actor relationships (Anderson, Håkansson and Johanson 1994). The inclusion of indirect benefits will ensure a complete conceptualisation of relationship value.

Connected relationships can indirectly influence the economic goals of the focal firms (Walter et al. 2001) through the indirect *market* function (assistance to attract new customers/suppliers and to access new markets through reference or reputation effects) (Ryssel et al. 2000, Walter et al. 2001, Walter et al. 2002a, Walter and Ritter 2003) and the *scout* function (meaningful information about future developments in the customer/supplier market) (Cunningham and Homse, 1982, Walter et al. 2001, Walter et al. 2002a, Walter and Ritter 2003). The development of these two functions in a business relationship gives firms an opportunity to differentiate themselves from alternative partners (Walter et al. 2002a). In addition, there is greater opportunity for suppliers to reduce the need to compete on price alone.

A positive contribution to the overall judgement of relationship value is expected with the realisation of market and scout network benefits through the focal relationship. Thus, it is hypothesised that:

Hypothesis 3: *Market and scout benefits will have positive association with relationship value.*

#### **4.4.4. Relationship costs**

Relationship costs are functions of the activities that are necessary to develop and maintain relationships with business partners (Ford et al. 2003). These costs “reflect the content of the relationship rather than the offering being purchased, as they originate in the organisational practices and the arrangements that both parties make with each other” (p.96).

Obtaining benefits from a business partner, may require substantial involvement with them, which in turn increase relationship costs. Relatively new relationships may impose substantial costs for supplier development and general viticultural assistance, whereas established wine grape growers may seek only specialised advice (Beuman and McLachlan 2000).

Relationship costs include structural costs i.e. communications links and administrative systems and general process adaptations. In close, long-term relationships, firms will seek a greater efficiency in the alignment of the business processes that tie them to the partners involved (Werani 2001). Maintaining the relationship will eventually require more time and money to continuously preserve and improve the linkages. Ford et al. (2003) point out how firms must

continue to invest in relationships on the basis of their potential to increase profit, but it may also include the possibility of acquiring new technologies or access to new competencies.

In a business relationship, the objective is to balance relational costs in order to optimise the returns as it is hypothesised:

Hypothesis 4: *Relationship costs will have a negative association with relationship value.*

To summarise, there are four pathways comprising the Phase Two model to relationship value (Table 4.3).

**Table 4.3: Proposed pathways for the Phase Two relationship value model**

Hypothesis	Proposed model path	Effect
H1	Profitability benefits → Relationship value	Positive
H2	Innovation → Relationship value	Positive
H3	Market/scout benefits → Relationship value	Positive
H4	Relationship costs → Relationship value	Negative

#### 4.5. Phase Three: Final model

The third phase will establish how the seven relational constructs (taken from Phase One) confer direct and indirect benefits and sacrifice (from Phase Two). Hypothesised relationships will be repeated for those two constructs for which theoretical support has established a direct and positive relationship with relationship value in Phase One: performance satisfaction and cooperation. However, in this third phase, instead of using a single relationship value construct, the model will develop separate pathways from the relationship constructs to three benefits and one sacrifice construct.

It is reasonable to assume that an increase in profitability, innovation and market and scout benefits could result from an increase in performance satisfaction and also from an increase in the level of cooperation between firms. However, performance satisfaction, unlike cooperation is unlikely to incur any additional relationship costs. Cooperation between firms may readily increase the costs of relationship maintenance as partners assume responsibility for the inter-firm division of labour, monitoring outcomes, linking the discrete activities between actors, establishing and managing relationships between the various actors and organising logistics (Batt 2004). Therefore, it is hypothesised that:

Hypothesis 16: *Performance satisfaction will have a positive association with profitability benefits.* (Table 4.4)

Hypothesis 17: *Performance satisfaction will have a positive association with innovation.*

Hypothesis 18: *Performance satisfaction will have a positive association with market and scout benefits.*

Hypothesis 19: *Cooperation will have a positive association with profitability benefits*

Hypothesis 20: *Cooperation will have a positive association with innovation.*

Hypothesis 21: *Cooperation will have a positive association with market and scout benefits.*

Hypothesis 22: *Cooperation will have a negative association with relationship costs.*

Based on the findings of Walter and Ritter (2003), who found trust and commitment were key drivers of relationship value (profits, innovation, market and scout benefits), three further pathways were hypothesised for trust:

Hypothesis 23: *Trust will have a positive association with profitability benefits.*

Hypothesis 24: *Trust will have a positive association with innovation.*

Hypothesis 25: *Trust will have a positive association with market and scout benefits.*

Unlike trust, instrumental commitment is recognised as involving some investment costs (time or investment in human resource skills) (Gundlach et al. 1995). Thus, it is hypothesised that:

Hypothesis 26: *Commitment will have a positive association with profitability benefits.*

Hypothesis 27: *Commitment will have a positive association with innovation.*

Hypothesis 28: *Commitment will have a positive association with market and scout benefits.*

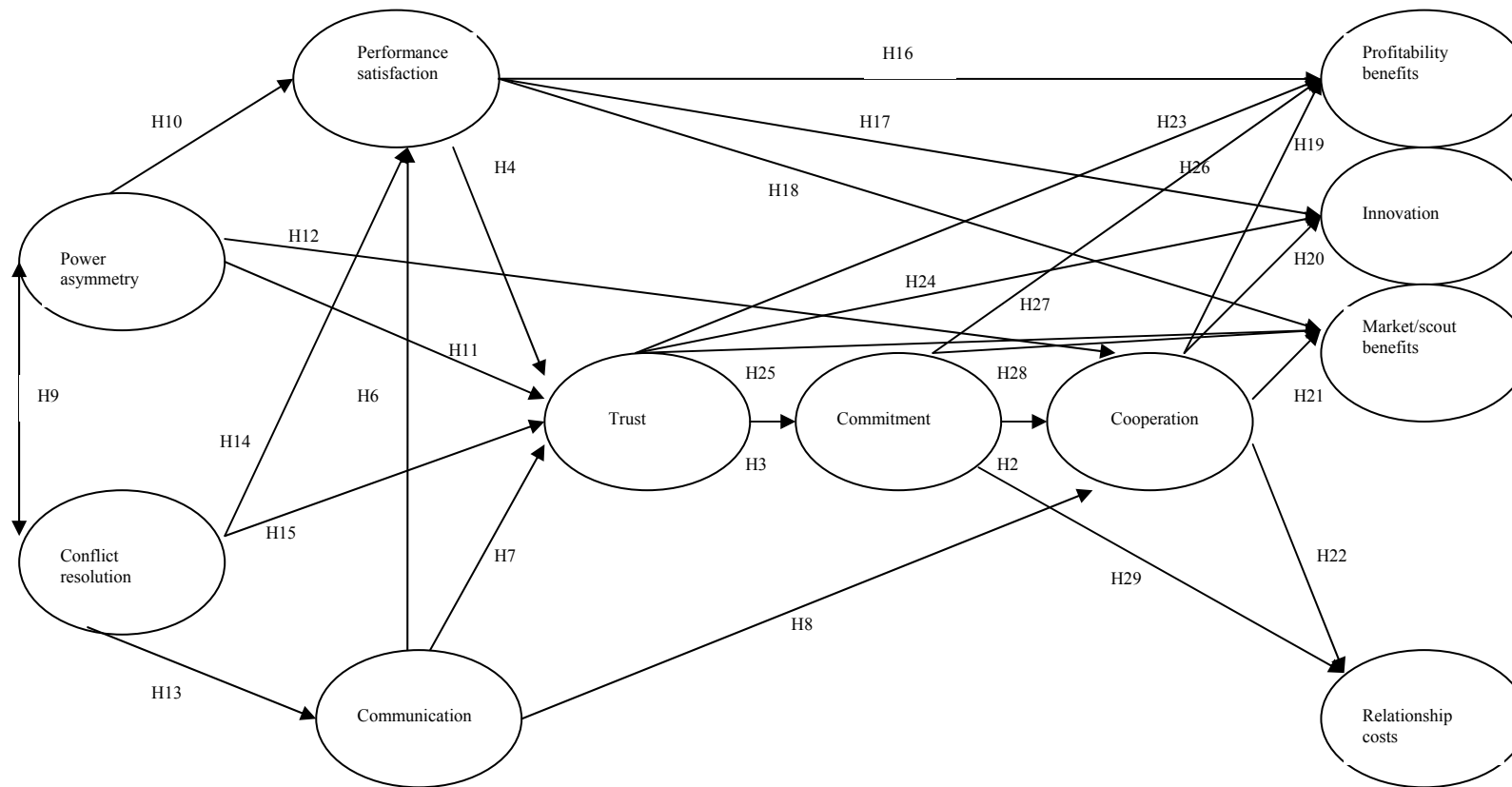
Hypothesis 29: *Commitment will have a negative association with relationship costs.*

The Phase Three model is comprehensive, with the combination of seven relationship constructs and four relationship value predictors from previous models to give a total of 27 hypotheses. The hypotheses — H1 and H5 — in the phase one model have been replaced. The original pathway from cooperation to relationship value (H1) now comprises pathways from cooperation: (i) to profitability benefits (H19); (ii) to innovation (H20); (iii) to market and scout benefits (21); and (iv) to relationship costs (H22). Similarly, the original pathway from performance satisfaction to relationship value (H5) now predicts pathways from performance satisfaction: (i) to profitability benefits (H16); (ii) to innovation (H17); and (iii) to market and scout benefits (H18) (Table 4.4).

**Table 4.4: Proposed pathways for the three models**

Hypothesis	Proposed model path	Effect
<b>Phase One model</b>		
H1	Cooperation → Relationship value    see H19 – H22 (Phase Three)	Positive
H2	Commitment → Cooperation	Positive
H3	Trust → Commitment	Positive
H4	Performance satisfaction → Trust	Positive
H5	Performance satisfaction → Relationship value (Phase One) see H16 – H18 (Phase Three)	Positive
H6	Communication → Performance satisfaction	Positive
H7	Communication → Trust	Positive
H8	Communication → Cooperation	Positive
H9	Power asymmetry ↔ Conflict resolution	Negative
H10	Power asymmetry → Performance satisfaction	Negative
H11	Power asymmetry → Trust	Negative
H12	Power asymmetry → Cooperation	Positive
H13	Conflict resolution → Communication	Positive
H14	Conflict resolution → Performance satisfaction	Positive
H15	Conflict resolution → Trust	Positive
<b>Phase Two model</b>		
H1	Profitability benefits → Relationship value	Positive
H2	Innovation → Relationship value	Positive
H3	Market/scout benefits → Relationship value	Positive
H4	Relationship costs → Relationship value	Negative
<b>Phase Three model includes H2 - H4 and H6 - H15 from Phase One model</b>		
H16	Performance satisfaction → Profitability benefits	Positive
H17	Performance satisfaction → Innovation	Positive
H18	Performance satisfaction → Market and scout benefits	Positive
H19	Cooperation → Profitability benefits	Positive
H20	Cooperation → Innovation	Positive
H21	Cooperation → Market and scout benefits	Positive
H22	Cooperation → Relationship costs	Negative
H23	Trust → Profitability benefits	Positive
H24	Trust → Innovation	Positive
H25	Trust → Market and scout benefits	Positive
H26	Commitment → Profitability benefits	Positive
H27	Commitment → Innovation	Positive
H28	Commitment → Market and scout benefits	Positive
H29	Commitment → Relationship costs	Negative





**Figure 4.3: Phase Three model**

## **5. Preliminary research methodology and findings**

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### **5.1. Chapter outline**

Following the development of the theoretical model, it was considered necessary to verify the proposed model in the Australian grape and wine industry as there has been little previous research on customer-supplier relationships at a national level. More information was required to verify the selection of constructs for the model and to select suitable operational measures.

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.

### **5.2. Research design**

Qualitative research was used in the preliminary study to explore key theoretical constructs in the proposed model within the context of the Western Australian grape and wine industry. Leedy and Ormrod (1985) advocate the use of a qualitative approach when there is a need to examine theoretical assumptions about the nature of the phenomena in a real business situation.

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 (IDI) and a structured set of open-ended questions were the chosen instruments for data collection. In-depth interviewing involves conducting intensive individual interviews with a small number of respondents to explore their perspectives on particular issues (Boyce and Neale 2006). The IDI method was considered to yield more expansive and detailed information than is achievable through other data collection methods (Leedy and Ormrod 1985, Malhotra, Hall, Shaw & Oppenheim 2002). The research objectives were pursued through a flexible interview format and open-ended questions which allowed the interviewer to expand or modify discussion topics as each interview evolved (Malhotra et al. 2002). With this approach it was possible to probe specific issues or to follow a particular theme from start to finish. According to Malhotra et al. (2002), the opportunity to probe is of critical importance in getting meaningful responses and uncovering hidden issues. The respondent is also able to discuss sensitive viewpoints without influence from others and with complete confidentiality.

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. This time, eight supplier respondents were asked to answer the interview questions in relation to the participating winery.

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.

### **5.3. 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?

### **5.4. Sample selection**

An important task in setting up the in-depth interview was the selection of the participants (Malhotra et al. 2002). Although the results of in-depth interviews are not generalisable due to the small sample size (Boyce and Neale 2006), 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 (Mariampolski 2001). 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. All interviews took place at the participant's workplace.

The winery interviewees had a number of roles in the purchase decision-making process for grapes — as influencers, users, deciders, buyers and gatekeepers, or a combination of these roles (Webster and Wind 1972). Winery respondents included 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.

## **5.5. 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 reasons for the wide variation included: (i) the level to which the interviewee was inclined to talk about each topic and the issues raised; (ii) the level to which the interviewer and interviewee felt comfortable together; (iii) the amount of time available to the interviewee for the interview; and, (iv) the amount of distraction from the workplace during the interview. Winery interviews took place in the respondent's office; a couple of interviews were subject to fairly disruptive interruption. Immediately after the interviews, key data was summarised. This gave the researcher the opportunity to verify any information given in interviews if necessary.

## **5.6. Structured interview content**

A structured format was selected for the interviews on the basis that it was known at the outset what information was needed (Cavana, Delahaye and Sekaran 2001). As the researcher was unskilled in methods of qualitative data collection, the strict scheduling of the structured interview was also likely to be more successful than a semistructured or unstructured interview. The structured interview format comprised a list of topics and questions to be explored during the interview (Appendix 1). The time allocated to each question and the direction and depth of discussion were flexible. Questions were derived mainly from the literature and other relevant qualitative research (e.g. Storer 2005). The use of an identical measurement approach for buyers and for suppliers of wine grapes was a guiding principle in data collection. The interview questions were virtually identical in the buyer and supplier interviews for comparative purposes.

Most interview questions were open-ended so that respondents could answer in their own words. According to Malhotra et al. (2002), unstructured questions are appropriate when the respondents are required to express general attitudes and opinions. Open-ended enquiry also has a much less biasing influence on responses as the respondent is free to express any views. In addition, this information can be useful with the interpretation of responses to more structured questions. There was one structured question included in the interview which had an itemised rating scale to indicate the degree of agreement or disagreement with a series of statements. The main advantage of these structured questions was that they were easily understood and completed by the respondent (Malhotra et al. 2002).

According to Ticehurst and Veal (2000), it is important that the interview flows in a logical and comfortable manner, with easier questions at the start. Therefore, early questions in the interview concerned industry change and its impact on the respondent's trading relationship. Then the questions asked for detail about how the two parties interacted together, coordinated their activities, and whether any adaptation had been necessary in the relationship in response to the recent environmental change. The structure for the latter part of the interview was based on the knowledge that the value of the business relationship was closely linked with the relationship itself (Wilson 1995, Walter et al. 2000, Walter et al. 2001, Anderson and Narus 2004, Mandjak et al. 2003, Mandjak and Simon 2004). Therefore, it was considered more appropriate to introduce the topic of relationship value for discussion only after a deep and precise discussion on the nature of the trading relationship. As argued by Mandjak et al. (2003), this approach can be justified partly due to the complex interconnection between the business relationship and the value of the business relationship, and partly because the concept of relationship value is less well known and applied in business.

While the exploration of buyer and seller attitudes and behaviours in relation to the model constructs — relationship value, cooperation, commitment, trust, performance satisfaction, communication, conflict resolution and power asymmetry — were of high priority, it was important to identify through the discussion any other relational factors that may build relationship value.

The interview outline for buyers and for sellers of wine grapes was revised several times to improve the interview appropriateness and effectiveness. These revisions were based on the appropriateness of the individual questions in covering the total expanse of the research problem and on their effectiveness; that is, whether they were in a form and language that facilitated communication and rapport with the respondent. A pilot exercise involving some interested industry stakeholders proved invaluable in the clarification of the practical execution of the outlines. Finally, the interview outline was reviewed by research supervisors and the Curtin University of Technology Human Ethics Committee prior to being administered.

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. 2002a).

## **5.7. 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 was completed within one month.

## **5.8. 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.

### **5.8.1. 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 Chapter 2, sections 2.2 and 2.3, 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 21<sup>st</sup> 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 have 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.

### **5.8.2. 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, Ford et al. 2003). 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 receipt 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 5.1: Key interactions between winery and supplier**

Key interactions between winery and wine grape actors
<ul style="list-style-type: none"><li>• Negotiation of contract/contractual details or verbal purchase conditions</li><li>• Crop management and quality issues — pruning, irrigation, soil management, disease control, maturity analysis</li><li>• Harvest at targeted Baume and delivery schedule</li><li>• Feedback on grape quality assessments</li><li>• Conflict resolution (when applicable)</li></ul>

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 through a combination of both (Table 5.2).

**Table 5.2: Coordination of key activities between customer and supplier firms**

<b>Coordination of key activities between customer and supplier firms</b>
<ul style="list-style-type: none"> <li>• Verbal communication between winery personnel and the grape supplier</li> <li>• Purchase agreement specifies conditions of purchase arrangement including crop management issues pertaining to quality which include yield and Baume restrictions, pest and disease parameters</li> <li>• HACCP or other quality programs to ensure the growers are using the right chemicals, are keeping spray diaries, etc.</li> <li>• Feedback to growers via crop reports, growers’ website, etc.</li> <li>• Conflict resolution through joint discussion or protocol written into purchase agreement</li> </ul>

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 receipt 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. Most winery respondents could identify recent improvements which had facilitated effective communications and flow of information (Table 5.3).

**Table 5.3: Key resource adaptations made by wineries**

<b>Key winery resource adaptations</b>
<ul style="list-style-type: none"> <li>• Personal face-to-face visits by winery staff to the vineyard during the growing season, particularly leading up to harvest</li> <li>• Larger wineries may engage the services of grower liaison/technical officers</li> <li>• Smaller wineries may offer technical advice through their own vineyard manager or winemaker</li> <li>• Winery conducts growers’ meetings to communicate winery goals and objectives and other relevant information</li> <li>• Winery use of internet to provide a growers’ website</li> <li>• Winery provides growers with crop reports following visits to the vineyard</li> <li>• Wine tastings for grape suppliers provide an opportunity to taste their wines and compare with others</li> </ul>

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 5.4).

**Table 5.4: Key resource adaptations made by wine grape suppliers**

<b>Key supplier resource adaptations</b>
<ul style="list-style-type: none"> <li>• Suppliers may plant a specific grape variety, increase plantings of an existing variety or regraft existing vines to more popular varieties on winery request</li> <li>• Higher use of labour resources to reduce/manage cropping levels to meet winery grape purchasing specifications</li> <li>• Yield reductions</li> <li>• Require access to electronic communications such as email and internet</li> <li>• HACCP or other quality programs</li> <li>• Provision of timely and accurate crop estimates and grape samples as required</li> <li>• Higher use of labour to hand pick grapes (rather than machine pick) on request</li> <li>• Access to growers' website on the internet</li> <li>• Shared use of machinery, equipment and other materials</li> </ul>

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.

### 5.8.3. 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 5.5).

**Table 5.5: Key variations identified in the preliminary interview sample of customer–supplier relationships**

Key variations in the sample relationships
<ul style="list-style-type: none"><li>• Written and verbal purchase agreements</li><li>• Two year to ten year purchase agreements</li><li>• Very profitable to barely profitable trading arrangements</li><li>• Long-term and medium- to short-term relationship orientation</li><li>• Owner operated and operated under management</li><li>• Long-term and relatively new working relationships</li><li>• Strong personal relationships to strictly business relationships</li><li>• Ultra premium to beverage grape suppliers</li><li>• Large volume to small volume winery and vineyard operations</li><li>• Slightly problematic to unproblematic relationships</li><li>• Warm and cool grape producing regions</li></ul>

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:**

**Table 5.6: Winery satisfaction with grape supplier performance**

Item	Supplier N = 8
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)

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 5.6).

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.

**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.

**Commitment:** Preliminary research findings failed to produce any evidence of commitment in these trading relationships. Careful perusal of the translated transcripts found no mention of commitment or reference to behaviours which could represent commitment.

#### *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 5.7). 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 5.7: Grape supplier satisfaction with winery performance**

	<b>Winery</b>
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, I am given the option to be involved and 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 and makes any recomm. to assist with improvement	4.75
Wine grape specifications and tolerances are written, clear and understandable.	4.69
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 sustainably 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].



**Commitment:** Preliminary research findings failed to produce any evidence of supplier commitment in these trading relationships. As with wineries, careful perusal of the translated transcripts for wine grape suppliers found no mention of commitment or reference to behaviours which could represent commitment.

#### *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.

#### **5.8.4. 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 5.8).

**Table 5.8: Relationship benefits and costs specific to wineries**

<b>Relationship benefits</b>	
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	
<b>Relationship costs</b>	
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 5.9).

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.

**Table 5.9: Relationship benefits and costs specific to wine grape suppliers**

<b>Relationship benefits</b>	
A secure buyer for the grapes	A reduction in risk and uncertainty 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
Secure payment	
<b>Relationship costs</b>	
Additional expenditure of time	

Only two grape suppliers considered that the relationship with the winery incurred any additional expenditure of time.

***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 5.10).

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.

**Table 5.10: Mutual relationship benefits and costs for wineries and their grape suppliers**

<b>Mutual relationship benefits</b>	
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
<b>Mutual relationship costs</b>	
Additional expenditure of time	

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; a smaller number of grape suppliers considered that the relationship incurred additional expenditure of time with visits from winery liaison staff to discuss quality issues pertaining to winery contracted wine-grapes.

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 than to increase the number of suppliers and the time and effort required in relationship building and maintenance [interviewee number 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 specific relationship costs.

However, there were also a significant number of relationship benefits and the additional time cost 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.

## **5.9. 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 antecedent constructs that were derived from the literature, with one exception – commitment. Therefore, in keeping with the preliminary research objectives to verify grounds for inclusion for each of the constructs in a real business context, having failed to find any support for the inclusion of commitment the construct was removed from the model. Earp et al. (1999 cited in Hingley 2005, p.848) suggest that to expect commitment in all relationships, “is to ignore the rich diversity of relationships which not only exist but are appropriate in different contexts”.

The absence of supplier commitment can be explained from a theoretical viewpoint. Storer (2005) found that trust and performance satisfaction were not significantly related to commitment. Davis and Spekman (2004) point out that compliance in cooperative relationships

should not be confused with commitment. It is possible that suppliers may be “locked in” (Håkansson and Snehota 1995) to current relationships. In recent times, adaptation has featured strongly in these trading relationships as a means to achieve/ maintain “preferred supplier” status in competitive wine grape markets. Although changes have been made by both parties, the research results showed that the wineries have been the driving force. Often, independent grape suppliers have been expected to reduce yields, adopt quality systems and participate in increased communications in return for little or no financial reward. According to Johnsen and Ford (2001), in situations where adaptations are continually placed on one party by another and the decisions on their appropriateness and necessity are made unilaterally rather than bilaterally, the adapting firm may weaken its commitment to the other firm. In this case, the adaptations may be considered to be for the benefits of the winery rather than the relationship itself, and goodwill towards the winery may be lost.

The absence of winery commitment could be explained by the current oversupply of grapes and wine and a subsequent need to be very flexible in outsourcing commitments. Deloitte (2005) observed financial constraints for all but the very large wine producing companies. Current market conditions may impede commitment through activities such as long-term planning, expansion and capital investment when so much uncertainty prevails. In present market conditions, both parties may need to rely on the trust gained through positive past experience, and the confidence that the other firm can be relied upon and will act in their best interests.

Nevertheless, the preliminary results highlighted the importance of adaptive 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. Therefore, it would seem imperative that an adaptation construct be incorporated into the theoretical model.

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.

From a theoretical viewpoint, adaptation can achieve better use of resources via the alignment of activities and strengthen actor bonds for the benefit of a particular relationship or partner (Ford et al. 2003). Adaptive behaviour may range from minor change involving some additional inter-firm contact and exchange of non-confidential information to more significant changes (Brennan and Turnbull 1999), such as regrafting grape varieties to meet popular demand at the request of the winery or the winery creating a job position for a grower liaison representative.

In some cases, adaptations take place without any conscious decision having been taken, while in other cases, adaptations occur only after extensive and formal decision making. According to Brennan and Turnbull (1999), major adaptations are strategic decisions while minor adaptations can be regarded as a kind of organisational socialisation process, by which two firms learn how best to do business with each other. However, the accumulation of relatively small scale adaptations over time can result in one firm becoming substantially better able to meet the needs of another (Mintzberg 1994).

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). Therefore, it is hypothesised that:

Hypothesis 30: *Adaptation will have a positive association with communication*

Hypothesis 31: *Adaptation will have a positive association with performance satisfaction*

Hypothesis 32: *Adaptation will have a positive association with trust*

With the removal of the original Hypothesis 2 predicting the effect of commitment on cooperation, the predicted model pathways were reviewed (Table 5.10). Hypothesis 2 now predicts a pathway from trust to cooperation. Both theory and empirical evidence indicate that cooperation is dependent upon trust (Deutsch 1960, Pruitt 1981, Anderson and Narus 1990, Morgan and Hunt 1994). According to Anderson and Narus (1990, p. 45), "...once trust is established, firms learn that coordinated, joint efforts will lead to outcomes that exceed what the firm would achieve if it acted solely in its own best interests."

Hypothesis 2: *Trust will have a positive association with cooperation*

**Table 5.11: Review of proposed pathways for the three structural equation models**

<b>Hypothesis</b>	<b>Proposed model path</b>	<b>Effect</b>
<b>Phase One model</b>		
H1	Cooperation → R. Value (Phase One): See H19 – H22 (Phase Three)	Positive
H2	Trust → Cooperation	Positive
H3	Removal of commitment construct	
H4	Performance satisfaction → Trust	Positive
H5	Performance satisfaction → Relationship value (Phase One) See H16 – H18 (Phase Three)	Positive
H6	Communication → Performance satisfaction	Positive
H7	Communication → Trust	Positive
H8	Communication → Cooperation	Positive
H9	Power asymmetry ↔ Conflict resolution	Negative
H10	Power asymmetry → Performance satisfaction	Negative
H11	Power asymmetry → Trust	Negative
H12	Power asymmetry → Cooperation	Positive
H13	Conflict resolution → Communication	Positive
H14	Conflict resolution → Performance satisfaction	Positive
H15	Conflict resolution → Trust	Positive
<b>Phase Two model</b>		
H1	Profitability benefits → Relationship value	Positive
H2	Innovation → Relationship value	Positive
H3	Market/scout benefits → Relationship value	Positive
H4	Relationship costs → Relationship value	Negative
<b>Phase Three model includes hypotheses H2, H4, H6 - H15 from Phase One model</b>		
H16	Performance satisfaction → Profitability benefits	Positive
H17	Performance satisfaction → Innovation	Positive
H18	Performance satisfaction → Market and scout benefits	Positive
H19	Cooperation → Profitability benefits	Positive
H20	Cooperation → Innovation	Positive
H21	Cooperation → Market and scout benefits	Positive
H22	Cooperation → Relationship costs	Negative
H23	Trust → Profitability benefits	Positive
H24	Trust → Innovation	Positive
H25	Trust → Market and scout benefits	Positive
H26	Removal of commitment construct.	
H27	Removal of commitment construct.	
H28	Removal of commitment construct.	
H29	Removal of commitment construct.	
<b>Additional construct for Phase One model based on preliminary findings</b>		
H30	Adaptation → Communication	Positive
H31	Adaptation → Perf. satisfaction	Positive
H32	Adaptation → Trust	Positive

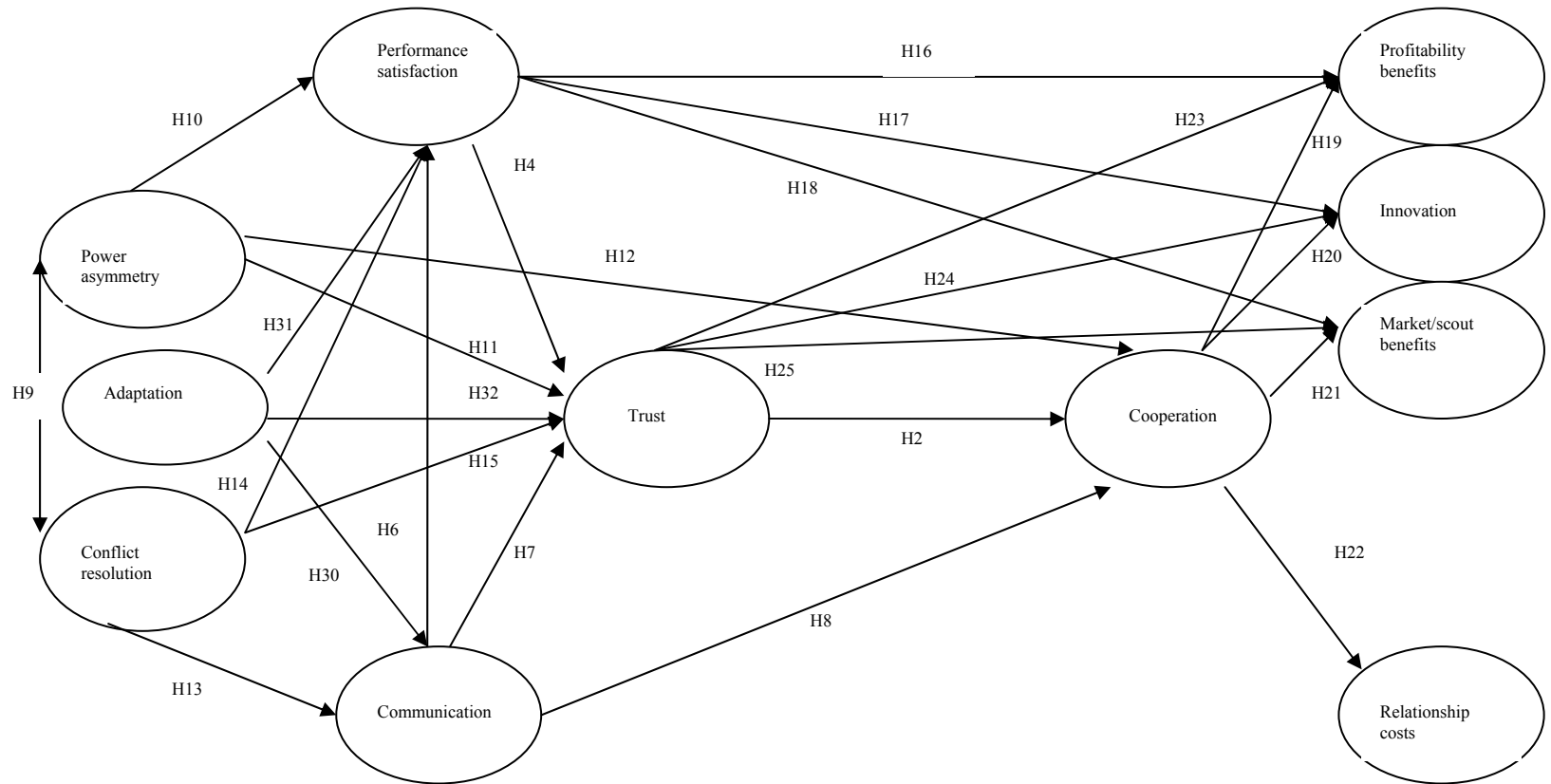


### **5.10. Limitations of the preliminary study**

The preliminary study provided the desired information on the dyadic relationships between wineries and their wine grape suppliers in Western Australia. This information was used to validate the theoretical model of value-based trading relationships within the context of the Australian grape and wine industry. A more complete understanding of the phenomenon being studied was required to finalise the scope of the model and was fundamental to a meaningful selection of quantitative construct measures in the second major research stage.

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..

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 was a critical step in validating these assumptions in the selection of the construct measures for a national study.



**Figure 5.1: Revised version of the three phase model**

## **6. Main research methodology**

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### **6.1. Chapter outline**

In this chapter, the methodology begins with the research design, followed by a description of the data collection and data analysis process. In a discussion of the target populations, an explanation is given for the choice of a census survey of the wine industry and a sample survey of the wine grape supplier population.

To facilitate the structural equation modelling (SEM) process, the constructs in the proposed model are operationalised. Item measures are selected from previous empirical studies and modified in accordance with findings from the preliminary research. Then, the statistical procedures used to analyse the data are explained. A summary of the methodology is provided in the final section.

### **6.2. Research design: 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 will be achieved through model testing using structural equation modelling (SEM), and thus, by necessity a quantitative study is needed to test the models (Hair, Black, Babin, Anderson & Tatham 2006).

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. Surveys are simple to administer and undemanding to complete when the responses are limited to the fixed alternatives provided in the questionnaire (Malhotra et al. 2002). Furthermore, the coding, analysis and interpretation of a wide range of data is relatively straightforward (Ticehurst and Veal 2000).

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.

While the research is predominantly quantitative, a qualitative element has also been included. The two approaches are not mutually exclusive and when both are used, the quality of the data collected may be improved (Malhotra et al. 2002). The combination enables the researcher to collect a variety of data and to “cross check” responses in order to ensure their accuracy and

credibility and to increase the quantity of information from the participants to provide a more holistic view.

### **6.3. 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. According to Cavana et al. (2001), there were fewer people in the pilot study than the ideal (these authors suggest a ratio of respondents to opinion items of between 4:1 and 10:1), nevertheless, the results of the pilot survey were acceptable.

#### **6.3.1. Census and sampling 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 — census***

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 census 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 census 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 census did maximise the response rate.

#### ***Wine grape supplier survey — 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. 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 (Table 6.1).

**Table 6.1: Distribution of wine grape production by state and zone**

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

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

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.

The number of responses needed for each of the two surveys depended on a range of factors including: (i) the required level of precision in the results (the confidence interval); (ii) the acceptable risk in predicting that level of precision (confidence level); (iii) the amount of variability in the population; (iv) time and cost constraints; and (v) the size of the actual population (Ticehurst and Veal 2000, Cavana et al. 2001, Malhotra et al. 2002). A large sample size was desirable because of the large number of relationship variables in the proposed model and the intended use of multivariate analysis including structural equation modelling.

### **6.3.2. 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 6.2).

**Table 6.2: Government departments and regional associations that provided assistance with wine grape survey**

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

### **6.3.3. Questionnaire design**

The survey instrument had a threefold purpose: to translate the information needed into a set of specific questions; motivate the respondents to complete the questionnaire; and to minimise response error (Malhotra et al. 2002). To fulfil these requirements, a formal structured questionnaire was designed with a clear, easy flowing pattern. Parallel wording for both winery and grape supplier survey instruments was used for all questions except some initial descriptive questions about the respondent.

A range of factors were considered in the design of the survey instrument. Of foremost importance were the: (i) research objectives; (ii) type of analysis; (iii) sample size and design; (iv) method of distribution; (v) cost; (vi) survey population; and (vii) data input method and data processing method (Cavana et al. 2001). Reference to previous research on the topic or related topics was made to ensure points of comparison with other studies.

The questionnaire used a combination of unstructured (open-ended) and structured (specified response alternatives) questions (Appendix 2 and 3). Unstructured questions were included to give respondents the opportunity to express their attitudes and opinions to provide a richer insight into specific areas of the study (Malhotra et al. 2002). Structured questions were either multiple choice, dichotomous or scaled.

Overall, there were three different types of scales used in the research: nominal, ordinal and interval. The nominal and ordinal scales were used for non-metric data for descriptive and inferential purposes in univariate analysis. These measures “describe differences in type or kind by indicating the presence or absence of a characteristic or property” (Hair et al. 2006, p. 5). Quantitative data were measured with metric interval scales for multivariate analysis. The respondents' attitudes and opinions were measured using an interval scale where respondents were asked to indicate their agreement or disagreement with a statement or the importance they attached to a factor. Such scales enabled the strength of agreement or level of importance to be compared within the set of statements and across winery and wine grape supplier groups.

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.

### ***Section One: Purchasing and selling in Australia***

While the focus of the research was the value created in relationships between wineries and their grape suppliers, it was not possible to analyse these trading relationships without an understanding of the broader context, which included the global and domestic grape and wine market.

The first question sought to identify the state and the wine region in which the respondent's firm was located.

#### **In which wine producing region and state is your winery/vineyard located?**

(Goodhue, Lee, Heien & Sumner 2002, Fraser 2004)

These details were required to verify the winery census and grape supplier sample. Each region was classified according to the Australian Geographical Indication (GI). Using the GI it is possible to further classify vineyards into warm and cool viticultural regions on the basis of the mean January temperature for that area (Iland and Gago 2002). The warm climate regions of Australia (Riverina, Murray Darling and Riverland regions) rely extensively on irrigation to grow grapes, generally have higher yields, lower operating costs and receive lower prices than the cool climate regions (RRATRC 2005). Cool climate grapes tend to be used in the manufacture of wines at higher price points. These differences are expected to influence the nature of the trading relationship and the value created for each partner. For these reasons, the location of the respondent's firm was considered to be useful as a potential clustering variable.

Results from the preliminary research identified a number of alternative methods of price determination that are presently in use; with either fixed or non-fixed price provisions. Because

many pricing provisions are linked to the grape quality determinations made by the winery, grape pricing decisions can become a potential cause of conflict between wineries and their grape suppliers (Goodhue et al. 2002, Fraser 2004, RRATRC 2005, Forbes, Cohen and Clements 2007). Therefore, grape pricing was of interest to this research as a potential clustering variable. The following questions were included to collect basic information on the nature of price determination and the expectations for the short and medium term.

**What method of price determination does your firm specify in its contracts?**

[*Multiple responses*: 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)]

(Goodhue et al. 2002, Fraser 2002, 2004 and results of preliminary research)

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

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

**If yes, for what reasons?**

The various positions in winery and vineyard firms of those grape buyers and sellers who were actually involved in the trading relationship were identified during the preliminary research. Now the frequency with which personnel in each position were involved with trading partners could be determined.

**Which of the following personnel directly liaise with winery/grape suppliers?**

[*Multiple responses*: Winery choices: vineyard manager/ grower liaison or technical officer/ winemaker/ other (please specify); Grape supplier choices: owner:director / owner:operator / vineyard manager / other (please specify)]

(Categories were based on results of preliminary research)

**Winery questionnaire**

In Section One, the winery questionnaire had three groups of questions targeting the purchasing function. The first question was designed to collect information from the respondents on winery size. Size categories were taken from the Australian and New Zealand Wine Directory (Winetitles 2006), which served as the database for the winery census and as a comparative source for census validation.

**Last year, how many tonnes of grapes were crushed at the winery?**

(Wilson 2000, Categories taken from the Australian and New Zealand Wine Directory 2006)

Basic information on outsourcing wine grapes was required to establish the extent to which trading relationships in the conceptual model existed. Arrangements for sourcing grapes are expected to have changed in the last decade (since the Scales et al. report in 1995). During that time, the market has changed from a "suppliers' market" to a "buyers' market" and wine grapes

are now available at very competitive prices (RRATRC 2005). It was also important to investigate whether the percentage outsourced varied between regions and winery size.

**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%)**

(Deloitte 2005, 2006, Wilson 2000)

The next three questions were concerned with the short- and medium-term outlook for the proportion of wine grapes purchased and the reasons for any anticipated change.

**Is the proportion of grapes purchased from other wine grape suppliers likely to change over the next 1–2 years?**

**Is the proportion of grapes purchased from other wine grape suppliers likely to change over the next 3–4 years?**

**If yes, for what reasons?**

The third group of questions were concerned with collecting information on the size of the winery supply base and the extent to which wine grapes were derived from the open market or contractual arrangements. Although studies have examined the duration of contracts in Australia (Scales et al. 1995, Fraser 2002, 2004), it was of interest to collect current information on contract duration and the likelihood and reasons for any change in the short or medium term.

**With how many wine grape suppliers does your firm currently transact?**

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

**How many wine grape suppliers does your firm have under contractual agreement?**

**On average, for how many years are these contracts valid?**

(Goodhue et al. 2002, Wilson 2000)

**Is the length of the contracts likely to change over the next 1–2 years?**

**Is the length of the contracts likely to change over the next 3–4 years?**

**If yes, for what reasons?**

### **Wine grape supplier questionnaire**

In Section One, the wine grape supplier questionnaire had three groups of questions targeting the selling function. The first question was designed to collect information from the respondents on vineyard size. Size categories were taken from the Australian Bureau of Statistics catalogue 7121.0 (2005a) for area of farm and vineyard landholdings.

**What is the total area of your vineyard (hectares)?**

(Wilson 2000, Fraser 2004, Categories taken from the ABS 2005a)

Information on total wine grape production and the way in which the crop was used was needed for descriptive and exploratory purposes. While winery size has a known influence on the purchasing function (Deloitte 2006), studies have yet to examine the influence of grape production as a moderating variable.

**Last vintage, what was the total tonnage of wine grapes produced?**

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

[Multiple responses: own wine production; contracted wine production; no crop retained]

**What percentage of the crop was for sale?**

(Wilson 2000, preliminary research)

At present, the proportion of grapes supplied under written and verbal purchase agreement and the open market is not known (Fraser 2003). Various regional studies have produced a range of conflicting statistics which indicate that there is some variation between regions. For example, Haughton and Browett (1995) found over half the growers interviewed in McLaren Vale did not have written contracts and Pritchard (1999) reported that less than 10 per cent of the grapes sold in the Murrumbidgee Irrigation Area (MIA) region were by contract. Instead, wineries and their grape suppliers rely on the strength of their long-term relationships. In contrast, Fraser (2002) found that 85 per cent of grape growers in South Australia, Victoria and New South Wales used written contracts compared to 15 per cent who employed verbal arrangements. Clearly, there is a regional, time, and perhaps a sample size variation in the findings of these various studies.

During the last decade, the typical contract duration has been reported as being between three and five years and frequently ten (Scales et al. 1995, Edmonds 2000 and Anderson 2001b). This group of questions are designed to determine the average contract duration for winery and grape supplier respondents across the participating states and the likelihood and reasons for any change in the contractual period in the short and medium term.

**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?**

**How many wineries does your firm supply under contractual/ verbal agreement on the open market?**

**On average, for how many years are these contracts valid?**

**Is the length of the contracts likely to change in the next 1–2 years?**

**Is the length of the contracts likely to change in the next 3–4 years?**

**If yes, for what reasons?**

(Wilson 2000)

### ***Section Two: Informant's firm***

Section Two sought to gather some descriptive information about the respondent's winery/grape supply firm that may influence their evaluation of their trading partner, the nature of their trading relationship and/or the benefits and costs associated with that relationship.

The first question was designed to establish the number of years the respondent's firm had been in operation using five categories spanning from fewer than two years to more than thirty years. The second question was dichotomous and intended to establish whether the respondent's firm was an independent operation or part of a larger organisation. The third question comprised five categories ranging from less than one million dollars to twenty million and over as a means of determining the firm's annual revenue. Revenue categories were taken from Deloitte's annual winery benchmarking report (2005, 2006). The final question in Section Two was included to establish the number of people employed by the firm.

**For how many years has your organisation been established?**

(Goodhue et al. 2002, Gill 2003)

**Is your firm a division/subsidiary of a larger organisation?**

**In which annual revenue category does your firm belong?**

(Dwyer 1993, Deloitte 2005 and 2006)

**How many people are currently employed in the firm you work for?**

### **Winery questionnaire**

An additional question seeking to clarify the end market for wine from the respondent's firm was included in the winery questionnaire. The retail price segment for which wine grapes were destined may influence the winery's evaluation of their trading partner, the nature of their trading relationship and/or the benefits and costs associated with the relationship.

**The following list identifies the different price segments available in the Australian wine industry (per 750ml bottle). Using these categories, please indicate what percentage of your sales are in each segment.**

(Retail prices modified from categories reported by McGrath-Kerr 2005)

The six price groups ranged from less than seven dollars up to forty dollars and over (A\$) (McGrath-Kerr 2005).

### ***Section Three: Selection of supplier/customer***

At this point in the questionnaire, the respondent was required to select a wine grape supplier/a winery to which the firm either purchased or sold grapes as many of the questions that followed in Sections Four and Five were about the nature of the trading relationship and the value that this exchange partner contributed to the firm. For this reason, it was imperative that the respondent's choice of trading partner was important enough to warrant a relational approach.

Section Three began with a descriptive question about why respondents chose to transact with this wine grape supplier/buyer. Respondents were given a range of reasons from which they could choose, and the option to state another reason. Subsequent questions were designed to ascertain some pertinent grape purchase and pricing details.

**Please specify the reason for choosing this supplier/winery.**

[*Multiple responses*: 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)]

The second question was designed to identify the preferred regions for sourcing grapes within the four participating states for those respondents who had selected their trading partner on the basis of regional preference.

**If the selection is based on regional preference, in which geographic region is the supplier located?**

Questions on the key aspects of buying and selling wine grapes such as tonnes purchased/sold and the average specified yield were open-ended to capture the entire range of responses.

**Tonnes purchased from this supplier/sold to this winery.**

**What is the specified average yield/hectare?**

(Fraser 2004)

The same retail price categories were used for this question as in the previous section in the winery questionnaire. The question was designed to collect information on the end market for the supplier's grapes; in the winery questionnaire, the question referred to the selected supplier's grapes.

**Into what retail price segment are the grapes from this supplier usually allocated/are your grapes usually allocated?**

Due to downward pressure on grape prices in the current market, it was of interest to compare whether contractual prices paid to growers in an ongoing relationship were lower, the same, or higher than those paid for wine grapes on the open market. Grape pricing is a potential source of conflict between wineries and their grape suppliers.

**How does the average price paid per tonne for wine grapes purchased/sold compare to the current prices paid on the open market for the same product?**

[*Multiple responses*: Lower; same; higher]

#### **Section Four: Relationship with the selected trading partner**

Section Four and Five in both questionnaires sought to obtain information on how the selected relational characteristics in the proposed model contributed towards relationship value.

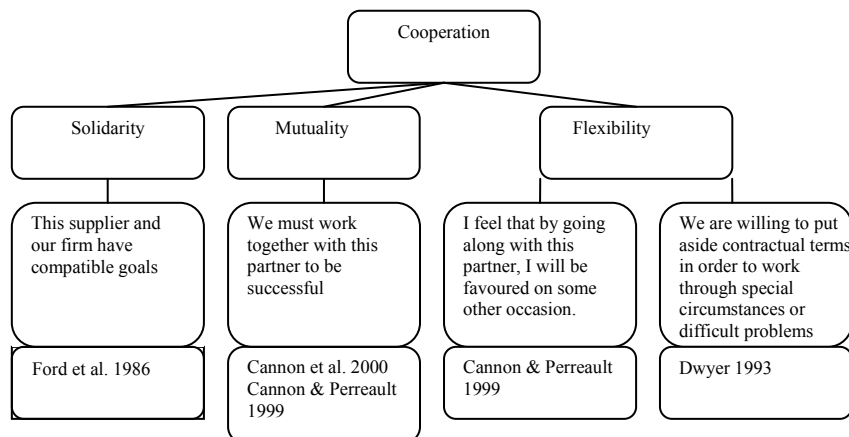
Obtaining valid measures of the nine constructs in the conceptual model was a fundamental part of the quantitative design in order to test the hypotheses. Measure development was based on the procedure recommended by Nunnally (1978) where multiple items were developed to assess each construct on a seven point Likert scale (where 1 was “I strongly disagree”, 4 was “I neither agree or disagree” and 7 was “I strongly agree”). The items were derived from scales used successfully in prior research, with the wording modified to suit the grape and wine industry. The comprehensive review of the relationships between wineries and their grape suppliers conducted in the preliminary research served as the basis for guiding the choice of indicators for each construct.

#### **Cooperation**

Preliminary research results showed that wineries and their grape suppliers described the levels of cooperation in their relationship as being high. Together, the two parties worked to achieve the best quality wine grapes to suit the end wine product. Cooperation with a trading partner was considered to strengthen over time, particularly in those relationships with a long-term orientation.

To operationalise these findings, the elements underlying cooperative exchange between wineries and their grape suppliers were evaluated using the three relational norms of solidarity, mutuality and flexibility (Figure 6.1).

**Figure 6.1: Operationalisation of Cooperation**



Solidarity was evaluated by one item measure developed from the literature: *This supplier and our firm have compatible goals* (Ford et al. 1986). There was a single measure of mutuality: *We must work together with this partner to be successful* (Cannon & Perreault 1999, Cannon et al. 2000). Flexibility was evaluated by two measures developed from the literature: (1) *I feel that*



by going along with this partner, I will be favoured on some other occasion and (2) We are willing to put aside contractual terms in order to work through special circumstances or difficult problems (Dwyer 1993).

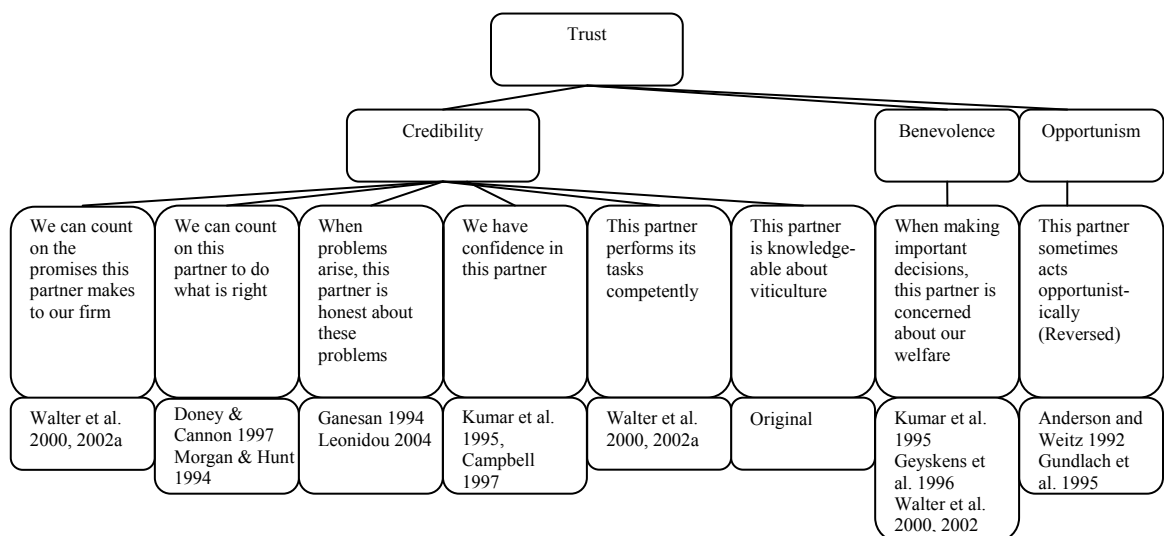
## Trust

Trust is widely regarded as a fundamental relationship model building block and is included in most relationship models (Wilson 1995).

Mutual trust was reported among buyers and sellers of wine grapes who participated in the preliminary research. A partner's credibility was identified as being an important factor, although buyers and sellers gave different reasons. Wineries evaluated a supplier's credibility in terms of being able to provide a reliable supply of consistent quality grapes to winery specifications and designated wine style. Factors which had been found to strengthen this credibility included the buyer's respect for the wine grape supplier's capabilities, getting to know the supplier personally over a period of time, honesty about any (disease and pest) problems that may arise, and when a partner went out of their way to do the right thing. On the other hand, growers said the credibility of a grape buyer was evaluated in terms of competence and honesty with wine grape quality assessments and grape price determination, and the ability to make payments on dates specified in the purchase agreements. Both parties believed that opportunistic behaviour would weaken their trust in a trading partner.

Eight measures were selected from a large number of tried and tested item measures from the literature on trust to capture the elements of credibility, benevolence and opportunism (opposite of trust) that had been identified in the preliminary research (Figure 6.2).

**Figure 6.2: Operationalisation of Trust**



The first six items used to identify credibility were: ( 1) *we can count on the promises this partner makes to our firm* and (2) *this partner performs its tasks competently* (Walter et al. 2000, 2002a); (3) *we can count on this partner to do what is right* (Morgan and Hunt 1994, Doney and Cannon 1997); (4) *when problems arise, this partner is honest about these problems* (Ganesan 1994, Leonidou 2004); (5) *we have confidence in this partner* (Kumar et al. 1995, Campbell 1997); (6) *This partner is knowledgeable about viticulture* (original scale developed for this research).

The item measure used for benevolence was: *when making important decisions, this partner is concerned about our welfare* (Kumar et al. 1995, Geyskens et al. 1996, Walter et al. 2000, Walter et al. 2002a). In view of the opportunity for opportunistic behaviour in the grape and wine industry, a reverse item measure was included for trust: *this partner sometimes acts opportunistically* (Anderson and Weitz 1992, Gundlach et al. 1995).

### **Performance satisfaction**

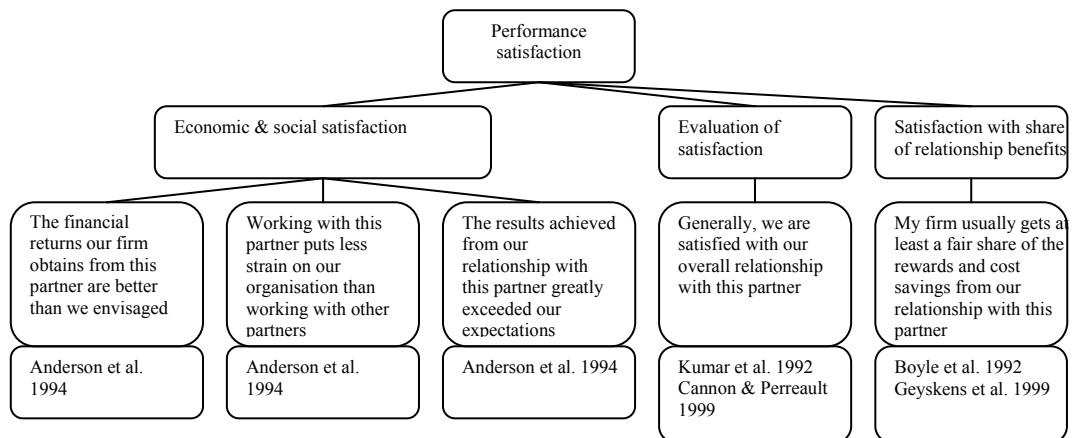
In most models of business relationships, performance satisfaction is a critical variable. At a relationship level, it refers to the extent to which business transactions meet economic and social performance expectations over time (Wilson 1995, Geyskens and Steenkamp 2000).

In the preliminary research it was found that participating wineries evaluated performance satisfaction in terms of the grape supplier's ability to supply grapes of the appropriate maturity, purity and condition as per the verbal or written grape purchasing agreement at competitive prices. On the other hand, participating grape suppliers evaluated winery performance satisfaction on the provision of adequate reward for grapes to specification. In addition, other social aspects of the partner's performance were also important such as being able to communicate and discuss quality needs, job competence and timely support in order to achieve better economic outcomes for both parties.

The information gathered from the preliminary results and a review of the literature were fundamental to the selection of five item measures of performance satisfaction: a direct evaluation measure of overall satisfaction with outcomes: *generally, we are satisfied with our overall relationship with this partner* (Kumar, Stern & Achrol 1992, Cannon and Perrault 1999); a measure to ascertain satisfaction with the share of relationship benefits: *my firm usually gets at least a fair share of the rewards and cost savings from our relationship with this partner* (Boyle, Dwyer, Robicheaux & Simpson 1992, Geyskens et al. 1999); and three item measures of economic and social satisfaction: (1) *the financial returns our firm obtains from this partner are better than we envisaged*; (2) *working with this partner puts less strain on our organisation than working with other partners*; and (3) *the results achieved from our relationship with this*

*partner greatly exceeded our expectations* (Anderson, Håkansson and Johanson 1994) (Figure 6.3).

**Figure 6.3: Operationalisation of Performance satisfaction**



### Communication

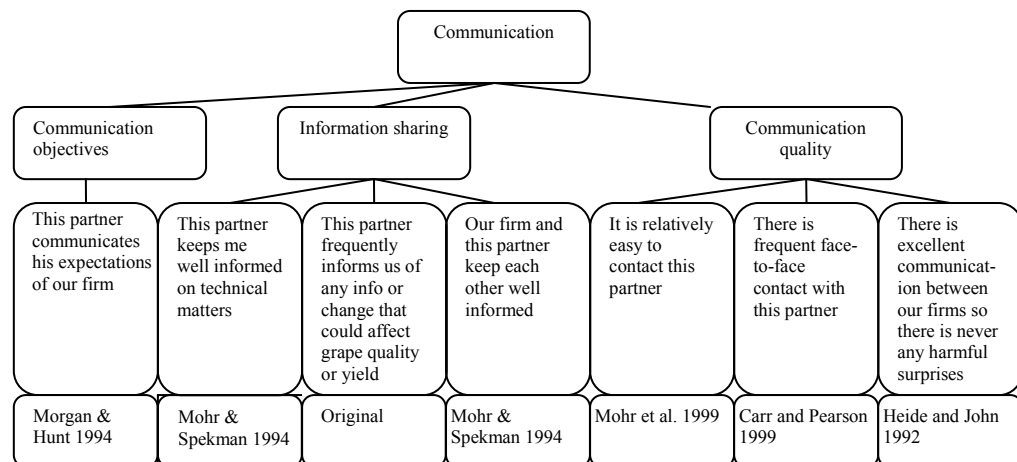
Communication is considered to be an extremely important construct in the proposed model of customer–supplier relationships in the grape and wine industry. Communication is crucial to achieving wine grape quality outcomes and to coordinate supply to the winery. In these situations, the focus is on the specific quality of the interaction process (Werani 2001) and the extent to which communication between trading partners is explicit and bidirectional (Mohr et al. 1999).

Good communication between the participating winery and grape suppliers in the preliminary research were common and were believed to improve as personal relationships developed over a period of time. However, the level of communication varied in relationships due to factors such as the size and availability of winery resources, the age of the relationship and the experience of the grape supplier. In situations where the winery had become confident of the grower’s expertise over time, less involvement was considered to be necessary. Most of the respondents thought that their relationship with their selected trading partner promoted informal, personal contact.

Drawing on this information, the aspects of communication which were considered to be of foremost importance to buyers and sellers of wine grapes were information sharing, communication quality, bidirectionality and communication objectives (Figure 6.4). Three items were used to evaluate information sharing in the relationship: (1) *this partner keeps me well informed on technical matters* (Mohr and Spekman 1994); *this partner frequently informs us of any information or change that could affect grape quality or yield* (based on Allen 2003); *our firm and this partner keep each other well informed* (Mohr and Spekman 1994). Collaborative communication is also characterised by the quality of interaction which for the purposes of this

research, were evaluated with three measures: (1) *it is relatively easy to contact this partner* (Mohr et al. 1999); and to capture the dimension of bidirectionality (2) *there is frequent face-to-face contact with this partner* (Carr and Pearson 1999); and (3) *there is excellent communication between our firms so there is never any harmful surprises* (Heide and John 1992).

**Figure 6.4: Operationalisation of Communication**



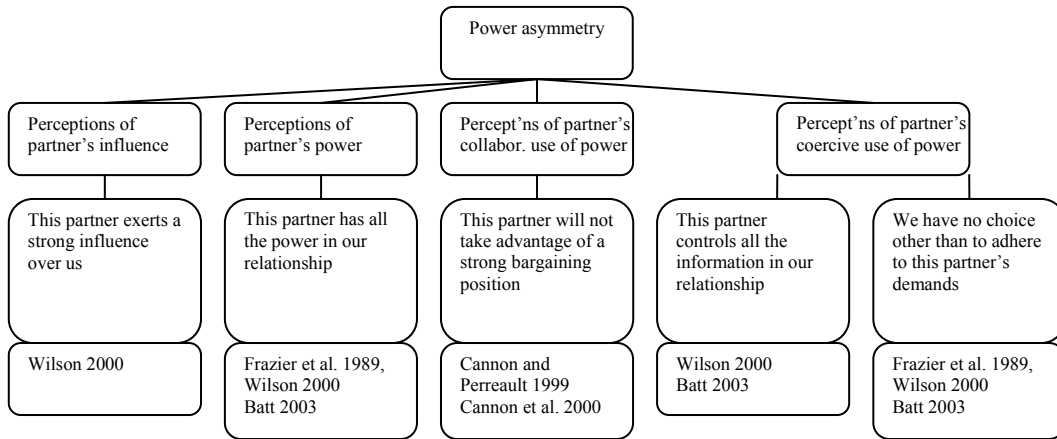
Finally, communication objectives were evaluated with a single item: *this partner communicates his expectations of our firm* (Morgan and Hunt 1994).

### Power Asymmetry

Participating wineries in the preliminary research were well aware that they held the balance of power in the relationship. Wineries had the final say on many aspects of the purchase including quality parameters, the method of price determination, the price per tonne, the type of contract and the contractual terms. Although wineries may depend on a supplier's contribution to the wine products they manufacture, it was recognised that no supplier was irreplaceable, due to alternative grape suppliers being available. Nevertheless, in an effort to tip the balance in their favour, the majority of selected grape suppliers were making considerable investments to meet winery quality expectations to increase their value and importance to the winery. The winery's use of power was generally described by grape suppliers as being collaborative rather than coercive.

Based on these findings and a review of the literature, the various dimensions of power asymmetry were evaluated using five item measures: (1) *this partner exerts a strong influence over us* (Wilson 2000); (2) *this partner will not take advantage of a strong bargaining position* (Cannon and Perrault 1999, Cannon et al. 2000); and (3) *this partner has all the power in our relationship* (Frazier et al. 1989, Wilson 2000, Batt 2003); (4) *this partner controls all the information in our relationship* (Wilson 2000, Batt 2003); (5) *we have no choice other than to adhere to this partner's demands* (Frazier et al. 1989, Wilson 2000, Batt 2003) (Figure 6.5).

**Figure 6.5: Operationalisation of Power asymmetry**

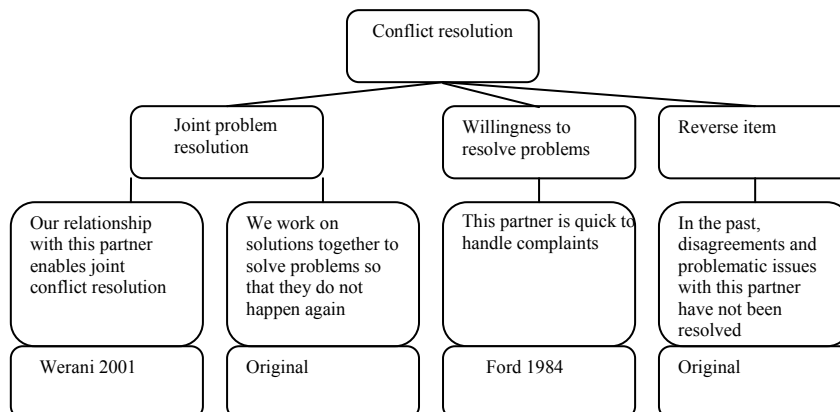


**Conflict resolution**

In the preliminary research, all winery respondents thought that their relationship with the selected wine grape supplier had led to better conflict resolution and most thought it enabled joint problem solutions. Some winery and grape supplier respondents had experienced problems with the selected suppliers, but both parties had managed to work through these issues together. Grape quality issues were a common cause of contention.

Four item measures were used to evaluate joint problem resolution and the partner's willingness to resolve problems (Figure 6.6). The items used to measure a joint approach to resolving problems in the relationship were: (1) *our relationship with this partner enables joint problem resolution* (Werani 2001); and (2) *we work on solutions together to solve problems so that they do not happen again*.

**Figure 6.6: Operationalisation of Conflict resolution**



The trading partner's willingness to resolve problems in the relationship was evaluated using a single measure: *this partner is quick to handle complaints* (Ford 1984). As several growers in the preliminary research had mentioned that while the winery was quick to resolve operational

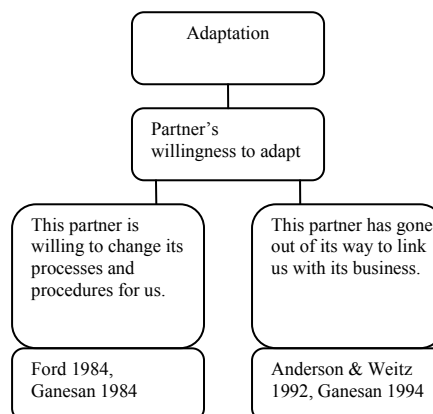
problems as they arose through grower liaison personnel, it was more difficult to resolve payment problems. Thus a single reverse measure was also included: *in the past, disagreements and problematic issues with this partner have not been resolved.*

### Adaptation

The preliminary results highlighted the importance of adaptative behaviours for the buying and selling firm which had occurred in many aspects of the purchase/sale of wine grapes across all levels, particularly at the operational level. These adaptations were taking place to realise a more efficient and more effective match between customer and supplier as they sought to respond to changes within the industry in which they operated together. Suppliers who were able to offer superior value enjoyed a stronger position in the market.

In order to evaluate the willingness and extent to which exchange partners had adapted, the following two measures were used: (1) *this partner is willing to change its processes and procedures for us* (Ford 1984, Ganesan 1984); and (2) *this partner has gone out of its way to link us with its business* (Anderson and Weitz 1992, Ganesan 1994) (Figure 6.7).

**Figure 6.7: Operationalisation of Adaptation**



Two open-ended questions were included in this section of the questionnaire. These questions were intended to capture the whole range of adaptations and problems in the grape and wine industry.

**What adaptations has this supplier/customer made to accommodate your needs?**  
**What adaptations have you made to meet the needs of this supplier/customer?**

### *Section Five: Relationship value*

Section Five sought to capture and evaluate the relationship value construct for each of the respective partners in the trading relationship. Acquiring mutual knowledge of each partner's

value expectations is the first stage in the strategic, value-based management of trading relationships.

**Phase One relationship value construct measures**

Relationship value, as the dependent variable in the Phase One model, involved four item measures to evaluate the key features of value in a relationship. The four item scale had been developed and used successfully in previous studies by Walter and associates to measure the value of supplier (Walter et al. 2000, Walter et al. 2002a, Walter et al. 2002b) and customer relationships (Walter et al. 2001). In the four items, value (1) is assessed as the estimated net benefits (benefits less costs) that are realised from their business relationship, including those realised indirectly through connected relationships (Walter et al. 2002a); (2) depends on the role perceptions of the respondent; (3) is measured relative to the offerings of alternative trading partners (Anderson and Narus 2004); and, (4) is viewed as a multiattribute concept (Wilson 1995).

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

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

[Response scale: 1 = very low, 7 = very high]

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

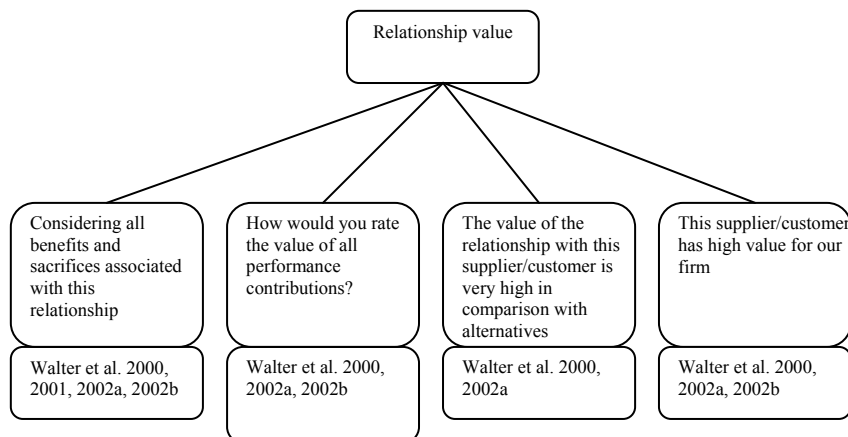
**This supplier/customer relationship has high value for our firm.**

[Response scale: 1 = strongly disagree, 7 = strongly agree]

(Walter et al. 2000, Walter et al. 2002a, Walter et al. 2002b)

For the first two items the respondents were asked to rate the supplier/customer on a 7-point scale where 1 is “very low” and 7 is “very high” and the last two items are assessed on a 7-point scale which ranges from “strongly disagree” to “strongly agree”(Figure 6.8).

**Figure 6.8: Operationalisation of Relationship value (Phase One model)**



### ***Phase Two relationship value construct measures***

Nevertheless, findings in the preliminary research identified a wide range of relationship benefits and costs that were shared by wineries and grape suppliers. Of foremost importance was the reduction in uncertainty that these relationships offered in the purchase and sale of wine grapes in extremely competitive grape and wine markets. However, both parties made reference to other benefits achieved through the relationship including the opportunity to increase the firm's operational efficiency, expand purchases and wine grape sales, and lower transaction costs. Further benefits pertained to an ability to work together to build strategic position and a sustainable competitive advantage over others, achieve economic efficiencies and quality improvements and increase the profitability of the firms.

To capture these findings, twenty five benefit and cost item measures for relationship value were derived from three separate sources. Primarily, the study incorporated seven measures of relationship benefits and four measures of relationship costs which were used in a previous empirical study to conceptualise and measure relationship value from both the buyer and the supplier perspective (Werani 2001). Six items were taken from this study: *Our relationship with this supplier/customer — results in a reduction in our production costs; leads to the optimisation of our operating processes; increases the profitability of our firm, increases the competitiveness of our firm; strengthens our strategic position in the grape and wine industry; helps to fulfil our customer requirements better* — to measure the contribution towards “profitability benefits” in relationship value. From the same study (Werani 2001), one item was selected to measure “innovation”: *leads to joint development of production processes*.

#### **Relationship benefits:**

##### **Our relationship with this supplier/customer ...**

- Results in a reduction in our production costs
- Leads to the optimisation of our operating processes
- Increases the profitability of our firm
- Increases the competitiveness of our company
- Strengthens our strategic position in the grape and wine industry
- Helps to fulfil our customer requirements better
- Leads to joint development of production processes

(Werani 2001)

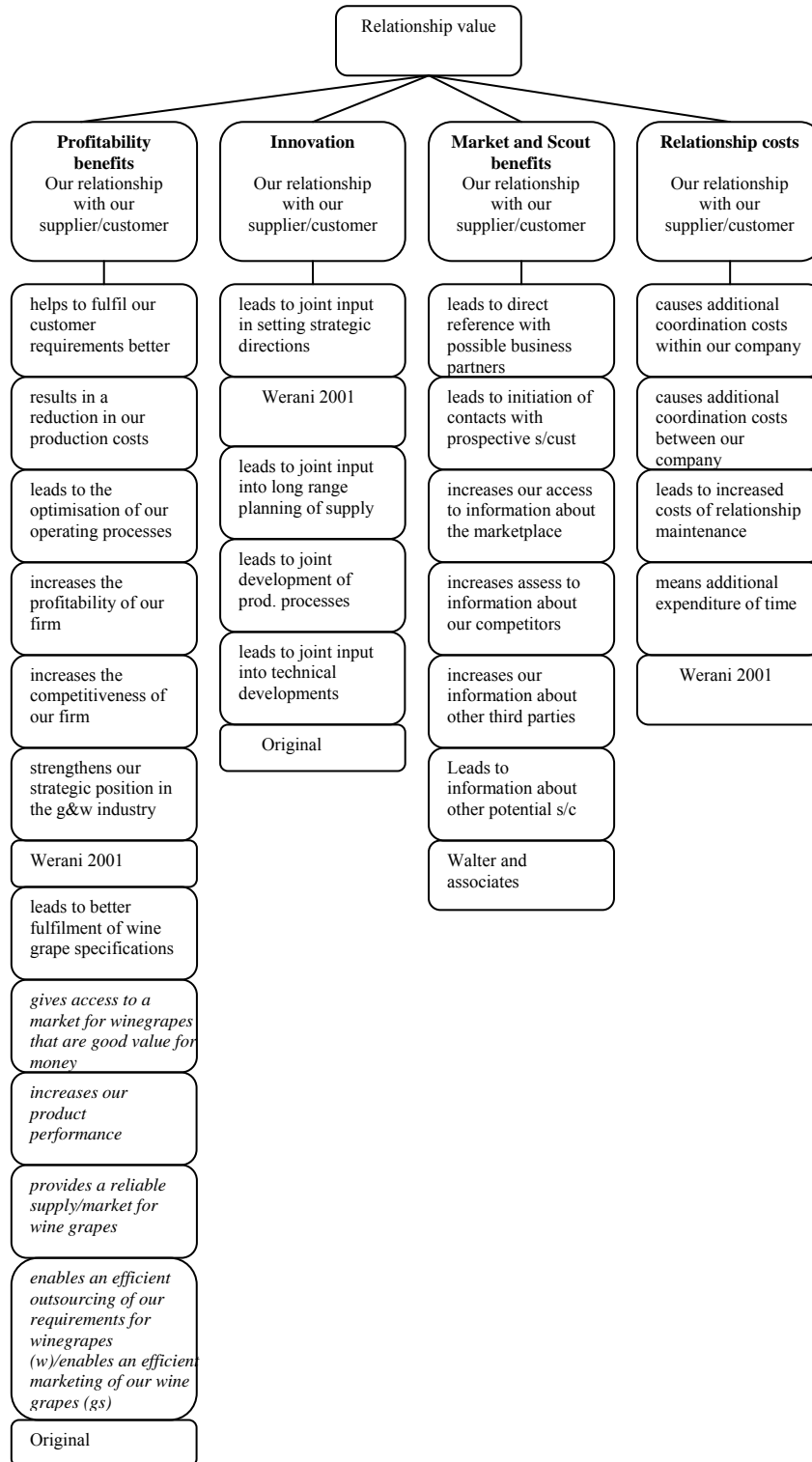
\*w=winery questionnaire and gs=grape supplier questionnaire

“Relationship costs” which was defined by Werani (2001) in terms of negative value components was evaluated using a 4-item scale: *additional expenditure of time; causes additional coordination costs within our company; causes additional coordination costs*



between our company and the supplier/customer; and leads to additional costs of relationship maintenance (Figure 6.9).

**Figure 6.9: Operationalisation of Relationship value (Phase Two model)**



**Relationship costs:****Our relationship with this supplier/customer ...**

- Means additional expenditure of time
- Causes additional coordination costs within our company
- Causes additional coordination costs between our company and the supplier
- Leads to increased costs of relationship maintenance

(Werani 2001)

Eight new item measures were developed on the basis of the preliminary research findings and the potential of these items to make a positive contribution towards firm profitability. “Profitability benefits” specific to the grape and wine industry was evaluated using a 5-item scale: *gives access to a market for wine grapes that are good value for money; enables an efficient outsourcing of our requirements for wine grapes (in winery questionnaire)/enables an efficient marketing of our wine grapes (in the grape supplier questionnaire); increases our product performance; provides a reliable supply/market for wine grapes; and leads to better fulfilment of wine grape specifications.* In addition, a 3-item scale for “innovation” was developed to evaluate the benefit of specific activities in the grape and wine industry where joint participation is likely to produce better outcomes than when firms act individually: *leads to joint input into technical development matters; leads to joint input into long range planning of supply; and, leads to joint input into setting strategic directions.*

**Relationship benefits:****Our relationship with this supplier/customer ...**

- Gives access to a market for wine grapes that are good value for money
- Enables an efficient outsourcing of our requirements for wine grapes (winery) /enables an efficient marketing of our wine grapes (grape supplier)
- Increases our product performance
- Provides a reliable supply (w)/ market (gs) for wine grapes
- Leads to the better fulfilment of wine grape specifications
- Leads to joint input into technical development matters
- Leads to joint input into long range planning of supply
- Leads to joint input into setting strategic directions

(Original)

\*w=winery questionnaire and gs=grape supplier questionnaire

Finally, there were two “Market benefits” which are realised through the focal relationship (*leads to initiation of contacts with prospective suppliers/customers for our firm and leads to direct reference with possible business partners*), together with “Scout benefits” (*increases our access to information about the marketplace; increases our access to information about our competitors; increases our access to information about other third parties in the industry; and,*

*leads to information about potential suppliers/customer for our firm*) in the trading relationships (developed from the studies by Walter et al. 2001, Walter et al. 2002a).

**Relationship benefits:**

**Our relationship with this supplier/customer ...**

- Increases our access to information about the marketplace
- Increases our access to information about our competitors
- Increases our access to information about other third parties in the industry
- Leads to information about potential suppliers/customer for our firm
- Leads to initiation of contacts with prospective suppliers/customers for our firm
- Leads to direct reference with possible business partners

(Walter et al. 2001, Walter et al. 2002a)

\*w=winery questionnaire and gs=grape supplier questionnaire

***Section Six: Respondent's details***

Section Six consisted of four questions designed to collect information about the respondent. The first question was an open-ended enquiry on their position in the firm. At some point it was essential to verify that the questionnaire had been completed by a person in the target population. The second question was intended to ascertain the length of time that the person had held this position as it was important that respondents have at least one year's experience of the trading relationship with the chosen partner, but preferably more.

**What is your current position in the organisation?**

(Original)

**How long have you held this position?**

(Original)

**What is the highest level of education you have achieved?**

(Fraser 2004)

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

(Fraser 2004)

The final two questions on the highest level of education and years of experience in the industry were included in this section with the other questions as a potential group of variables that may influence the purchase/selling decision.

## **6.4. 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. The purpose was to ensure the following: (i) all the values were within range; (ii) the means and standard deviations were plausible; and (iii) the pattern and amount of missing data were acceptable. As a result, a small number of outliers and several extreme responses which were likely to unduly influence the outcome of any further analysis were removed as they were not considered to be representative of the population.

The fifteen winery and twelve grape supplier questionnaires which did not meet these minimal requirements for missing data were deleted from the files (190 winery and 412 grape supplier questionnaires were returned). Missing data primarily results from the omission of answers by informants, or errors in data collection or data entry (Hair et al. 2006). However, the seriousness of the missing data relates more to the pattern of it, than the amount or why it is missing. Screening the data revealed the missing data to be randomly scattered and within the range of less than five per cent of data points.

The distribution of the data was checked using the Kolmogorov-Smirnov and Shapiro-Wilks tests prior to the main statistical analysis. Statistical inference becomes less and less robust as data distributions depart from normality; however, the normality tests were not significant for the metric data which measured the model constructs.

#### **6.4.1. 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.

##### ***Cross-tabulations***

A cross-tabulation can be used to summarise the associations between independent and dependent variables through a simultaneous merging of the frequency distributions in a single table (Anderson, Sweeney and Williams 1994). The cross-tabulation table describes the relationship between those variables in terms of (i) the strength of the relationship; (ii) the direction and shape of the relationship; and (iii) whether the relationship is due to some intervening variable(s) in the data. Typically, a cross-tabulation has independent variable values on the vertical axis and the dependent variable values on the horizontal axis. This matrix arrangement enables the data to be read across from influential values on the independent variable to their effects or values on the dependent variable.

Cross-tabulations were employed to identify any significant difference in the various aspects of purchasing/selling across winery/vineyard production size and finally across cluster groups where non-metric scales were used. The chi-square statistic was used to test the statistical significance of the observed association.

#### ***T-Test***

A *t*-test takes into consideration the means and standard deviations of the two groups and tests whether the numerical difference in the means is not significantly different from zero, as postulated in the null hypothesis (Cavana et al. 2001).

An “independent samples *t*-test” was used to compare the means from the winery and grape supplier responses to statements concerning their relationship with their trading partner where metric interval scales were used. A *t*-test was also used to examine the differences in winery and grape supplier responses on the extent to which twenty one direct and indirect benefits along with four direct costs were contributing towards relationship value (interval scale).

#### **6.4.2. Multivariate analysis**

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

##### ***Factor analysis***

Factor analysis is a summarisation and data reduction technique which examines interrelationships among a number of metric scaled variables and then attempts to explain them in their common underlying dimensions (factors) (Malhotra et al. 2002). Alpha factoring was used as an initial step in the structural modelling process to assess the structure of the model constructs and to selectively trim or eliminate those items which do not theoretically or statistically contribute to the factor. The aim with alpha factoring is to maximise the reliability of the factors (Cavana et al. 2001). Confirmatory factor analysis (CFA) was then used to validate the measurement constructs (Hair et al. 2006). CFA seeks to determine if the item measures created to represent a latent construct really belong together and whether the number of factors and the loadings conform to what is expected on the basis of pre-established theory.

The Cronbach alpha reliability coefficient was used to test inter-item consistency reliability. The coefficient describes how well a group of items focuses on a single construct with values ranging from 0 to 1; but preferably 0.70 or higher (Hair et al. 2006).

##### ***Structural equation modelling (SEM)***

Structural equation modelling (SEM) is a statistical technique for building and testing statistical models. The SEM process begins with specification of a model 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 (see Section 4.5 and 5.10).

Following specification, an estimation technique must be selected to identify estimates for each free parameter. For the purposes of this study, maximum likelihood estimation (MLE) was considered to be more efficient and unbiased. This technique has been found to provide valid results with sample sizes in the range of 150 to 400 (Hair et al. 2006) and both data sets in the study were able to satisfy the requirement of multivariate normality.

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. At this point the model is cross-validated.

### **Measurement model**

The measurement model describes the nature of the relationship between the latent constructs and the multiple indicator variables that measure those latent constructs (Byrne 2001, Hair et al. 2006). Latent constructs are classified as being independent, mediating, or dependent. Exogenous constructs are independent with no prior causal construct, although they may be correlated with other exogenous constructs. Endogenous constructs are mediating constructs which effect other exogenous or mediating constructs, and are causes of other mediating and dependent variables, or dependent variables. Choosing four or more indicator items for each construct is recommended; however, three is acceptable and common practice (Hair et al. 2006).

Validation of the measurement model depends upon goodness-of-fit and evidence of construct validity (Byrne 2001). Two forms of construct validity are convergent validity and discriminant validity and the measurement model must provide evidence of both. Convergent validity is established when the estimated pattern coefficient for each observed item on its posited construct is significant (Anderson and Gerbing 1988). In this research, Cronbach's alpha was used to establish internal construct validity, with 0.70 considered adequate and 0.80 considered good for confirmatory purposes (Hair et al. 2006). To establish discriminant validity, the goodness-of-fit measures for the measurement model must be adequate to conclude that the constructs in the model are different.

### **Structural equation modelling**

The structural model is a set of exogenous and endogenous variables in the model, together with the direct effects (straight arrows) connecting them, any correlations among the exogenous variables or indicators, and the disturbance terms for these variables (reflecting the effects of unmeasured variables not in the model). AMOS will print goodness of fit measures for three versions of the structural model (Byrne 2001).

The saturated model is the trivial but fully explanatory model in which there are as many parameter estimates as degrees of freedom (Gerbing and Anderson 1988). Most goodness of fit measures will be 1.0 for a saturated model, but since saturated models are the most unparsimonious models possible, parsimony-based goodness of fit measures will be 0.

The independence model assumes all relationships among measured variables are 0. This implies that correlations among the latent variables are also 0 (that is, it implies the null model) (Byrne 2001). Where the saturated model will have a parsimony ratio of 0, the independence model has a parsimony ratio of 1. Most fit indexes will be 0, whether of the parsimony-adjusted variety or not, but some will have non-zero values (eg. RMSEA, GFI) depending on the data.

The default model is the hypothesised model, which will have a goodness-of-fit between the perfect explanation of the trivial saturated model and terrible explanatory power of the independence model, which assumes no relationships (Byrne 2001).

### **Goodness-of-fit measures**

Goodness-of-fit indices are used in this study to establish whether the model being tested should be accepted or rejected. Measures of absolute fit are calculated on the basis of the hypothesised model alone, whereas incremental indexes are based on the differences observed between the hypothesised model and an alternative model (Hair et al. 2006) (Table 6.3). The same goodness-of-fit guidelines apply to CFA and structural models.

Chi-square is the most common fit test; AMOS outputs it as CMIN. The chi-square value should not be significant if there is a good model fit (Hair et al. 2006).

Absolute fit indices (GFI and AGFI) and incremental fit indices (CFI, IFI, NFI, RFI) vary from 0 to 1, but should be equal to or greater than 0.90 to accept the model.

Good model fit is shown if the RMSEA is less than or equal to 0.05 (Browne and Cudeck 1993). RMSEA is a popular measure of fit, partly because it has a known distribution, related to the non-central chi-square distribution, and thus does not require bootstrapping to establish confidence intervals.

Goodness-of-fit measures such as AIC and ECVI do not have cutoffs like 0.90 or 0.95. Rather they are used in comparing models, with the lower value representing the better fit (Akaike

1973, 1987). Thus, the absolute value of AIC and ECVI have no intuitive value, except by comparison with another AIC and ECVI, in which case the lower AIC reflects the better-fitting model.

**Table 6.3: Summary of goodness-of-fit measures**

AMOS	Index	Author	Acceptable fit
<b>Basic fit indexes</b>			
	Non significant Chi-square $\chi^2$		Non-significant p-values indicate a good fit i.e. $p > 0.05$ The discrepancy between the sample & the model covariance matrices is not significant.
CMIN	Chi-square ( $\chi^2/df$ )	Bollen 1989	Values below 3.0 indicate an acceptable model.
<b>Absolute fit indexes</b>			
GFI	Goodness of fit index	Jöreskog and Sorbom 1984	Value can fall outside of range 0–1.0. Should be equal to or greater than 0.90 to accept the model.
AGFI	Adjusted goodness of fit index		As above.
<b>Incremental fit indexes</b>			
NFI	Normed fit index	Bentler and Bonett 1980, Bollen 1989	Value can fall outside of range 0–1.0. Should be equal to or greater than 0.90 to accept the model.
RFI	Relative fit index	Bollen 1986	Values close to 1 indicate a very good fit.
IFI	Incremental fit index	Bollen 1989	As above
CFI	Comparative fit index	Bentler 1990	<0.85 indicate unacceptable fit 0.08–0.89 mediocre fit 0.90–0.95 acceptable fit 0.95–0.99 close fit 1.00 exact fit
<b>Predictive fit indexes</b>			
ECVI	Expected cross-validation index		Smaller values when compared to the independence and saturated models suggest good fit of the data.
AIC	Akaike information criterion	Akaike 1973, 1987	As above.
<b>Population-based index</b>			
RMSEA	Root mean square error of approximation	Browne and Cudeck 1993	>0.10 indicate unacceptable fit 0.10–0.08 mediocre fit 0.08–0.06 acceptable fit 0.06–0.01 close fit 0.00 exact fit

### **Cluster analysis**

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). This



technique seeks to minimise within-group variance and maximise between-group variance so that resulting clusters exhibit high internal homogeneity and high external heterogeneity. 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.

A hierarchical clustering with *Ward's method* and *Euclidean distance* was applied using the seven factor scores corresponding to the antecedents of relationship value to identify the most appropriate number of clusters. In agglomerative hierarchical clustering each case starts out in a separate cluster, then clusters are formed by grouping cases into bigger and bigger clusters. *Ward's method* seeks to join clusters whose merger leads to the minimum within-group variance ie. the squared Euclidean distance to the cluster mean is minimised (Hair et al 2006). *Euclidean distance* is the most commonly used measure to reflect dissimilarity between two objects with larger values denoting lesser similarity (Malhotra et al. 2002); this value is then converted into a similarity measure by using an inverse relationship (Hair et al. 2006).

After using hierarchical clustering to determine the desired number of clusters, the entire dataset was examined with K-means clustering to construct profiles for the specified clusters. Profiling was undertaken using ANOVA to identify those factors that differ significantly across the clusters and thus predict membership in a particular cluster. 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.

## **6.5. 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.

This chapter concludes the first part of the research which has involved identification of the research objectives, development of the research approach, examination of relevant industry and theoretical literature, the development of the three-phase model, the presentation of the methodology and findings of the preliminary qualitative study and an outline of the methodology and intended analysis of the main study. The chapters to follow will present and discuss the results of the surveys and conclude with the research contributions towards theory development and managerial implications.

## 7. Descriptive results of survey respondents and the purchasing and selling of wine grapes

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### 7.1. Chapter outline

Chapter Seven begins the presentation of results collected from the main quantitative study. It comprises two parts: Part One provides a description of the respondents and their firms leading to Part Two which gives a comprehensive insight into the purchase and sale of Australian wine grapes.

Both parts are further sub-divided into winery and wine grape supplier sections for ease of presentation and the discussion of the descriptive survey results. Winery and vineyard size (annual grape tonnage processed/produced) will be examined as a moderating factor in the proportion of grapes purchased, the size of the supplier/customer base and the means of exchange.

### 7.2. Part One: Winery profile

Part One of 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.

#### 7.2.1. Winery respondents

**Table 7.1: 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
<b>Total</b>	<b>174</b>	<b>100.0</b>	

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 7.1). 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 7.2).

**Table 7.2: Time period in current position**

<b>Years in current position</b>	<b>Frequency</b>	<b>%</b>	<b>Cumulative %</b>
< 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
<b>Total</b>	<b>174</b>	<b>100.0</b>	

Most winery respondents (63%) had at least ten years’ work experience in the grape and wine industry (Table 7.3).

**Table 7.3: Years of experience in the wine industry**

<b>Years in the industry</b>	<b>Frequency</b>	<b>%</b>	<b>Cumulative %</b>
< 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
<b>Total</b>	<b>173</b>	<b>100.0</b>	

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 7.4).

**Table 7.4: Highest level of education of respondents**

<b>Level of education</b>	<b>Frequency</b>	<b>%</b>
Undergraduate degree	78	44.8
Postgraduate degree	44	25.3
High school diploma	27	15.5
Technical qualification	25	14.4
<b>Total</b>	<b>174</b>	<b>100.0</b>

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

### **7.2.2. 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 produced; (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 7.5). One half of responses were from the small and medium wineries, and very large wineries accounted for 15 per cent of responses.

**Table 7.5: 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
<b>Total</b>		<b>175</b>	<b>100.0</b>	

Five annual revenue categories (Deloitte 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 7.6).

**Table 7.6: 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
<b>Total</b>	<b>174</b>	<b>100.0</b>	

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 7.7).

**Table 7.7: Annual revenue by winery size**

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

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 7.8). The remaining 31 per cent were a division or subsidiary of a large wine producing company.

**Table 7.8: 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
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

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 7.9).

**Table 7.9: Percentage of winery sales in each price segment by winery size**

<b>Tonnes crushed</b>	<b>&lt; A\$7.00</b>	<b>A\$7–\$9.99</b>	<b>A\$10– \$14.99</b>	<b>A\$15– \$24.99</b>	<b>A\$25– \$39.99</b>	<b>A\$40+</b>
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
<b>Total</b>	<b>4.8</b>	<b>8.4</b>	<b>22.4</b>	<b>45.7</b>	<b>13.1</b>	<b>5.7</b>

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 (Figure 2.6, Section 2.3.3), 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 7.10).

**Table 7.10: Number of employees at the winery**

<b>Employees</b>	<b>Frequency</b>	<b>%</b>	<b>Cumulative %</b>
< 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
<b>Total</b>	<b>173</b>	<b>100.0</b>	

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 7.11).



**Table 7.11: 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
<b>Total</b>	<b>174</b>	<b>100.0</b>	

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

### 7.2.3. 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 7.12).

**Table 7.12: 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
<b>Total</b>	<b>859</b>	<b>584</b>	<b>100</b>	<b>175</b>	<b>100</b>	<b>30</b>

\*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: Deloitte (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 7.13).

**Table 7.13: 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-
<b>South Australia</b>	<b>62</b>	<b>35.4</b>	<b>32.6</b>	<b>2.8+</b>
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-
<b>New South Wales</b>	<b>27</b>	<b>15.4</b>	<b>23.6</b>	<b>8.2-</b>
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-
<b>Victoria</b>	<b>51</b>	<b>29.2</b>	<b>23.8</b>	<b>5.4+</b>
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-
<b>Western Australia</b>	<b>35</b>	<b>20</b>	<b>20.0</b>	<b>0</b>
<b>Total</b>	<b>175</b>	<b>100.0</b>	<b>100.0</b>	

Source: Winetitles 2006

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.

***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 7.14).

**Table 7.14: Distribution of winery census responses by tonnes crushed at winery in 2005**

<b>Winery's annual crush (tonnes)</b>	<b>Wineries in each size category 2005*</b>	<b>Wineries in census population of interest*</b>	<b>% in each size category</b>	<b>No. responses</b>	<b>Responses as % of total</b>	<b>Responses as % of population in range</b>
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
<b>Total</b>	<b>859</b>	<b>584</b>	<b>100.0</b>	<b>175</b>	<b>100.0</b>	

\*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.

### 7.3. Part One: 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.

#### 7.3.1. Wine grape supplier respondents

Most respondents for the wine grape supplier survey were owners or partners in vineyard firms (77%) (Table 7.15). Other respondents included company chairman or directors (10%), the CEO or manager (9%), or vineyard manager (4%).

**Table 7.15: 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
<b>Total</b>	<b>398</b>	<b>100.0</b>	

The majority of respondents had worked in their current position for over 10 years (61%) (Table 7.16). 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 7.16: 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
<b>Total</b>	<b>396</b>	<b>100.0</b>	

The highest level of education achieved by 36 per cent of respondents was a high school diploma (Table 7.17). 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.

**Table 7.17: 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
<b>Total</b>	<b>396</b>	<b>100.0</b>	

The majority of respondents (92%) had worked in the grape and wine industry for more than six years (Table 7.18).

**Table 7.18: 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
<b>Total</b>	<b>398</b>	<b>100.0</b>	

### 7.3.2. 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 7.19). 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 7.19: 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
<b>Total</b>		<b>400</b>	<b>100.0</b>	

Most of these firms (86%), had an estimated revenue of less than A\$1 million in 2005 (Table 7.20). 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 7.20: 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
<b>Total</b>	<b>394</b>	<b>100.0</b>	

Most of the wine grape suppliers were sole operations (92%) and not a division or subsidiary of a larger organisation (Table 7.21).

**Table 7.21: 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
<b>Total</b>	<b>391</b>	<b>100.0</b>	

#### *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 7.22).

**Table 7.22 Do you know the allocated price segment?**

	Frequency	%	Cumulative %
Yes	221	55.3	55.3
No	179	44.8	100.0
<b>Total</b>	<b>400</b>	<b>100.0</b>	

Irrespective of vineyard size, the majority of grapes produced were destined for retail price segments between A\$7-\$24.99 (Table 7.23). 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 7.23 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
<b>Total (%)</b>	<b>10.7</b>	<b>28.6</b>	<b>26.6</b>	<b>24.8</b>	<b>7.1</b>	<b>2.2</b>

Most wine grape suppliers had less than five employees (81%) (Table 7.24). However, 11 per cent had between five and nine employees and the remaining 8 per cent had ten or more employees.

**Table 7.24: 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
<b>Total</b>	<b>392</b>	<b>100.0</b>	

The majority of participating grape suppliers had been in business for over a decade (59%) (Table 7.25). 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.

**Table 7.25: Number of years the firm has been established in 2005**

<b>Established (years)</b>	<b>Frequency</b>	<b>%</b>	<b>Cumulative %</b>
< 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
<b>Total</b>	<b>397</b>	<b>100.0</b>	

### **7.3.3. 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%). Other states not included in the survey account for the remaining one per cent of production (Table 7.26).

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.



**Table 7.26: Distribution of wine grape supplier sample based on vineyard production by state and zone**

State/Region	No. responses	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 –
<b>South Australia</b>	<b>175</b>	<b>44.0</b>	<b>48.4</b>	<b>4.4 –</b>
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 –
<b>New South Wales</b>	<b>93</b>	<b>23.0</b>	<b>24.8</b>	<b>1.8 –</b>
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 –
<b>Victoria</b>	<b>122</b>	<b>30.5</b>	<b>21.2</b>	<b>9.3 +</b>
SW Australia	9	2.2	4.1	1.9 –
Greater Perth	1	0.3	0.7	0.4 –
<b>Western Australia</b>	<b>10</b>	<b>2.5</b>	<b>4.8</b>	<b>2.3 –</b>
<b>Other states</b>			<b>0.8</b>	<b>0.8 –</b>
<b>Australia</b>	<b>400</b>	<b>100.0</b>	<b>100.0</b>	

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

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 7.27).

**Table 7.27: 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 -
<b>Total</b>	<b>400</b>	<b>100.0</b>	<b>100.0</b>	<b>1.4+</b>

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.

#### **7.4. 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. Deloitte (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.

## **7.5. Part Two: Winery**

Wine grape buyers and sellers seek to reduce the uncertainty within their transactions that arise due to the grape attributes — they are perishable, the product is differentiated, the variability and visibility of quality, and the fact that some quality variables cannot be detected by buyers prior to purchase. In this industry, the use of contracts to coordinate transactions is a practical option for both parties and the use of contractual arrangements between buyers and sellers of wine grapes continues to increase in this industry (Scales et al. 1995, Fraser 2003). Nevertheless, with the recent expansion of the industry some changes in the nature of exchange transactions can be expected. Therefore, it is important to review the main features of the exchange transactions for wine grapes.

### 7.5.1. Purchase of wine grapes

#### *Composition of winery crush by source*

Australian wineries either source wine grapes from their own vineyards, from independent grape suppliers through verbal or contractual agreements, and/or compete on the open market. To fully use production facilities, a winery may also undertake contract processing for others.

Survey results from participating wineries showed that 87 per cent sourced a percentage of wine grapes from their own vineyards. All wineries purchased grapes (as a survey participation requirement) and 48 per cent were processing grapes under contract from others (Table 7.28).

**Table 7.28: Composition of grapes in winery crush in 2005**

Source of grapes	Frequency	%	% of respondents
Winery owned vineyards	145	37.18	87.34
Purchased grapes	166	42.56	100.0
Contract processing	79	20.26	47.59
<b>Total (n=166)</b>	<b>390</b>	<b>100.0</b>	

Multiple responses

On average, participating wineries sourced 43 per cent of their grape requirements from winery-owned vineyards and purchased 57 per cent from independent grape suppliers (Table 7.29). Nevertheless, there were significant differences in the percentages of owned and purchased wine grapes across the various sized wineries, particularly between small and very large wineries. Small wineries were more likely to source the majority of their fruit (54%) from winery-owned vineyards. These percentages decreased to 46 per cent for medium wineries, 40 per cent for large wineries and 22 per cent for the very large wineries.

**Table 7.29: Percentage of winery-owned and purchased grapes by winery size**

Source of grape requirements	Small wineries	Medium wineries	Large wineries	Very large wineries	Total
Owned grapes	54.4 <sup>a</sup>	45.8 <sup>ab</sup>	40.1 <sup>b</sup>	22.7 <sup>b</sup>	42.8
Purchased grapes	45.6 <sup>a</sup>	54.2 <sup>a</sup>	59.9 <sup>ab</sup>	77.3 <sup>b</sup>	57.2
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Items with the same superscript are not significantly different at p=0.05. (b=statistically significant at 95% confidence; a=99% confidence)

Large wineries tend to own premium/strategic vineyards and to purchase a significantly higher proportion of grapes (77%). The high dependence of very large wineries on grapes purchased from independent grape suppliers corresponds to ACIL research (2002, p. 13), where it was reported that the 20 largest companies owned, leased or controlled approximately 20 per cent of the nation's vineyards yet accounted for 94 per cent of total wine production. Other studies have found a variety of results pertaining to the extent of outsourcing of wine grapes in Australia. The Orlando Wyndham group reportedly outsource up to 85 per cent of their grape requirements

(Hoole 1997), while Southcorp Wines purchase around 70 per cent of their wine grapes (KPMG 1999). More recent industry studies have supported the trend for larger wineries to purchase wine grapes rather than to grow their own (Deloitte 2005, PIRSA 2006).

The majority of respondents (52%) believed that the winery would maintain their grape purchases at the same level for the next one or two years (Table 7.30). However, 43 per cent did indicate an intention to change the proportion of purchased grapes in the short term.

**Table 7.30: Change in the proportion of purchased grapes in the next 1–2 yrs**

Short term change	Frequency	%	Cumulative %
Yes	75	42.9	42.9
No	91	52.0	94.9
Do not know	9	5.1	100.0
<b>Total</b>	<b>175</b>	<b>100.0</b>	

Only five per cent of respondents were undecided about this issue in the short term, yet nearly 20 per cent of respondents were undecided in the medium term (Table 7.31). In view of current market conditions, this level of uncertainty is to be expected. In the medium term, nearly half (48%) of winery respondents expected their firm to change the proportion of purchased grapes.

**Table 7.31: Change in the proportion of purchased grapes in the next 3–4 yrs**

Medium term change	Frequency	%	Cumulative %
Yes	84	48.0	48.0
No	57	32.6	80.6
Do not know	34	19.4	100.0
<b>Total</b>	<b>175</b>	<b>100.0</b>	

A variety of reasons were given for changing the proportion of grapes purchased in the medium term (Table 7.32).

**Table 7.32: Reason for change in the proportion of grapes purchased**

Reason	Frequency	%	Cumulative %
Must match intake to forward ongoing sales	48	51.1	51.1
Increasing own vineyard capacity to reduce outsourcing	20	21.3	72.4
Reduced intake expected with oversupply/less demand for wine	12	12.8	85.2
Sales expanding and will need more grapes	8	8.5	93.7
Performance based review and resource allocation.	4	4.3	98.0
Intake will depend upon existing contractual obligations	2	2.0	100.0
<b>Total</b>	<b>94</b>	<b>100.0</b>	

Of those winery respondents expecting change in the short to medium term (57%), the majority were uncertain about the actual direction of change. Wine grape purchases were expected to be aligned to match forecasted wine sales (51%). Other factors influencing future grape intake included the outcomes of performance based evaluations of suppliers and decisions on resource allocations (4%), and the level of existing contractual obligations (2%).

Reasons given for reducing purchasing commitments included the expansion of winery-owned vineyards to reduce the need to outsource (21%), and a forecasted reduction in intake due to the current global and domestic wine oversupply (13%). Only eight per cent of respondents believed they would need to increase the volume of grapes purchased due to growth in wine sales.

### ***Means of exchange***

Wineries may choose to either purchase wine grapes without a contract on the open market or by contracting grape suppliers using verbal or written purchase agreements. Contractual arrangements provide benefits for both grape buyers and suppliers (Fraser 2004). Contracts facilitate supply coordination and provide the means to articulate quality specifications. A guaranteed source of wine grapes increases certainty in planning, production and scheduling. Furthermore, contracting supply also reduces the search and transactions costs associated with locating grapes and doing business. Finally, contracts can be used to motivate the behaviour and performance of both parties. Grape suppliers are able to tailor their production to meet winery specifications. For example, this may involve managing cropping levels to meet grape purchasing agreement tolerances and then ensuring delivery of grapes of appropriate maturity, purity and condition.

Survey results showed that the majority of participating wineries preferred to purchase grapes using written contracts (66%), followed by verbal agreements (46%) and sourcing without a contract from suppliers on the open market (46%) (Table 7.33).

**Table 7.33: Purchase transaction by type**

<b>Transaction Type</b>	<b>Frequency</b>	<b>%</b>	<b>% of respondents</b>
Written contracts	115	41.67	65.71
Verbal agreements	81	29.35	46.28
No contracts (open market)	80	28.98	45.71
Total (n=175)	276	100.0	157.70

Multiple responses

Nearly half of participating wineries used one method to transact with grape suppliers (48%), while others used two (43%), or three (9%), of the specified methods in order to secure sufficient grapes to meet their requirements (Table 7.34).

**Table 7.34: Extent the various types of transactions are used by wineries**

Transaction Methods	Frequency	%	Cumulative %
One method of transacting	83	48.5	48.5
Two methods of transacting	73	42.7	91.2
Three methods of transacting	15	8.8	100.0
Total	171	100.0	

Often, wineries would use more than one method of exchange. For example, a winery may contract grape suppliers with written and verbal purchase agreements, but also source from uncontracted suppliers on the open market. Another winery may use only verbal agreements with trusted long-term suppliers, leaving a small annual percentage to source from the open market. On the other hand, the preference may be to source only from existing contracted suppliers who are given the opportunity to fulfil any surplus wine grape requirements each vintage.

Although small and medium wineries preferred to purchase grapes using verbal purchase agreements, the larger wineries preferred to use written agreements (Table 7.35).

**Table 7.35: Composition of purchase transactions by winery size**

Transaction Type	Small wineries	Medium wineries	Large wineries	Very large wineries
No contract (open market)	20.5	26.0	16.0	14.0
Verbal purchase agreement	53.5	38.0	21.0	19.0
Written purchase agreement	26.0	36.0	63.0	67.0
Total	100.0	100.0	100.0	100.0

Small and medium wineries also tended to source a higher proportion of their grape requirements from uncontracted suppliers on the open market than their larger sized counterparts.

#### ***Number of wine grape suppliers***

A large variance existed in the size of the winery supply base for wine grapes. Survey results showed that participating wineries sourced from between one and 1600 independent wine grape suppliers (Table 7.36 ). While the interquartile range was between three and 24 suppliers; the median was eight and the mode was two suppliers. The mean number of suppliers (53.26) is quite different from the median (8), which is an indication that the response distribution is asymmetric.

The average number of suppliers for small wineries was four; medium wineries were nine; and for larger wineries it was twenty. The size of the supplier base was significantly higher for very large wineries with an average of 290 grape suppliers.

**Table 7.36: Number of suppliers**

N	Valid	173
	Missing	2
Mean		53.26
Median		8.00
Mode		2
Std. Deviation		169.925
Minimum		1
Maximum		1600
Percentiles	2	1.00
	25	3.00
	50	8.00
	75	23.50

***Length of contractual period***

Contract duration ranged from one to fifteen years (Table 7.37). The interquartile range was between three and five years; the median was four years and the most frequent contract period was for five years. These results are supported by previous published studies including Scales et al. (1995), Edmonds (2000) and Anderson (2001b) who stated that the typical contract duration was between three and five years. Winery size did not influence the contract period.

**Table 7.37: Contractual period**

N	Valid	115
	Missing	59
Mean		4.56
Median		4.00
Mode		5
Std. Deviation		31.3
Minimum		1
Maximum		15
Percentiles	2	1.00
	25	3.00
	50	4.00
	75	5.00

Thirty four per cent of respondents expected to change the length of the contract period in the short term (in the next 1–2 years) (Table 7.38), which increased to 37 per cent in the medium term (in the next 3–4 years) (Table 7.39).



**Table 7.38: Change in the length of the contracts in the next 1–2 yrs**

Short term change	Frequency	%	Cumulative %
Yes	40	34.2	34.2
No	65	55.6	89.7
Do not know	12	10.3	100.0
<b>Total</b>	<b>117</b>	<b>100.0</b>	

**Table 7.39: Change in the length of the contracts in the next 3–4 yrs**

Medium term change	Frequency	%	Cumulative %
Yes	43	36.8	36.8
No	51	43.6	80.3
Do not know	23	19.7	100.0
<b>Total</b>	<b>117</b>	<b>100.0</b>	

Over half of those respondents (52%) believed that the contract period would shorten to give wineries greater flexibility with matching grape supply to forecasted wine sales (Table 7.40).

**Table 7.40: Reasons that the length of the contracts likely to change**

Reason	Frequency	%	Cumulative %
Will be shorter term contracts to give greater flexibility	22	52.4	52.4
Contractual period will be influenced by market conditions	15	35.6	88.0
Change from fixed term contracts to rolling contracts	2	4.8	92.8
Longer term contracts given with some years of consistent performance	2	4.8	97.6
Would like to give growers contracts	1	2.4	100.0
<b>Total</b>	<b>42</b>	<b>100.0</b>	

Thirty six per cent of respondents were noncommittal, saying that the contract period would depend upon prevailing market conditions at the time. A change from fixed term to rolling contracts (5%) and longer term contracts for suppliers with proven performance (5%) were among other comments reported on this issue.

#### ***Methods of price determination***

Six main methods are employed by Australian wineries to determine prices for wine grapes (preliminary study, Fraser 2002, 2003). Price provisions were largely in two categories: fixed contract or annual adjustment. Fixed contract means that the buyer and seller agree to a specified price or a fixed price schedule over time. The survey showed that the majority of wineries used contracts that have price provisions which are adjusted annually. Participating wineries most frequently used current market price (44%), followed by fair market price

(cool/warm areas) (33%), regional weighted average (21%), fixed minimum price (20%); payment on allocation (13%), and fixed price plus CPI adjustment (10%) (Table 7.41).

**Table 7.41: Method of price determination specified in contracts**

Method	Frequency	%	% of respondents
Current market price	75	30.5	43.6
Fair market prices for cool and warm areas	56	22.8	32.6
Regional weighted average	36	14.6	20.9
Fixed minimum price for contract period	34	13.8	19.8
Payment on allocation (POA)	23	9.3	13.4
Fixed price for contract period + CPI adj.	17	6.9	9.9
Mutual agreement	3	1.2	1.7
Determined on bottle price of wine	2	0.8	1.2
<b>Total (n=172)</b>	<b>246</b>	<b>100.0</b>	<b>143.0</b>

Multiple responses

The majority of wineries used a single method of price determination (70%); however, sometimes two (16%) or three price determination methods (13%) were appropriate for varying combinations of situational requirements of the grape supply base (Table 7.42). For example, a winery may use a fixed price contract with an annual CPI adjustment for contracted grape suppliers and the regional weighted average price for spot buying in a preferred growing region.

**Table 7.42: Number of pricing methods used by a winery**

No. pricing methods	Frequency	%	Cumulative %
Single method	121	70.3	70.3
Two methods	28	16.3	86.6
Three methods	23	13.1	100.0
<b>Total</b>	<b>172</b>	<b>100.0</b>	

The majority of winery respondents believed the winery would not change present methods of price determination within the next one to two years (74%) (Table 7.43), but 22 per cent of respondents believed that price determination methods would change in the medium term (Table 7.44).

**Table 7.43: Change in the method of price determination in the next 1–2 yrs**

Short term change	Frequency	%	Cumulative %
Yes	30	17.6	17.6
No	125	73.5	91.2
Do not know	15	8.8	100.0
<b>Total</b>	<b>170</b>	<b>100.0</b>	

Only nine per cent were uncertain about short term decisions on this issue, in comparison to nearly 20 per cent of respondents on the medium term.

**Table 7.44: Change in the method of price determination in the next 3–4 yrs**

Medium term change	Frequency	%	Cumulative %
Yes	37	21.8	21.8
No	100	58.8	80.6
Do not know	33	19.4	100.0
<b>Total</b>	<b>170</b>	<b>100.0</b>	

Survey results showed a trend away from long-term, fixed price contracts in a buyers' market. This type of contract can commit buyers to high-priced grapes in times when current market prices are falling to lower levels. The profitability and sustainability of these wineries may be threatened in highly competitive markets. As the market for wine grapes was experiencing downward pressure on prices at the time of the survey, the methods most favoured by wineries gave the opportunity to review prices annually. Changing to price determination methods such as fair market prices (26%), current market prices (14%), end use (9%), A\$/hectare instead of by tonnage (9%) and payment on allocation (6%) were considered to be more appropriate in current market conditions (Table 7.45).

**Table 7.45: Reasons for the change in the method of price determination**

Reasons	Frequency	%	Cumulative %
Fair market prices, neg. annually	9	25.7	25.7
Market forces are changing prices	5	14.3	40.0
Towards current market prices to be competitive	5	14.3	54.3
Will pay on end wine use only	3	8.6	62.9
When contracts expire will revert to (lower) market prices	3	8.6	71.5
Quality based and return per hectare	3	8.6	80.1
More towards POA	2	5.4	85.5
Will pay a premium for hand picked fruit	1	2.9	88.4
WDA is proving to be an imperfect measure of mkt price	1	2.9	91.3
Expanding portfolio, will need different levels of quality	1	2.9	94.2
Will pay a premium for certainty of supply	1	2.9	97.1
Now a larger company, more buying power	1	2.9	100.0
<b>Total</b>	<b>35</b>	<b>100.0</b>	

Another reason for changing the method of price determination included the desire to pay lower prices in the current market (9%). Many wineries are still locked into long-term fixed price

contracts, negotiated when grapes were in short supply and prices were higher than at present (9%). These wineries indicated the desire to renegotiate trading terms as contracts expire.

***Winery personnel having direct contact with suppliers***

Survey results showed that a variety of winery personnel had liaison with grape suppliers. Winemakers had a very important communication role with independent wine grape suppliers. In 80 per cent of cases, there was direct contact between the two parties which often involved personal contact through visits to the vineyard. The visits were more likely to occur in the latter stages of fruit development in order to achieve grapes of the desired ripeness and quality and to coordinate delivery.

**Table 7.46: Personnel who liaise with wine grape suppliers**

<b>Staff position</b>	<b>Cases</b>	<b>% of respondents</b>
Winemaker	140	80.5
Vineyard manager	48	27.6
Grower Liaison Officer (GLO)	46	26.4
Managing Director / Gen Manager / CEO	42	24.1
Owner(s), partners	27	15.5
Consultant viticulturalist	15	8.6
Regional viticultural manager	12	6.9
Group winemakers	11	6.3
Group viticultural manager	8	4.6
Finance Manager / Accountant	7	4.0
Senior winemaker	7	4.0
Production Manager	6	3.4
<b>Total</b>	<b>174</b>	

On the viticultural side of operations, other winery personnel who had direct contact with grape suppliers were winery vineyard managers (28%) and grower liaison officers (GLOs) (26%). These people had the responsibility to work with growers to ensure grape quality met winery specifications. Winery managers (24%) were also very involved with grape suppliers.

In small wineries, the CEO position is often multitasked; i.e. winemaker/CEO or owner/manager/winemaker. At the other end of the spectrum, larger wineries have an executive group (5%), regional viticultural managers (7%), and group winemakers (6%) who fulfil highly specialised roles. In some instances (9%), wineries may employ consultant viticulturalists to provide technical advice to independent grape suppliers where the necessary level of technical expertise is not available within the organisation. Other staff, including production managers (3%) and finance managers (4%) may also have some involvement with grape suppliers.

### 7.5.2. Choice of wine grape supplier

Most winery respondents chose a supplier for the purpose of further analysis in the survey who was capable of providing the desired level of quality wine grapes (56%) (Table 7.47). Other main reasons that influenced supplier choice were the ability to access specific grape varieties (48%), regional preference for wine grapes (41%), and having good working relationships (36%).

**Table 7.47: Reason for choosing this supplier**

Reason	Frequency	%	% of respondents
Access to a desired quality level	97	25.7	56.4
Access to specific grape varieties	82	21.7	47.7
Regional preference for wine grapes	71	18.8	41.3
Good working relationship	61	16.1	35.5
Important component for a particular product line	41	10.8	23.8
Access to volume	26	6.9	15.1
<b>Total (n=172)</b>	<b>378</b>	<b>100.0</b>	

Multiple responses

Supplier selection on the basis of a regional preference for wine grape were most often made from the Barossa (18%) (Table 7.48). Other popular regions included the Yarra Valley (16%), McLaren Vale (13%) and Margaret River (11%).

**Table 7.48: Region of preference**

Region of preference	Frequency	%	Cumulative %
Barossa	13	18.3	18.3
Yarra Valley	11	15.5	33.8
McLaren Vale	9	12.7	46.5
Margaret River	8	11.3	57.8
Hunter Valley	6	8.5	66.3
Great Southern	6	8.5	74.8
Adelaide Hills	4	5.6	80.4
Clare Valley	3	4.2	84.6
Mornington Peninsula	3	4.2	88.8
Coonawarra	2	2.8	91.6
Langhorne Creek	2	2.8	94.4
Single regional selections	4	5.6	100.0
<b>Total</b>	<b>71</b>	<b>100.0</b>	

Wine grape tonnages purchased from the selected supplier ranged from two tonnes up to 100,000 tonnes. Just over a quarter of respondents purchased less than 25 tonnes of grapes from

their chosen supplier (28%) (Table 7.49). Sixty five per cent of all respondents purchased less than 100 tonnes of wine grapes and 94 per cent purchased less than 1,000 tonnes. However, the interquartile range for tonnes purchased was between 20 and 150 tonnes, the median was 50 and the mode was 100 tonnes. The mean number of tonnes (1005.61) is quite different from the median (50), which is an indication that the response distribution is asymmetric.

**Table 7.49: Tonnes purchased from this supplier**

<b>Tonnes purchased</b>	<b>Frequency</b>	<b>%</b>	<b>Cumulative %</b>
1–9	21	12.6	12.6
10–24	25	15.0	27.5
25–49	29	17.4	44.9
50–99	34	20.4	65.3
100–249	25	15.0	80.2
250–499	11	6.6	86.8
500–999	12	7.2	94.0
1000–2499	4	2.4	96.4
2500–4999	2	1.2	97.6
5000–9999	1	0.6	98.2
10000–19999	2	1.2	99.4
20000+	1	0.6	100.0
<b>Total</b>	<b>167</b>	<b>100.0</b>	

In 38 per cent of cases, wineries had not specified cropping yields per hectare for the selected supplier (Table 7.50).

**Table 7.50: Average specified yield per hectare**

<b>Average yield per hectare</b>	<b>Frequency</b>	<b>%</b>	<b>Cumulative %</b>
Not specified	67	38.2	38.2
5 or less	24	13.7	51.9
6–10	61	34.8	86.7
11–15	11	6.3	93.0
16–20	8	4.6	97.6
21–25	3	1.7	99.3
26–30	1	0.7	100.0
<b>Total</b>	<b>175</b>	<b>100.0</b>	

While the average grape yields per hectare ranged from less than five tonnes up to 30 tonnes, the majority (85%) were less than ten tonnes. In 35 per cent of cases the chosen supplier had an average yield per hectare of between six to ten tonnes and 14 per cent had an average of five

tonnes or less. Another 11 per cent of selected grape suppliers had average yields between 11 and 20 tonnes, while only two per cent had average yields between 21 and 30 tonnes.

The retail price segments of the final product to which the grapes from the chosen supplier were allocated tended to be at the middle to higher priced end from A\$10–\$14.99 per bottle (36%), A\$15–\$24.99 (61%), and A\$25–\$39.99 (30%) (Table 7.51).

**Table 7.51: Retail price segment(s) of the final product to which the grapes from this supplier are usually allocated**

Retail price segment (A\$)	Frequency	Response (%)
< \$7.00	13	7.4
\$7–9.99	20	11.4
\$10–14.99	63	36.0
\$15–24.99	107	61.1
\$25–39.99	53	30.3
\$40+	24	13.7
<b>Total</b>	<b>175</b>	

Only 19 per cent of chosen suppliers had grapes allocated to wine product designated for retail price segments less than ten dollars.

Nearly half of winery respondents indicated that the selected suppliers were being paid the current market price (47%), while there were almost an equal number of more fortunate suppliers being paid above the current market price (46%) (Table 7.52).

**Table 7.52: How does the average price paid per tonne to this supplier compare to the current prices paid on the open market for the same product?**

Comparison	Frequency	%	Cumulative %
Lower	11	6.4	6.4
Same	81	47.1	53.5
Higher	80	46.5	100.0
<b>Total</b>	<b>172</b>	<b>100.0</b>	

For various reasons around six per cent of selected suppliers were being paid less than the current market price. These wineries paid lower prices for grapes when grape quality failed to meet their expectations, for small quantities of unsold grapes, for less popular varieties, and when the minimum price in an existing contract was lower than the current market price (Table 7.53).

**Table 7.53: Reason for the price difference**

<b>Reason</b>	<b>Frequency</b>	<b>(%)</b>
Higher pricing structure which rewards quality	37	41.6
Better quality grapes	15	16.8
Long-term orientation to good trading relationship	14	15.7
Minimum fixed price in existing contract is higher than current market prices	13	14.6
Lower spot prices paid for small quantities of unsold grapes	6	6.7
Higher prices for good varietal selection	5	5.6
Higher prices as a result of payment on area not by volume	2	2.2
Higher prices paid as spot market prices are not viable	2	2.2
Regional competition for grapes pushing prices up	2	2.2
Lower price as demand is low for this variety	1	1.1
Price is lower as grape quality failed to meet specifications	1	1.1
Prices are higher as supplier is a tough negotiator	1	1.1
Spot market prices are too high	1	1.1
Subject to supply and demand	1	1.1
<b>Total</b>	<b>89</b>	

In contrast, wineries were paying higher than current market prices for good quality grapes and for popular grape varieties. A long-term orientation to the trading relationship could return higher grape prices especially where price was paid by the hectare instead of by the tonne. There were conflicting views on the viability of current pricing with some respondents suggesting it was too high while others believed prices were too low.

## **7.6. Part Two: Wine grape suppliers**

Despite the increase in research and development in the Australian grape and wine industry, there is a lack of comprehensive information on the sale of wine grapes in Australia. This information is of particular importance as almost 60 per cent of the total wine grape crush is sourced from independent grape suppliers.

### **7.6.1. Sale of wine grapes**

#### ***Percentage of crop for sale***

Wine grapes may be produced for own use and/or sold to wineries. In 2005, most wine grape suppliers offered their entire grape crop for sale (79%) (Table 7.54). While some 17 per cent of respondents (17%) wanted to retain a proportion of grapes for their own use, the majority of the crop (80–99%) was offered for sale. Only four per cent of participating grape suppliers wanted to keep more than 20 per cent of the crop for their own use.



**Table 7.54: Percentage of crop for sale**

Crop for sale (%)	Frequency	%	Cumulative %
< 20	2	0.5	0.5
20–39	3	0.8	1.3
40–59	5	1.3	2.5
60–79	6	1.5	4.0
80–99	68	17.0	21.0
100	316	79.0	100.0
<b>Total</b>	<b>400</b>	<b>100.0</b>	

***Means of exchange***

Grape suppliers either sell their crop under contract or, when a contract is not available, the other option is to offer the grapes for sale on the open market. In 2005, most grape supplier respondents (98%) were contracted through either a written or verbal purchase agreement (Table 7.55). Some 13 per cent of respondents sold some of their grape crop on the open market and 18 per cent had been left with at least some unsold grapes.

**Table 7.55: Percentage of wine grape suppliers selling under contractual agreement, on the open market and with unsold crop**

How sold	Frequency	%	% of respondents
Sold under contract/verbal agreement	391	75.6	97.8
Sold on the open market	54	10.4	13.5
Unsold (unable to sell)	72	13.9	18.0
<b>Total (n=400 cases)</b>	<b>517</b>	<b>100.0</b>	<b>129.2</b>

Multiple responses

Most contracted grape suppliers were contracted for the sale of all their wine grapes (74%), while many of the remainder (16%) were contracted for the majority (80–99%) of their crop (Table 7.56).

**Table 7.56: Percentage of crop sold by written or verbal agreement in vintage 2005**

Crop Sold (%)	Frequency	%	Cumulative %
< 5			
6–19	2	0.5	0.5
20–39	6	1.5	2.0
40–59	12	3.1	5.1
60–79	17	4.3	9.5
80–99	63	16.1	25.6
100%	291	74.4	100.0
<b>Total</b>	<b>391</b>	<b>100.0</b>	

Only 17 per cent of suppliers were contracted for less than 80 per cent of their wine grapes.

While 14 per cent of grape suppliers sold wine grapes on the open market, the majority (60%) sold less than 40 per cent of their crop this way (Table 7.57).

**Table 7.57: Percentage of crop sold on the open market in vintage 2005**

<b>Crop Sold (%)</b>	<b>Frequency</b>	<b>%</b>	<b>Cumulative %</b>
< 5	7	13.0	13.0
6–19	16	29.6	42.6
20–39	9	16.7	59.3
40–59	11	20.4	79.6
60–79	2	3.7	83.3
80–99	2	3.7	87.0
100	7	13.0	100.0
<b>Total</b>	<b>54</b>	<b>100.0</b>	

Of the 18 per cent of grape suppliers left with unsold wine grapes, nearly a third (32%) were left with less than five per cent of the crop (Table 7.58).

**Table 7.58: Percentage of crop unsold in vintage 2005**

<b>Crop Unsold (%)</b>	<b>Frequency</b>	<b>%</b>	<b>Cumulative %</b>
< 5	23	31.9	31.9
6–19	23	31.9	63.9
20–39	14	19.4	83.3
40–59	8	11.1	94.4
60–79	2	2.8	97.2
80–99	1	1.4	98.6
100	1	1.4	100.0
<b>Total</b>	<b>72</b>	<b>100.0</b>	

Many grape suppliers had less than 20 per cent of their crop unsold (64%). Very few grape suppliers were unable to sell the majority of their crop (6%).

#### ***Number of winery customers***

The number of individual contracts with wineries ranged between one and nine. However, most wine grape suppliers had either one (69%) or two (20%) written contracts with wineries (Table 7.59).

**Table 7.59: Number of written supply contracts with wineries**

Number of contracts	Frequency	%	Cumulative %
1	218	68.6	68.6
2	65	20.4	89.0
3	19	6.0	95.0
4	7	2.2	97.2
5	5	1.6	98.7
6	2	0.6	99.4
7	1	0.3	99.7
9	1	0.3	100.0
<b>Total</b>	<b>318</b>	<b>100.0</b>	

The number of verbal agreements ranged between one and four (Table 7.60), but again, most grape suppliers had either one (74%) or two (21%).

**Table 7.60: Number of verbal supply agreements with wineries**

Number of verbal agreements	Frequency	%	Cumulative %
1	94	74.0	74.0
2	27	21.3	95.3
3	3	2.4	97.6
4	3	2.4	100.0
<b>Total</b>	<b>127</b>	<b>100.0</b>	

Similarly, the number of wineries that wine grape suppliers transacted with on the open market ranged between one and four, but once again, most suppliers had either one (71%) or two (24%) customers for their grapes (Table 7.61).

**Table 7.61: Number of wineries supplied on the open market**

No. wineries supplied on open market	Frequency	%	Cumulative %
1	24	70.6	70.6
2	8	23.5	94.1
3	1	2.9	97.1
4	1	2.9	100.0
<b>Total</b>	<b>34</b>	<b>100.0</b>	

#### *Length of contractual period*

The survey results showed that purchase agreements ranged from one to fifteen years (Table 7.62). However, the interquartile range was between three and ten years; the median was five years (19%) and the most frequent contractual period was for three years (21%). Clearly,

wineries prefer short-term purchase contracts. Ten per cent of grape suppliers had ongoing verbal agreements with a winery.

**Table 7.62: Average length of contracts**

<b>Contract Length (years)</b>	<b>Frequency</b>	<b>%</b>	<b>Cumulative %</b>
1	38	10.1	10.1
2	35	9.3	19.4
3	78	20.7	40.1
4	11	2.9	43.0
5	72	19.1	62.1
6	2	0.5	62.6
7	10	2.7	65.3
8	11	2.9	68.2
9	3	0.8	69.0
10	44	11.7	80.6
12	1	0.3	80.9
15	35	9.3	90.2
Ongoing verbal agreement	37	9.8	100.0
<b>Total</b>	<b>377</b>	<b>100.0</b>	

Over a decade ago, Scales et al. (1995, p. 46) reported that contracts for wine grapes were “... generally for around three to five years and sometimes for up to ten years”. Now, a decade later, there are still some contracts that extend for periods between ten and fifteen years. Contracts of this duration guarantee supply for the wineries and are an acknowledgment of winery preference for long term supply arrangements to ensure a reliable and consistent supply of wine grapes for their branded wine products.

In the short term, the majority of grape suppliers did not believe there would be any change in the length of their contract period (47%) (Table 7.63).

**Table 7.63: Change in the length of the contracts in the next 1–2 yrs**

<b>Short term change</b>	<b>Frequency</b>	<b>%</b>	<b>Cumulative %</b>
Yes	125	31.4	31.4
No	188	47.2	78.6
Do not know	85	21.4	100.0
<b>Total</b>	<b>398</b>	<b>100.0</b>	

However, 21 per cent of grape suppliers were uncertain about the prospects of any change in the short term, compared to 37 per cent in the medium term (Table 7.64).

**Table 7.64: Change in the length of the contracts in the next 3–4 yrs**

Medium term change	Frequency	%	Cumulative %
Yes	138	34.6	34.6
No	113	28.3	62.9
Do not know	148	37.1	100.0
<b>Total</b>	<b>399</b>	<b>100.0</b>	

In the medium term, 35 per cent of grape suppliers thought that the length of the contract period would change. Nevertheless, not many of these respondents were prepared to comment on the direction of the change as it seemed that when existing contracts finished, the duration of the new contract would depend on prevailing market conditions (45%) (Table 7.65).

**Table 7.65: Reasons that the length of the contracts likely to change**

Reason	Frequency	%	Cumulative %
Contract will finish and future contracts subject to market conditions at the time	74	44.6	44.6
Winery not interested in writing contracts anymore	30	18.0	62.6
Contract is likely to be shorter	29	17.4	80.0
Contracts will depend on the extent of buyer power	14	8.4	88.4
Wineries will enter annual purchase agreements	10	6.2	94.6
Would like a formal contract for more than one year	5	3.0	97.6
Changing wineries, will have new contracts	2	1.2	98.8
One winery rolling over for same period, another is not	2	1.2	100.0
<b>Total</b>	<b>166</b>	<b>100.0</b>	

Other respondents suggested that the winery they were currently contracted to was not interested in contracting grape suppliers in the current market (12%), or if renewed, the contract period would be shorter (11%). Eight per cent of respondents considered any change would depend on the buying power of the winery.

#### ***Methods of price determination***

According to wine grape suppliers, the prices paid for wine grapes were most frequently based on current market price (33%), followed by fair market price (cool/warm areas) (20%), regional weighted average (16%), fixed minimum price (15%), payment on allocation (12%), and fixed price plus CPI adjustment (7%) (Table 7.66). Other methods used to determine grape prices included a minimum price plus bonus and penalty schedule (5%) and various combinations of the specified methods (2.5%). Unfortunately, for two per cent of grape suppliers, the winery method of price determination was a mystery.

**Table 7.66: Method of price determination specified in contracts**

Price Determination Method	Frequency	%	% of respondents
Current market	133	30.5	33.2
Fair market prices for cool and warm areas	81	18.6	20.2
Regional weighted average	66	15.2	16.5
Fixed minimum price for contract period	60	13.8	15.0
Other methods of price determination	42	9.7	12.0
Fixed price for contract period + CPI adj.	27	6.2	6.8
Payment on allocation (POA)	26	6.0	6.5
<b>Total (n=400)</b>	<b>435</b>	<b>100.0</b>	

Multiple responses

PIRSA (2005) pointed out that agreements to purchase where prices are adjusted yearly (eg. current market price and fair market prices) are of little value to grape suppliers since financial institutions are not able to assess the real value of these agreements. Furthermore, it was reported that growers were often advised of the yearly price just prior to, or just after, the commencement of harvest which gives them no option but to accept the price difference given the perishable nature of the commodity. Contracts were described as being vague or insecure; consequently, some grape suppliers felt this lack of contract security meant that they could not implement business plans or plan to develop with any confidence.

For most wine grape suppliers, the grape prices were determined by one method (92%), although it was possible for those supplying to more than one winery to be paid with two (7%) or three different methods (1%) (Table 7.67).

**Table 7.67: Number of pricing methods**

Price Determination	Frequency	%	Cumulative %
One method	355	92.0	92.0
Two methods	27	7.0	99.0
Four methods	4	1.0	100.0
<b>Total</b>	<b>386</b>	<b>100.0</b>	

Many respondents believed that the method of price determination would not change in the short term (48%) () or the medium term (32%) (Table 7.68, Table 7.69)

**Table 7.68: Change in the method of price determination in the next 1–2 yrs**

Short term change	Frequency	%	Cumulative %
Yes	87	21.8	21.8
No	193	48.4	70.2
Do not know	119	29.8	100.0
<b>Total</b>	<b>399</b>	<b>100.0</b>	

A further 30 per cent of respondents were uncertain about a change in the method of price determination in the short term, which increased to 43 per cent in the medium term (Table 7.68, Table 7.69).

**Table 7.69: Change in the method of price determination in the next 3–4 yrs**

Medium term change	Frequency	%	Cumulative %
Yes	99	24.9	24.9
No	128	32.2	57.0
Do not know	171	43.0	100.0
<b>Total</b>	<b>398</b>	<b>100.0</b>	

Seventy three per cent of respondents believed that any change in price determination methods would depend upon the prevailing market for wine grapes, thus providing the wineries with more opportunities to choose methods in their favour (Table 7.70).

**Table 7.70: Reasons for the change in the method of price determination**

Reasons	Frequency	%
Methods will be influenced by prevailing market conditions	37	37.0
Methods will be more likely to favour the wineries — wineries want to pay less	36	36.0
Contract renewal/current pricing arrangements may cease	12	12.0
Wineries will require more flexibility	5	5.0
Price determination is quality based	4	4.0
Contracts no longer quality based	3	3.0
Current method locked in by long-term contract	2	2.0
Would like price to be determined by \$/hectare	1	1.0
	<b>100</b>	<b>100.0</b>

Twelve per cent of respondents believed that when the current contract expired, current trading terms would cease. Generally, these grape suppliers believed they had little power in contract negotiations.

#### ***Vineyard staff having direct contact with winery personnel***

Most vineyard owners liaised directly with winery staff in the role as an owner operator (51%) or as an owner/partner/director (48%) (Table 7.71). Other personnel including vineyard managers (17%), viticulturalists (1%), cooperative board members, and administrative staff also had direct contract with winery staff.

**Table 7.71: Personnel who liaise with winery staff**

<b>Staff position</b>	<b>No. responses</b>	<b>%</b>	<b>% of respondents</b>
Owner/operator	203	43.8	51.4
Owner/director/partner	190	40.9	48.1
Vineyard manager	66	14.2	16.7
Consultant viticulturalist	3	0.6	0.8
Cooperative board members	1	0.2	0.3
Administration manager	1	0.2	0.3
<b>Total (n=395)</b>	<b>464</b>	<b>100.0</b>	<b>115.01</b>

multiple responses

#### **7.6.2. Choice of winery customer**

Respondents were asked to choose a winery to which they supplied wine grapes for further analysis in the survey. The winery could be important to the firm in terms of the sales volume, the profitability of the relationship, sales of specific grape variety/varieties, or for other reasons. Findings showed that respondent's choice of winery was most often based on the profitability of the relationship (45%) (Table 7.72). Sales of a specific grape varieties (28%) and sales volume (13%) were the other main reasons.

**Table 7.72: Reason for choosing winery**

<b>Reason</b>	<b>Frequency</b>	<b>%</b>	<b>Cumulative %</b>
Profitability of relationship	182	45.5	45.5
Sales of a specific grape variety/varieties	114	28.5	74.0
Sales volume	53	13.2	88.2
Other	51	12.8	100.0
<b>Total</b>	<b>400</b>	<b>100.0</b>	

Respondents sold wine grapes in categories from one to nine tonnes up to 2,000–4,000 tonnes. Nearly one third of respondents had sales of less than 100 tonnes of wine grapes to the selected



winery (Table 7.73). The majority of sales were for less than 500 tonnes (80%), and 92 per cent of sales were for less than 1,000 tonnes.

**Table 7.73: Tonnes sold to this winery**

<b>Tonnes purchased</b>	<b>Frequency</b>	<b>%</b>	<b>Cumulative %</b>
1–9	8	2.0	2.0
10–24	26	6.6	8.6
25–49	38	9.6	18.2
50–99	56	14.2	32.4
100–249	112	28.4	60.8
250–499	74	18.7	79.5
500–999	51	12.9	92.4
1000–1999	22	5.6	98.0
2000–4000	8	2.0	100.0
<b>Total</b>	<b>395</b>	<b>100.0</b>	

Some 31 per cent of grape suppliers did not specify cropping yields per hectare for the chosen winery (Table 7.50). For the remaining respondents, the average grape yields per hectare ranged from less than five tonnes up to 30 tonnes and over. Average yields were mainly in four categories: between 6–10 tonnes per hectare (23%); 11–15 tonnes (12%); 16–20 tonnes (16%); and 21–25 tonnes (15%).

**Table 7.74: Average specified yield per hectare**

<b>Average yield per hectare (tonnes)</b>	<b>Frequency</b>	<b>%</b>	<b>% of respondents</b>
Not specified	97	28.0	30.8
5 or less	21	4.8	5.3
6–10	91	20.8	22.8
11–15	50	11.4	12.5
16–20	66	15.1	16.5
21–25	60	13.7	15.0
26–30	10	2.3	2.5
30+	13	3.0	3.3
Depends on the grape variety	4	0.9	1.0
<b>Total (n=400)</b>	<b>438</b>	<b>100.0</b>	<b>109.5</b>

Although the majority of respondents (55%) knew the retail price segment of the final product to which their grapes were usually allocated, there were a large number of growers who were not given access to the information by the winery.

Most wine grapes were allocated to the retail price segments from A\$7–\$9.99 (12%), A\$10–\$14.99 (27%), and A\$15–\$24.99 (28%) (Table 7.75).

**Table 7.75: Retail price segment(s) of the final product to which the grapes are usually allocated**

Retail price segment (A\$)	Frequency	% of respondents
< \$7.00	40	12.0
\$7–9.99	90	27.0
\$10–14.99	92	27.6
\$15–24.99	78	23.4
\$25–39.99	24	7.2
\$40+	9	2.8
<b>Total (n=221)</b>	<b>333</b>	<b>100.0</b>

Only 12 per cent of suppliers had grapes allocated to wine product designated for retail price segments below A\$7.00.

Forty two per cent of grape suppliers were receiving more than the current price on the open market, while there were almost an equal number of suppliers being paid about the same price (39%) (Table 7.76).

**Table 7.76: How does the average price paid per tonne by this winery compare to the current prices paid on the open market for the same product?**

Comparison	Frequency	%	Cumulative %
Lower	78	19.8	19.8
Same	152	38.7	58.5
Higher	163	41.5	100.0
<b>Total</b>	<b>393</b>	<b>100.0</b>	

Unfortunately, there were 20 per cent of respondents who believed that they were currently being paid less than spot prices by their winery customer (Table 7.77). In some instances these growers believed that their customers were being opportunistic in a buyers' market, knowing that suppliers usually had no alternative other than to accept the prices that were being offered. Nevertheless, a few grape growers understood that their customer was also having a tough time trying to compete in an oversupplied wine market.

However, 20 per cent of grape suppliers knew they were being rewarded for better grape quality, and in 12 per cent of cases, those supplying to profitable wineries were also being paid higher prices for their grapes. Some 10 per cent of grape suppliers had fixed priced contracts that had been negotiated when grape prices were higher. Those being paid regional weighted

average prices or who were in a grower cooperative were also more likely to receive higher prices for their wine grapes.

**Table 7.77: Reason for the price difference**

Reason	Price Difference	Frequency	%	Cumulative %
Reward for better grape quality	Higher	49	20.3	20.3
Winery is paying opportunistic prices in a buyers' market	Lower	30	12.4	32.7
Winery doing well and can pay higher prices	Higher	30	12.4	45.1
Existing contract is favourable in current mkt	Higher	26	10.8	55.9
Current grape oversupply	Lower	21	8.7	64.6
Significant difference between contract and spot market prices	Higher	15	6.2	70.8
Sought after region/variety	Higher	9	3.7	74.5
Reason for price difference is unknown to grower	Lower	8	3.3	77.8
Prices neg. by strong grower group	Higher	7	2.9	80.7
Very good grower/winery trading relationship	Higher	6	2.5	83.2
Paid the regional weighted average price	Higher	5	2.1	85.3
Winery is not very profitable	Lower	5	2.1	87.4
Lower price segment does not allow scope for higher prices	Lower	4	1.6	89.0
Miscellaneous		26	11.0	100.0
<b>Total</b>		<b>241</b>	<b>100.0</b>	

## 7.7. Part Two: Review

The analysis of the survey data has resulted in a detailed description of the current nature of purchasing and sales of wine grapes in Australia. Some purchasing and selling characteristics have changed from those reported a decade ago (Scales et al. 1995). Ongoing trading relationships remain the preferred alternative to buying and selling on the open market as both parties strive to reduce the uncertainty and complexity of their transactions. Due to the perishable and differentiated nature of wine grapes, buyers still use contracts to secure access to and coordinate delivery of a reliable supply of high quality grapes at reasonable prices. From a supplier perspective, survey results showed that contracted wine grape growers can potentially achieve higher returns. Nevertheless, wineries are seeking increased flexibility through contractual agreements of shorter duration in an effort to align their grape volumes, varieties and prices to the highly competitive and ever-changing end market.

Background on the purchase and sale of wine grapes has provided necessary insight into the business environment in which these trading relationships are currently operating. Winery size

was found to be a significant moderating factor in the proportion of grapes purchased, the size of the supplier base, and the means of exchange. However, size was not found to be a significant moderator for vineyard operations.

The proportion of grapes purchased was found to increase significantly with winery size. Generally, small wineries preferred to be predominantly self-sufficient. Medium, large and very large wineries purchased the majority of their wine grape requirements, particularly the largest wineries which outsourced over three quarters of their grape requirements. Contract processing for others has become an important activity for medium and large wineries to fully use their processing facilities.

As expected, very large wineries had a significantly larger supplier base (average 290 suppliers). In contrast, grape suppliers had a small customer base which was usually comprised of one or two customers. Only grape suppliers contracted for 500 tonnes or more of wine grapes had a significantly higher customer base (maximum nine winery customers). The size of a supplier/customer base can have important implications for relationship management systems in these organisations and the nature and means of exchange. Very large, well-resourced wineries may have a portfolio of relationships with some close interpersonal contacts and other arm's-length trading arrangements.

Evidence that this variation does exist in trading arrangements emerged when 52 per cent of winery respondents revealed the use of more than one means of transacting with their various suppliers — either purchasing on the open market and therefore without a contract, or using verbal or written purchase agreements. Clearly, winery respondents preferred to use either written (66%) or verbal (46%) contract agreements to purchase grapes. Nevertheless, respondents also indicated a reasonable amount of opportunistic purchasing on the open market (46%). Many wineries were offering low prices on the open market for grapes without contracts (PIRSA 2005), which is an especially salient aspect of the competitive nature of oversupplied markets.

Most suppliers wanted to sell their entire crop of wine grapes (79%), but there were also those who retained a portion of the crop for their own use. Analysis of grape supplier responses showed support for contract agreements with 98 per cent of the available crop under written or verbal contracts. The remaining crop was either sold on the open market or remained unsold.

Significant differences emerged in the choice of purchase arrangement across the different sized wineries. Small and medium wineries prefer verbal purchase agreements plus the flexibility offered by spot buying on the open market. In contrast, large and very large wineries preferred the security of written contracts with grape suppliers and chose to buy proportionately less of their total grape requirements from the open market.

Three to five year contracts were the norm. As expected, uncertainty about any change in the duration of contracts in the short and medium term was far greater among grape suppliers. More specifically, the increased uncertainty about the medium-term prospects was linked to the general consensus that winery customers would dictate the terms to suit themselves and the prevailing market conditions at the time. Among winery and supplier respondents was a shared view that the contract period for new or renewed contracts would be of short duration with the continuation of current market conditions.

The majority of winery contracts had provision for annual price adjustments. Most commonly used methods of price determination were current market price, fair market prices for cool and warm areas, regional weighted average, and fixed minimum price for the contract period. While many grape supplier respondents believed that the method of price determination would not change in the short term, the level of uncertainty was higher on this issue compared with winery responses. Comparative results appear to indicate that wineries have much greater control over these matters and feel more confident about the nature of their decision making in the future in contrast to their grape suppliers who believed that any change in pricing methods would be determined by the winery customer for their advantage.

Comparison of purchasing and selling characteristics and viewpoints on changes in the short and medium term showed that both trading partners know and understand the dominant position of wineries in an oversupplied market for wine grapes.

## **8. Relationship value in the Australian wine and grape industry**

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### **8.1. Chapter outline**

This chapter presents the results of data analysis and hypothesis testing for a three-phase model of relationship value specific to the grape and wine industry in Australia. The model separately captures and compares buyers and sellers perceptions of relationship value, and its antecedents.

Prior chapters have followed successive stages in the structural equation modelling (SEM) process to define and refine the models, establish relationship pathways, and select suitable item measures for the survey instrument. Now the results of a two-step SEM approach to test and confirm the proposed models will be presented and discussed. The first step involves a measurement model (which represents how measured variables come together to represent constructs) and the second step involves the structural model (showing how constructs are associated with each other).

The first section of this chapter presents the results of hypothesis testing of the first phase model corresponding to the first research objective, followed by a discussion about the contribution selected relational antecedents make towards relationship value. In the next section, the second phase model will use the “relationship value” construct from the phase one model to test four predictor constructs of relationship benefits and sacrifices. Results address the second research objective to determine similarities and differences in value perceptions between groups. Multi-group models were required for Phase One and Phase Two to provide a comparative base to examine the similarities and differences between customer and supplier perceptions (Hair et al. 2006). To address the third research objective, a third model is developed using the six relational antecedents from the first phase model together with the four predictor constructs of relationship benefits and sacrifices from the second phase. The subsequent identification of causal pathways from the relational constructs to the relationship benefits and costs will provide a comprehensive insight into how relationships create value for customers and suppliers in the grape and wine industry.

The fourth research objective examines how the level of relational orientation between trading partners influences relationship value. Cluster analysis is used to reveal any heterogeneity within winery and grape supplier groups in their perceptions of the antecedents of relationship value. The cluster results are discussed for a two-group cluster solution for wineries and for grape suppliers.

## 8.2. Objective 1

### OBJECTIVE 1:

**How do the selected relational antecedents lead to relationship value?**

**What are the similarities and differences between winery and grape supplier perceptions towards the selected relational antecedent constructs?**

### 8.2.1. Phase One model

Using structural equation modelling (SEM), the conceptual model proposed in Chapter 4 then confirmed in Chapter 5, will be assessed empirically using the survey responses from 175 wineries and 400 grape suppliers in Australia. SEM will be used to assess the extent to which the hypothesised model adequately describes the sample data. In a strictly confirmatory procedure (Jöreskog 1993), the hypothesised model will either be rejected or fail to be rejected and no further modifications to the model will be made. Given the size of the samples and the assumptions of multivariate normality in the data, a two-step approach as recommended by Anderson and Gerbing (1988) was used for the research.

The two-step structural modelling process (Anderson and Gerbing 1988) entailed the development of a confirmatory measurement model for each of the seven latent constructs, followed by a confirmatory structural model to assess the proposed model. Using this approach, the reliability and validity of the measurement model was established before the structural model was estimated. Both measurement and structural models were performed in two-group analyses to compare the customer and supplier relationships in the Australian grape and wine industry. The AMOS6 and SPSS14 programs were used for estimation and interpretation.

Exploratory Factor Analysis (EFA) using alpha factoring was initially applied to assess the structure of the constructs and selectively trim those items without theoretical and statistical contribution to the factor. As a result of this assessment, one item was removed from the “power asymmetry” construct (*this supplier/customer will not take advantage of a strong bargaining position*). The contribution of a further two items (*this supplier/customer is willing to change its processes and procedures for us* and *this supplier/customer has gone out of its way to link us with its business*) to the “adaptation” construct were insignificant, and as a result, the construct and the items were deleted (see Anderson and Gerbing 1988). All subsequent analyses are based on the 36 items and seven constructs.

### 8.2.2. Step 1: One-factor congeneric measurement models

Confirmatory factor analysis (CFA) was used for the analysis of the measurement models and to confirm measurement theory. A confirmatory measurement model specifies the posited relations of the observed items to the underlying constructs (factors), with the constructs allowed to freely intercorrelate (Anderson 1987, Anderson and Gerbing 1988).

In this study, one-factor congeneric measurement models were used to assess item reliability, determine scale reliability, and to generate factor score regression values for computing composite variables to be used in the structural equation model. The use of factor score regression weights minimises measurement error in the indicators contributing to each composite scale, which increases the reliability and validity of the computed composite scores (Anderson and Gerbing 1988). One-factor congeneric measurement models were defined for relationship value, communication, trust, cooperation, conflict resolution, power and performance satisfaction with the recommended number of multiple observed items (between four and eight) associated with each of the latent constructs (Hair et al. 2006).

CFA results highlighted the unidimensionality of the main factors (Jöreskog & Sorbom 1998, Hair et al. 2006) with high large correlations among observed items and high proportions of variance explained by each factor (i.e. eigenvalues greater than 1 are significant) (Table 8.1).

**Table 8.1: Measures, factor loadings and construct reliabilities (winery/grape supplier)**

Construct Eigenvalue	Measures	Squared multiple correlations* R <sup>2</sup>	$\alpha$ Composite reliability	Goodness-of-fit congeneric models	Mean and std. deviation
<b>A. Relationship value</b> (2.637/2.875)	This supplier/customer relationship has a high value for our firm.	0.888/0.764	$\alpha$ 0.826/0.869	$\chi^2 = 1.094$ (2 df) p=0.579 Bollen-Stine bootstrap value p=0.547  CMINDF=0.547 GFI=0.999 AGFI=0.990 NFI=0.999 RFI=0.995 IFI=1.000 CFI=1.000 RMSEA=0.000 AIC=37.094 ECVI=0.065	5.40/5.08 (1.14/1.63)
	The value of the relationship with this supplier/customer is very high in comparison with alternative suppliers/customers.	0.692/0.823	$r_c$ 0.915/0.898		
	Considering all benefits and sacrifices associated with this supplier/customer relationship, how would you assess its value? (Scale: 1=very low to 7=very high)	0.333/0.459			
	How do you rate the value of all performance contributions that your firm gains from this supplier/customer (e.g. quality, technologies, technical know-how) (Scale: 1=very low to 7=very high)	0.246/0.362			
<b>B. Trust</b> (4.893/5.198)	We have confidence in this supplier/customer	0.904/0.896	$\alpha$ 0.839/0.879	$\chi^2 = 64.063$ (34 df) p=0.001 Bollen-Stine bootstrap value p=0.104  CMINDF=1.884 GFI=0.974 AGFI=0.944 NFI=0.981 RFI=0.969 IFI=0.991 CFI=0.991 RMSEA=0.039 AIC=140.063 ECVI=0.247	5.93/4.39 (0.91/1.66)
	When problems arise, this supplier/customer is honest about these problems	0.749/0.797	$r_c$ 0.954/0.967		
	We can count on the promises this supplier/customer makes to our firm	0.714/0.788			
	We can count on this supplier/customer to do what is right	0.601/0.73			
	This supplier//customer performs its tasks competently	0.49/0.583			
	When making important decisions, this supplier/customer is concerned about our welfare	0.362/0.629			
	This supplier/customer is knowledgeable about viticulture	0.332/0.389			
	This supplier/customer sometimes acts opportunistically	0.139/0.05			



Construct Eigenvalue	Measures	Squared multiple correlations* R <sup>2</sup>	$\alpha$ Composite reliability	Goodness-of-fit congeneric models	Mean and std. deviation
<b>C. Performance satisfaction</b> (2.954/4.02)	Working with this supplier/customer puts less strain on our organisation than working with other suppliers	0.754/0.755	$\alpha$ 0.825/0.939	$\chi^2 = 9.723$ (4 df) p=0.045 Bollen-Stine bootstrap value p=0.134 CMINDF=2.431 GFI=0.993 AGFI=0.951 NFI=0.995 RFI=0.977 IFI=0.997 CFI=0.997 RMSEA=0.05 AIC=61.723 ECVI=0.109	5.48/4.24 (1.06/1.605)
	Generally, we are satisfied with our overall relationship with this supplier/customer	0.669/0.877	$r_c$ 0.886/0.949		
	My firm usually gets at least a fair share of the rewards and cost savings from our relationship with this supplier/customer	0.438/0.781			
	The benefits achieved from our relationship with this supplier/customer have greatly exceeded our expectations	0.311/0.744			
	The financial returns our firm obtains from this supplier/customer are better than we envisaged	0.275/0.583			
<b>D. Communication</b> (4.147/4.557)	Our firm and this supplier/customer keep each other well informed	0.786/0.697	$\alpha$ 0.88/0.909	$\chi^2 = 38.712$ (20 df) p=0.007 Bollen-Stine bootstrap value p=0.199 CMINDF=1.936 GFI=0.981 AGFI=0.946 NFI=0.987 RFI=0.966 IFI=0.992 CFI=0.992 RMSEA=0.041 AIC=110.712 ECVI=0.195	5.38/4.91 (0.98/1.36)
	This supplier/customer keeps me well informed on technical matters	0.676/0.677	$r_c$ 0.937/0.896		
	There is excellent communication between our firms so there are never any surprises that might be harmful to our working relationship	0.586/0.664			
	This supplier/customer communicates his expectations of our firm	0.491/0.558			
	This supplier/customer frequently informs me of any information or change that could affect the expected grape quality or yield	0.486/0.6			
	There is frequent face-to-face contact with this supplier/customer	0.356/0.484			
	It is relatively easy to contact this supplier/customer	0.293/0.366			
<b>E. Conflict resolution</b> (2.276/2.695)	Our relationship with this supplier/customer enables joint conflict resolution	0.707/0.767	$\alpha$ 0.73/0.831	$\chi^2 = 9.346$ (4 df) p=0.053 Bollen-Stine bootstrap value p=0.199 CMINDF=2.336 GFI=0.992 AGFI=0.981 NFI=0.989 RFI=0.968 IFI=0.994 CFI=0.994 RMSEA=0.049 AIC=41.346 ECVI=0.073	5.13/4.22 (1.013/1.532)
	This supplier/customer is quick to handle complaints	0.541/0.681	$r_c$ 0.813/0.885		
	We work on solutions together to solve problems so they do not happen again	0.337/0.659			
	In the past, disagreements and problematic issues with this supplier/customer have not been resolved.	0.191/0.234			
<b>F. Cooperation</b> (1.96/2.235)	I feel that by going along with this supplier/customer, I will be favoured on some other occasion	0.576/0.584	$\alpha$ 0.651/0.734	$\chi^2 = 2.773$ (2 df) p=0.25 Bollen-Stine bootstrap value p=0.343 CMINDF=1.386 GFI=0.998 AGFI=0.976 NFI=0.994 RFI=0.961 IFI=0.998 CFI=0.998 RMSEA=0.026 AIC=38.773 ECVI=0.068	5.00/4.72 (1.018/1.32)
	We are willing to put aside contractual terms in order to work through special circumstances or difficult problems with this supplier/customer	0.409/0.278	$r_c$ 0.692/0.708		
	This supplier/customer and our firm have compatible goals	0.210/0.489			
	We must work together with this supplier/customer to be successful	0.15/0.233			

Construct Eigenvalue	Measures	Squared multiple correlations* R <sup>2</sup>	$\alpha$ Composite reliability	Goodness-of-fit congeneric models	Mean and std. deviation
<b>G. Power asymmetry</b> (2.82/3.155)	This supplier/customer exerts a strong influence over us	0.82/0.728	$\alpha$ 0.857/0.736	$\chi^2 = 1.369$ (2 df) p=0.504 Bollen-Stine bootstrap value p=0.741 CMINDF=0.684 GFI=0.999 AGFI=0.988 NFI=0.999 RFI=0.994 IFI=0.999 CFI=0.999 RMSEA=0.000 AIC=37.369 ECVI=0.066	3.00/5.47 (1.32/1.35)
	This supplier/customer has all the power in our relationship	0.665/0.733	$r_c$ 0.886/0.903		
	This supplier/customer controls all the information in our relationship	0.474/0.636			
	We have no choice other than to adhere to this supplier's/customer's demands	0.415/0.740			

Results are presented on left side for wineries/ right side for grape growers.  
(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.  
All factor loadings significant at 0.001 level.  
The extraction method used in EFA is Alpha factoring.  
The measurement models were also built in LISREL8 to benefit from the more appropriate treatment of the ordinal data. No significant differences were observed in the findings.

However, the measurement models in AMOS6 showed unequal contributions of observed items toward the latent variables noticed in the EFA.

When comparing the congeneric models (free parameters) with the tau-equivalent models (equal loadings) and parallel models (equal loading and variances) for the winery and grape growers, the chi-square ( $\chi^2$ ) tests showed good measures of fit only for the congeneric models. This suggested that both loadings and variances were not equal across the two groups of Australian wineries and grape growers.

The goodness-of-fit measures indicated that for each construct, the items used as indicators were indeed measuring those latent variables. This can be assessed on the squared multiple correlation ( $R^2$ ) reported for each observed item and the composite reliability for the individual measurement model with values that range from 0 to 1.0; values close to 1.0 represent good models (Byrne 2001). The item reliabilities (squared multiple correlations) are moderate to high. With the exception of cooperation, the reliability of each construct is above 0.7 and all items have factor loadings of 0.54 or greater, supporting the convergent validity of the constructs. In many latent dimensions, there is a weak item, not well reflected by the construct, but they were not removed from the construct on the basis of theoretical considerations.

Discriminant validity was assessed by testing if correlations between constructs are significantly different from unity, comparing a constrained model (with correlations = 1) with the unconstrained model. The  $\chi^2$  difference value with p<0.05 supports the discriminant validity criterion. The Pearson correlations between the latent constructs scores (Table 8.2), are lower

than the reliability coefficients, suggesting that the construct measures have discriminant validity (Crocker and Algina 1986).

**Table 8.2: Correlations between model constructs**

	Performance satisfaction	Trust	Cooperation	Power asymmetry	Communication	Conflict resolution	Relationship value
Performance satisfaction	1	0.868	0.686	-0.462	0.689	0.719	0.558
Trust	0.757	1	0.701	-0.492	0.719	0.745	0.529
Cooperation	0.419	0.408	1	-0.292	0.567	0.590	0.511
Power asymmetry	-0.210	-0.299	0.125	1	-0.283	-0.395	-0.302
Communication	0.476	0.525	0.378	-0.052	1	0.701	0.468
Conflict resolution	0.479	0.537	0.408	-0.083	0.529	1	0.490
Relationship value	0.536	0.492	0.439	-0.017	0.468	0.439	1

All correlations significant at 0.001 level.

Upper triangle correlations for grape growers, lower triangle for wineries.

### 8.2.3. Step 2: Phase One model

The hypothesised model provides a dyadic perspective of the contribution of selected relational antecedents towards relationship value for wineries and grape suppliers. A symmetrical view of dyadic relationships rests on the premise that 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 (Anderson and Narus 1990).

Jöreskog and Sorbom (1998) show how the reliability of fitted one-factor congeneric models can be easily calculated from the measurement models. As a consequence, the measurement model may then be replaced in the structural model by an equivalent, simplified latent construct with only one item (the composite score of the construct) accounting for the known amount of error associated with the measurement model (Munck 1979). This technique overcomes a major limitation in SEM — that of achieving a sample size appropriate for the number of parameters involved in ‘full’ measurement and structural models (Gerbing and Anderson 1988).

The structural model specifies and simultaneously estimates the hypothesised relationships among latent variables. Model tests focus on two issues: the overall and relative fit; and the size, direction and significance of the structural parameter estimates of the depicted pathways (Hair et al. 2006).

The structure and parameter estimates of the structural two-group model are presented in Figure 8.1 and Figure 8.2.

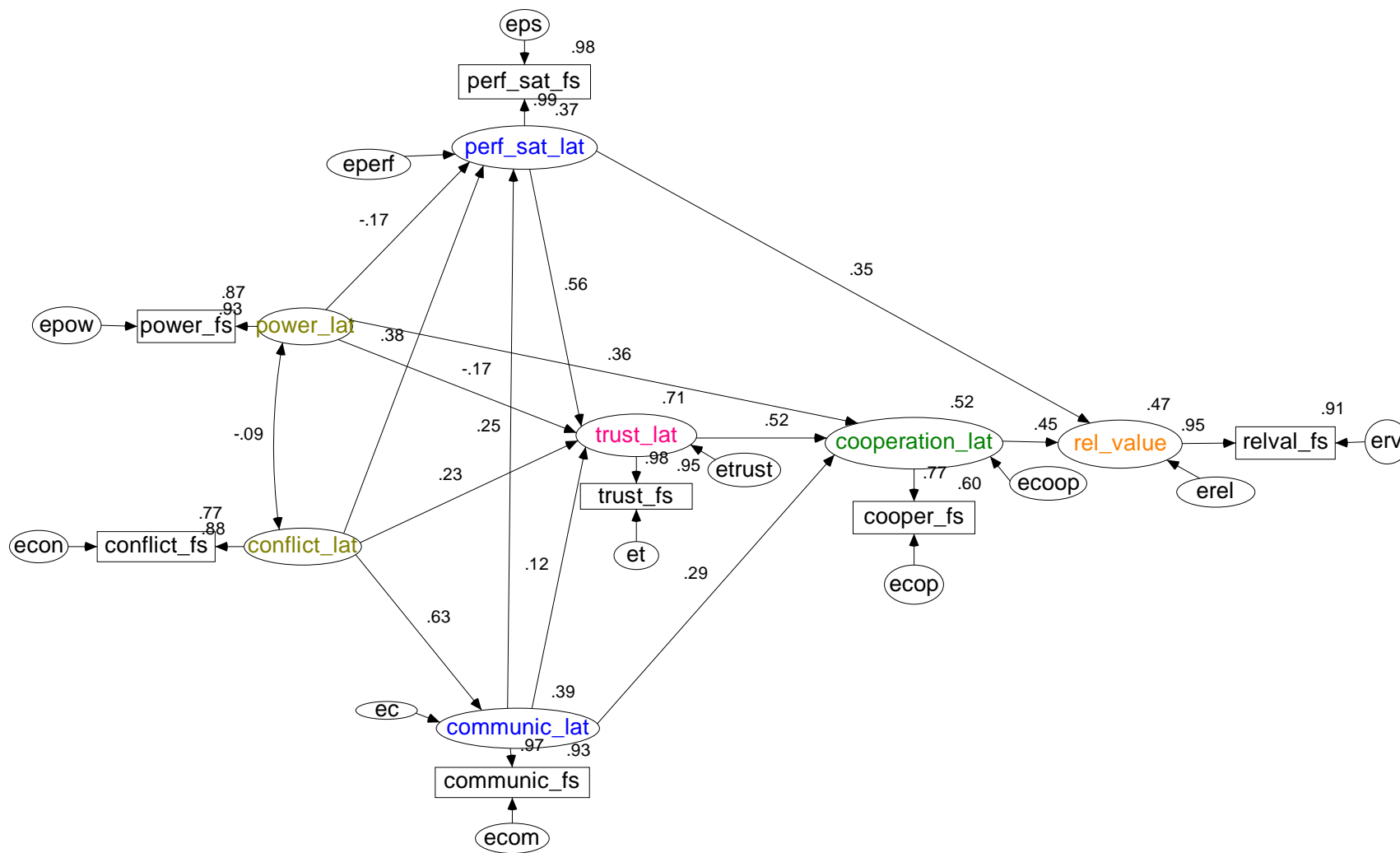


Figure 8.1: Estimated structural model for Australian wineries — standardised parameters

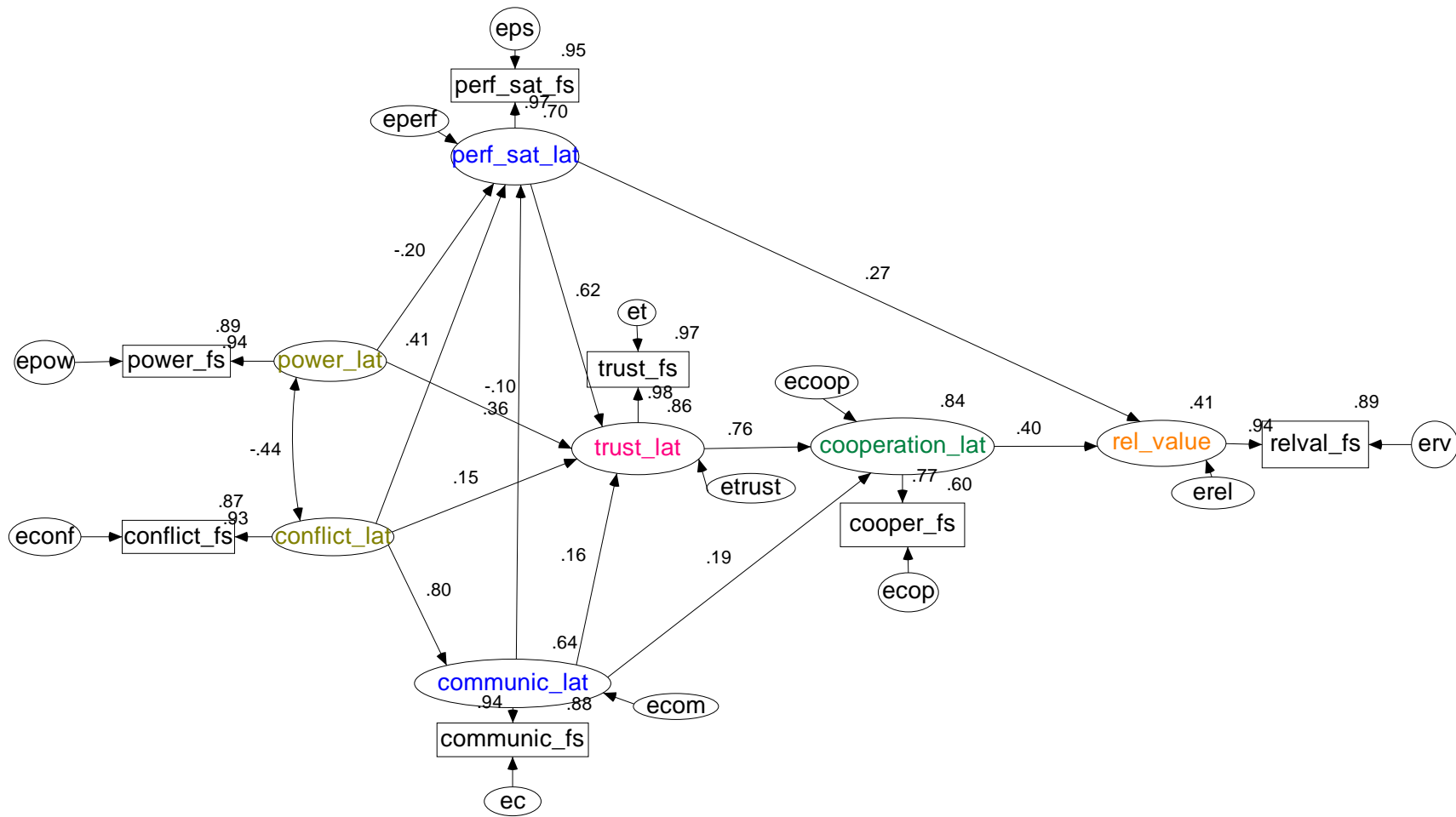


Figure 8.2: Estimated structural model for Australian grape growers — standardised parameters

The comparison of a restricted model with invariant regression weights and covariances between wineries and grape growers and an unconstrained model suggest that there were differences in the Australian grape and wine industry ( $\chi^2 = 118.329$ ,  $df = 12$ ). The unconstrained model provides a  $\chi^2$  of 151.468 ( $df = 27$ ,  $p = 0.000$ ). By relaxing the constraints, the model provides a  $\chi^2$  of 33.139 ( $df = 15$ ,  $p = 0.004$ ), approximately equal to the sum of respective  $\chi^2$  for the two groups analysed separately.

The estimated model mirrors the proposed theoretical model with one exception: as adaptation was reflected in only two items, a latent construct was not estimated and the items entered the model as observed variables. None of these items were statistically significant and thus they were not included in the final structure of the model.

Therefore, of 17 hypotheses tested in the Phase One model, the three hypotheses related to adaptation could not be supported. As hypothesised, the relationships between “performance satisfaction”, “conflict resolution”, “communication” and “trust” were positive and significant. “Power asymmetry” was negatively related to “performance satisfaction” and “trust” and was only significantly related to “cooperation” for wineries and not for grape suppliers. “Cooperation” was a strong predictor of “relationship value”, along with “performance satisfaction”. “Communication” and “trust” were positively related to “cooperation”. The correlation between “power asymmetry” and “conflict resolution” was significant and negative for grape suppliers, but not significant for wineries.

In summary, the model for both groups did not vary in direction, but there were differences in perceptions for key relationship constructs between wineries and grape suppliers (Table 8.3). There were two hypothesised pathways for which relationships were significant for one group, but not for the other. In the wine grape suppliers’ model, the regression weights corresponding to H12 were not statistically significant (power asymmetry positively associated with cooperation) and for the winery’s, the regression weights corresponding to H9 were not statistically significant (power asymmetry negatively associated with conflict resolution).

**Table 8.3: Results of the moderated (two-group) structural model**

Hypotheses	Moderator	
	Wineries	Grape growers
H1 Cooperation → Relationship value	0.55 (4.331) (A)	0.469 (3.089) (A)
H2 Trust → Cooperation	0.413 (4.634) (A)	0.616 (9.053) (A)
H3 Construct removed following preliminary findings	0 (R)	0 (R)
H4 Performance satisfaction → Trust	0.222 (9.025) (A)	0.628 (12.942) (A)
H5 Performance satisfaction → Relationship value	0.134 (4.102) (A)	0.258 (2.178) (A)
H6 Communication → Performance satisfaction	0.643 (2.7) (A)	0.375 (5.325) (A)
H7 Communication → Trust	0.124 (1.79) (A)	0.158 (2.956) (A)
H8 Communication → Cooperation	0.234 (2.811) (A)	0.180 (2.503) (A)
H9 Power asymmetry ↔ Conflict resolution	0 (R)	-0.388 (-7.242) (A)
H10 Power asymmetry → Performance satisfaction	-0.478 (-2.687) (A)	-0.211 (-5.259) (A)
H11 Power asymmetry → Trust	-0.187 (-3.516) (A)	-0.101 (-3.321) (A)
H12 Power asymmetry → Cooperation	0.299 (3.814) (A)	0 (R)
H13 Conflict resolution → Communication	0.69 (7.97) (A)	0.805 (19.158) (A)
H14 Conflict resolution → Performance satisfaction	1.054 (3.7) (A)	0.43 (5.665) (A)
H15 Conflict resolution → Trust	0.257 (2.88) (A)	0.164 (2.789) (A)

Unstandardised parameter estimates with critical ratios in brackets

(A) = hypothesis is accepted

(R) = hypothesis is rejected

Full list of hypotheses (Table 5.11)

The following criteria were used to evaluate the adequacy of the model fit (Byrne 2001, Hair et al. 2006): a non-significant chi-square ( $p > 0.05$ ) suggests that the model adequately describes the sample data as the discrepancy between the sample and model covariance matrices is not significant, chi-square ( $\chi^2/df$ )  $< 3$ ; GFI, AGFI (absolute indices of fit)  $> 0.95$ ; RFI, IFI, CFI (incremental or comparative indices of fit)  $> 0.95$ ; and RMSEA (root mean square error of approximation)  $< 0.05$  (Hair et al. 2006). Akaike's information criterion (AIC) and ECVI (expected cross-validation index) do not have benchmarks, but smaller values when compared to the independence and saturated models suggest good fit of the data.

The goodness-of-fit statistics of the structural model are presented in Table 8.4 . A two-group model was obtained that was judged to provide acceptable goodness-of-fit, despite a chi-square value that was statistically significant. Similar to Anderson (1987), this judgement was made on the basis of meaningful interpretability of the model from a content and theoretical viewpoint and a close value of 0.98 for the normed fit index (NFI) and the goodness-of-fit index (GFI). This judgment was further supported by incremental fit index (IFI) and comparative fit index (CFI) values of 0.99.

**Table 8.4: Goodness-of-fit measures for the two-group model**

Goodness-of-fit or multivariate measure	SEM with moderator (wineries vs grape growers)
$\chi^2$ (df), p level	41.439 (16 df), p=0.001
CMIN /DF	2.59
GFI	0.980
AGFI	0.930
NFI	0.982
RFI	0.953
IFI	0.989
CFI	0.989
RMSEA	0.053
AIC	121.439
ECVI	0.214
Multivariate normality – Mardia index (CR) winery, grape growers	17.019 (9.971), respectively 10.244 (9.092)

Maximum Likelihood (ML) procedure was used in this research for the estimation of model parameters. The multivariate normality (and outliers) have been assessed, being aware of the fact that ML can give biased standard errors and incorrect test statistics in the presence of excessive skewness and/or kurtosis (Byrne 2001, Hair et al. 2006). The Mardia's multivariate normality test indicators for skewness and kurtosis are presented at the bottom of Table 8.4.

#### 8.2.4. Comparison of winery and grape supplier perceptions

An independent samples *t*-test was used to examine the data in order to identify any significant differences in the survey responses between wineries and grape suppliers pertaining to the selected relational dimensions in the proposed phase one model (Table 8.5).

An analysis of the individual constructs revealed:

- winery perceptions of relationship value were significantly higher than the grape suppliers, with the exception of “value is high in comparison with alternative customers/suppliers”;
- perceptions of trust for each of the measures were significantly higher for wineries than grape suppliers;
- perceptions of performance satisfaction were significantly higher for wineries than grape suppliers for all five measures;



- while both groups had positive perceptions about the communication in the relationship, responses were significantly higher for wineries on all but two measures: “keeps me well informed on technical matters and “communicates his expectations”;
- while the wineries were significantly more confident about their ability to resolve conflicts arising in the relationship, grape suppliers were more likely to suggest that disagreements and problems had yet to be resolved;
- while both groups had positive perceptions of cooperation and the need to “work together to be successful”, the wineries believed that they were more flexible than the grape suppliers in “putting aside contractual terms” and “going along with this trading partner”. Similarly, the wineries believed that they and their grape suppliers pursued compatible goals to a higher degree than the reality of the situation would suggest;
- with respect to power asymmetry, all item measures showed wineries to hold the dominant position. Grape suppliers often “had no choice other than to adhere to the customers demands”, “the customer controls all the information”, “the customer had all the power” and “the customer exerted a strong influence. However, on a more positive note, grape suppliers were less inclined to believe that their preferred customer would seek to take advantage of them;

**Table 8.5: Independent *t*-test comparison of difference between winery and grape supplier results on item measures for selected SEM constructs**

Construct	Item measures	Winery (A)		Grape supplier (B)		Cat A X B	
		Mean	S.D.	Mean	S.D.	t	Sig.
<b>A. Relationship value</b> 4 item measures	Considering all benefits and sacrifices associated with this supplier/customer relationship, how would you assess its value	5.88	1.11	5.17	1.82	5.69	0.00
	This supplier/customer relationship has a high value for our firm	5.43	1.25	5.10	1.82	3.11	0.00
	The value of the relationship with this customer is very high in comparison with alternative suppliers/customers	5.25	1.25	5.10	1.78	1.13	0.26
	How do you rate the value of all performance contributions that your firm gains from this customer	5.06	1.36	4.65	1.68	2.51	0.01
<b>B. Trust</b> 8 item measures	We have confidence in this supplier/customer	6.03	0.97	4.41	1.91	13.39	0.00
	When problems arise, this supplier/customer is honest about these problems	5.97	0.98	4.59	1.79	11.75	0.00
	This supplier/customer performs its tasks competently	5.95	0.94	4.75	1.57	11.27	0.00
	This supplier/customer is knowledgeable about viticulture	5.89	1.05	5.47	1.37	3.93	0.00
	We can count on the promises this supplier/customer makes to our firm	5.87	1.03	4.40	1.89	11.96	0.00
	We can count on this supplier/customer to do what is right	5.74	1.09	3.88	1.82	15.00	0.00
	When making important decisions, this supplier/customer is concerned about our welfare	5.09	1.29	3.59	1.83	11.16	0.00
	This supplier/customer sometimes acts opportunistically (Reversed)	3.64	1.74	4.88	1.67	-1.55	0.94

Construct	Item measures	Winery (A)		Grape supplier (B)		Cat A X B	
		Mean	S.D.	Mean	S.D.	t	Sig.
<b>C. Performance satisfaction</b> 5 item measure	Generally, we are satisfied with our overall relationship with this supplier/customer	5.71	1.14	4.55	1.82	9.22	0.00
	Working with this supplier/customer puts less strain on our organisation than working with other suppliers	5.04	1.39	4.39	1.76	4.68	0.00
	The benefits achieved from our relationship with this supplier/customer have greatly exceeded our expectations	4.91	1.17	3.92	1.69	7.99	0.00
	My firm usually gets at least a fair share of the rewards and cost savings from our relationship with this supplier/customer	4.87	1.12	3.97	1.74	7.39	0.00
	The financial returns our firm obtains from this supplier/customer are better than we envisaged	4.23	1.06	3.62	1.59	5.37	0.00
<b>D. Communication</b> 7 item measures	It is relatively easy to contact this supplier/customer	6.06	0.80	5.77	1.31	3.25	0.00
	Our firm and this supplier/customer keep each other well informed	5.62	1.04	4.97	1.63	5.67	0.00
	There is frequent face-to-face contact with this supplier/customer	5.56	1.21	4.74	1.73	6.48	0.00
	This supplier/customer frequently informs me of any information or change that could affect the expected grape quality or yield	5.41	1.28	4.70	1.77	5.34	0.00
	There is excellent communication between our firms so there are never any surprises that might be harmful to our working relationship	5.29	1.28	4.20	1.89	8.12	0.00
	This supplier/customer communicates his expectations of our firm	5.25	1.35	5.37	1.47	-0.93	0.35
	This supplier/customer keeps me well informed on technical matters	5.11	1.37	4.84	1.71	1.99	0.47
<b>E. Conflict resolution</b> 4 item measures	We work on solutions together to solve problems so they do not happen again	5.44	1.12	4.47	1.67	8.08	0.00
	Our relationship with this supplier/customer enables joint conflict resolution	5.37	1.07	4.40	1.67	8.32	0.00
	This supplier/customer is quick to handle complaints	5.01	1.71	4.39	1.57	5.19	0.00
	In the past, disagreements and problematic issues with this supplier/customer have not been resolved.	2.53	1.38	3.40	1.67	6.48	0.00
<b>F. Cooperation</b> 4 item measures	We must work together with this supplier/customer to be successful	5.50	1.26	5.69	1.34	-1.58	0.12
	This supplier/customer and our firm have compatible goals	5.43	1.15	4.69	1.74	5.94	0.00
	We are willing to put aside contractual terms in order to work through special circumstances or difficult problems with this supplier/customer	5.14	1.43	4.78	1.65	2.60	0.01
	I feel that by going along with this supplier/customer, I will be favoured on some other occasion	4.64	1.36	4.39	1.78	1.76	0.00
<b>G. Power asymmetry</b> 5 item measures	This supplier/customer will not take advantage of a strong bargaining position	3.84	1.55	3.27	1.84	3.81	0.00
	This supplier/customer exerts a strong influence over us	2.57	1.24	5.59	1.38	-24.65	0.00
	This supplier/customer has all the power in our relationship	2.53	1.30	5.85	1.39	-26.70	0.00
	This supplier/customer controls all the information in our relationship	2.11	1.31	5.08	1.66	-25.93	0.00
	We have no choice other than to adhere to this supplier's/customer's demands	1.83	0.97	5.33	1.71	-30.89	0.00

Cat A x B are significantly different at p=0.05

Where 1 = strongly disagree, 4 =neither agree or disagree, 7 = strongly agree

Similar responses from wineries and grape suppliers (differences were not statistically significant) were recorded for only five items: “acting opportunistically” (trust); working together to be successful (cooperation); “communicates expectations” and “keeps me well informed on technical matters” (communication); and “value with this supplier/customer is very high in comparison with alternative suppliers/customers” (relationship value). Perceptions held by winery and grape supplier respondents were significantly different for the remaining 34 items.

On average, wineries were more inclined to “slightly agree” with most item measures, while grapes suppliers were more inclined to “neither agree or disagree” or “slightly disagree” with statements about their trading relationship with the selected winery customer. Hence, most items provided a significantly higher contribution towards the selected constructs for wineries compared to grape suppliers.

#### **8.2.5. Discussion of Phase One model**

Generally, the hypotheses proposed in this study were supported with significant values. As predicted on the grounds of previous theoretical studies, the effects of most model constructs were primarily indirect and antecedent to relationship value.

Of the two direct contributors to relationship value, “cooperation” has the biggest impact ( $\beta=0.45$  winery / $0.40$  grape supplier), while “performance satisfaction” was somewhat less ( $\beta=0.35/0.27$ ) for both the wineries and grape suppliers respectively (Table 8.6).

**Table 8.6: Standardised regression weights (winery/grape supplier) default model**

Phase One pathways		Winery	Grape supplier	Summary
Cooperation	Relationship value	0.45	0.40	Cooperation affects RV more for wineries, but is quite influential in both groups
Trust	Cooperation	0.52	0.76	Trust affects Cooperation more for suppliers, but is quite influential in both groups
Performance satisfaction	Trust	0.56	0.62	Performance satisfaction affects Trust more for suppliers, but is quite influential in both groups; PS affects RV more for wineries
Performance satisfaction	Relationship value	0.35	0.27	
Communication	Performance satisfaction	0.25	0.36	Communication affects PS and Trust more for grape suppliers, whereas Communication affects Cooperation more for wineries
Communication	Trust	0.12	0.16	
Communication	Cooperation	0.29	0.19	
Power asymmetry	Performance satisfaction	-0.17	-0.20	Power asymmetry has a greater negative effect on PS for grape suppliers, and a greater negative effect on trust for wineries; Power asymmetry affects Cooperation for wineries only
Power asymmetry	Trust	-0.17	-0.10	
Power asymmetry	Cooperation	0.36	0	
Conflict resolution	Communication	0.63	0.80	Conflict resolution effects Communication more for suppliers, but is highly influential in both groups
Conflict resolution	Performance satisfaction	0.38	0.41	Conflict resolution affects PS more for grape suppliers
Conflict resolution	Trust	0.23	0.15	Conflict resolution affects Trust more for wineries.

Driving “cooperation” is “trust” ( $\beta=0.52/0.76$ ) and “communication” ( $\beta=0.29/0.19$ ). Furthermore, “power asymmetry” facilitates “cooperation” ( $\beta=0.36$ ), but only for wineries.

Four constructs directly contribute towards “trust”. The strongest and most direct effects were achieved through “performance satisfaction” ( $\beta=0.56/0.62$ ), and then to a lesser extent by “conflict resolution” ( $\beta=0.23/0.15$ ) and communication ( $\beta=0.12/0.16$ ). In contrast, “power asymmetry” has a significant negative impact on the level of “trust” ( $\beta=-0.17/-0.10$ ).

Good “communication” ( $\beta=0.25/0.36$ ) has a strong positive impact on “performance satisfaction”, as does “conflict resolution” ( $\beta=0.38/0.41$ ). However, “power asymmetry” ( $\beta=-0.17/-0.20$ ) detracts from performance satisfaction, more so for the grape suppliers who in the current market risk losing their market if they do not follow the advice and recommendations provided by the winery.

The strongest direct effect in the model arises from the positive contribution of “conflict resolution” on “communication” ( $\beta=0.63/0.80$ ), highlighting the importance of being responsive to a partner’s complaints and working on joint problem solutions to keep the communication channels working efficiently.

#### **8.2.6. Conclusions on Phase One model**

The main contribution of this theory building Phase One model is the development and confirmation of a theoretical model to describe the manner in which relational antecedents lead to relationship value outcomes for Australian buyers and sellers of wine grapes. A multigroup SEM model comprising seven constructs has comparative strength in terms of systematic and simultaneous investigation of all of the construct interrelationships, as opposed to the explanatory power of two or three construct studies which characterise prior empirical research into relational antecedents to relationship value from either a customer or supplier perspective (e.g. Walter et al. 2002a).

Using a two-step structural modelling approach, one-factor congeneric measurement models were defined for relationship value, communication, trust, cooperation, conflict resolution, power and performance satisfaction and then tested using SEM to assess the adequacy of the hypothesised model. The estimated model mirrored the hypothesised model with the exception of “adaptation”, which was either incorrectly specified or unidentified with just two item measures (Hair et al. 2006). Hair et al. (2006) recommend a minimum of three items per factor, preferably four to ensure that enough information exists to identify a solution. Goodness-of-fit criteria applied to the Phase One model indicated an adequate fit.

The model was multiple-sample for customers and suppliers as the commonalities and differences between group perceptions with respect to the model were of comparative interest. Constructs and construct indicators were the same to ensure meaningful comparisons. Measurement model analysis showed unequal contributions of observed items toward the latent variables for wineries and grape suppliers which highlighted the differences in perceptions for key relationship constructs.

In the structural part of the model, the results for both groups did not vary in direction, but there were two hypothesised pathways for which relationships are significant for one group, but not for the other. In the wine grape suppliers’ model, the relationship between power asymmetry and cooperation was not statistically significant and in the winery model, the hypothesised association between power asymmetry and conflict resolution was not statistically significant. Despite these differences, the customer and supplier perspectives shared sufficient similarity to achieve a multigroup model of adequate fit.

### 8.3. Objective 2

#### OBJECTIVE 2:

Examine customer and supplier perceptions of factors that are instrumental in the optimisation of relationship value in the grape and wine industry.

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

#### 8.3.1. Phase Two model

A similar two-step structural modelling process was undertaken for the set of 25 questions to identify the benefits and costs perceived in trading relationships between customers and suppliers in the Australian grape and wine industry. As with the theoretical model where a single response variable was sought, higher order factor analysis was applied to investigate the contribution direct and indirect benefits and costs made towards relationship value.

Confirmatory factor analysis highlighted the unidimensionality of three benefit factors and the single hypothesised cost factor. There was a high degree of correlation among the indicator variables and a high proportion of the variance was explained by each factor (Table 8.7).

**Table 8.7: Measures, Factor Loadings and Construct Reliabilities (winery/grape growers)**

Construct Eigenvalue	Measures	Squared multiple correlations* R <sup>2</sup>	$\alpha$ Composite reliability	Goodness-of-fit congeneric models	Mean and std. deviation
A. Innovation (3.005/3.265) All standardised loadings above 0.6	Our relation with our supplier/customer leads to joint input into setting strategic directions	0.888/0.889	$\alpha$ 0.889/0.924	$\chi^2 = 11.026$ (2 df) p=0.004 Bollen-Stine bootstrap value p=0.005	3.9/3.74 (1.40/1.667)
	Our relation with our supplier/customer leads to joint input into long range planning of supply	0.784/0.920	$r_c$ 0.927/0.955	CMINDF=5.513	
	Our relation with our supplier/customer leads to joint development of production processes	0.444/0.479		GFI=0.990 AGFI=0.905 NFI=0.994	
	Our relation with our supplier/customer leads to joint input into technical development matters	0.449/0.648		RFI=0.965 IFI=0.971 CFI=0.995 RMSEA=0.089 (p=0.078) AIC=47.026 ECVI=0.083 (0.07 for saturated model)	

Results are presented on left side for wineries/ right side for grape growers.

(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.

All factor loadings significant at 0.001 level.

The extraction method used in EFA is Alpha factoring.

Construct Eigenvalue	Measures	Squared multiple correlations* R <sup>2</sup>	$\alpha$ Composite reliability	Goodness-of-fit congeneric models	Mean and std. deviation
<b>B. Profitability benefits -</b> (4.788/6.646) Only 2 standardised loadings below 0.5 for winery group, all the others above 0.6	Our relation with our supplier/customer leads to the better fulfilment of wine grape specifications	0.709/0.663	$\alpha$ 0.873/0.943	$\chi^2 = 130.349$ (50 df) p=0.000 Bollen-Stine bootstrap value p=0.04 CMINDF=2.607 GFI=0.958 AGFI=0.908 NFI=0.968 RFI=0.942 IFI=0.980 CFI=0.980 RMSEA=0.053 AIC=250.349 ECVI=0.441 (0.387 for saturated model)	5.21/4.422 (0.908/1.344)
	Our relation with our supplier/customer increases our product performance	0.704/0.721	$r_c$ 0.882/0.939		
	Our relation with our supplier/customer helps to fulfil our customer requirements better	0.469/0.705			
	Our relation with our supplier/customer provides a reliable supply of wine grapes (w)/ provides a reliable market for our wine grapes (gs)	0.46/0.444			
	Our relation with our supplier/customer increases the competitiveness of our company	0.452/0.607			
	Our relation with our supplier/customer strengthens our strategic position	0.308/0.614			
	Our relation with our supplier/customer increases the profitability of our firm	0.265/0.726			
	Our relation with our supplier/customer enables an efficient outsourcing of our requirements for grapes (w)/ enables an efficient marketing of our wine grapes (gs)	0.235/0.618			
	<i>Our relation with our supplier/customer 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)</i>	<i>0.185/0.451</i>			
<i>Our relation with our supplier/customer leads to the optimisation of our operating processes</i>	<i>0.116/0.577</i>				
<b>C. Market/scout benefits</b> (4.468/4.375) All standardised loadings above 0.6	Our relation with our supplier/customer leads to direct reference with possible business partners	0.826/0.762	$\alpha$ 0.93/0.924	$\chi^2 = 8.545$ (8 df) p=0.382 Bollen-Stine bootstrap value p=0.587 CMINDF=1.068 GFI=0.995 AGFI=0.974 NFI=0.997 RFI=0.963 IFI=0.99 CFI=1.000 RMSEA=0.011 AIC=76.545 ECVI=0.135 (0.148 for saturated model)	3.42/3.20 (1.212/1.35)
	Our relation with our supplier/customer leads to initiation of contacts with prospective suppliers/customers	0.729/0.863	$r_c$ 0.908/0.913		
	Our relation with our supplier/customer leads to information about other potential suppliers/customers for our firm	0.664/0.75			
	Our relation with our supplier/customer increases access to information about other third parties	0.627/0.482			
	Our relation with our supplier/customer increases our access to information about our competitors	0.554/0.465			
	Our relation with our supplier/customer increases our access to information about the marketplace	0.481/0.328			
<b>D. Relationship costs</b> (3.319/3.299)	Our relation with our supplier/customer causes additional coordination costs within our company	0.576/0.584	$\alpha$ 0.929/0.928	$\chi^2 = 7.48$ (2 df) p=0.024 Bollen-Stine bootstrap value p=0.095 CMINDF=3.74 GFI=0.994 AGFI=0.936 NFI=0.996 RFI=0.978 IFI=0.997 CFI=0.997 RMSEA=0.069 (p=0.209) AIC=43.48 ECVI=0.077 (0.07 for saturated model)	3.486/4.273 (1.462/1.33)
	Our relation with our supplier/customer causes additional coordination costs between our company	0.409/0.278	$r_c$ 0.978/0.951		
	Our relation with our supplier/customer means additional expenditure of time	0.210/0.489			
	Our relation with our supplier/customer leads to increased costs of relationship maintenance	0.15/0.233			

The measurement models in AMOS6 have shown unequal contributions of indicator variables toward the latent variables noticed in the EFA.

One item was removed from the “profitability benefits” (“*results in a reduction in our production costs*”) because of its low contribution to the construct.

The goodness-of-fit results for the two-group congeneric models indicate that the estimated covariance matrix matches the observed covariance matrix and no goodness-of-fit index exceeds the suggested guidelines for a good model. Each construct had a reliability exceeding 0.8. With two exceptions (noted in direct profitability benefits construct in the winery group) all items had standardised factor loadings over 0.6, supporting convergent validity of the constructs. The item reliabilities (squared multiple correlations) were moderate to high.

When comparing the congeneric models (free parameters) with the tau-equivalent models (equal loadings) and parallel models (equal loading and variances) for the winery and grape growers, the chi-square ( $\chi^2$ ) tests have shown good measures of fit only for the congeneric models (e.g.,  $\Delta\chi^2 = 20.394$  between tau and congeneric model for 3 degrees of freedom and  $\Delta\chi^2 = 54.662$  between parallel and congeneric model for 7 degrees of freedom in the costs construct). This suggests that measurement invariance is not supported and therefore both loadings and variances are unequal between Australian wineries and grape growers.

Discriminant validity was assessed by testing if correlations between the constructs were significantly different from unity, comparing a constrained model (with correlations = 1) with the unconstrained model. The  $\Delta\chi^2$  difference value of 296.61 with  $p < 0.05$  supports the discriminant validity criterion. There were no cross-loadings between the indicators for the constructs.

Face validity was established a priori based on the content of the corresponding items using empirical relationship value studies (Walter et al. 2001, 2002a, Werani 2001) and results from the preliminary research. Nomological validity was tested by examining the correlation between the scores for the benefit and cost constructs and the overall relationship value. Higher evaluations of benefits and lower costs are expected to be associated with high relationship value.

The correlations between the constructs are lower than the reliability coefficients, suggesting once again that the construct measures have discriminant validity (Crocker and Algina 1986; Kaynak 2003) (Table 8.8).



**Table 8.8: Correlations between model constructs**

	Innovation	Profitability benefits	Market and scout benefits	Relationship costs	Relationship value
Innovation	1	0.684	0.559	-0.221	0.657
Profitability benefits	0.399	1	0.689	-0.163	0.504
Market and scout benefits	0.223	0.662	1	-0.157	0.356
Relationship costs	-0.143	-0.033	0.037	1	-0.188
Relationship value	0.507	0.422	0.225	-0.191	1

All correlations significant at 0.001 level.

Upper triangle correlations for grape growers, lower triangle for wineries.

Analogous to the Phase One structural model presented in Section 8.2.3, congeneric unidimensional models corresponding to the four constructs for benefits and costs (reduced from 24 variables) were used as predictors in the formative Phase Two model (Figure 8.3, Figure 8.4).

Structural invariance was supported when comparing the free model with the model with equal regression weights ( $\chi^2 = 7.85$ ,  $df = 4$ ), suggesting a similar impact of benefits and costs on relationship value.

Results for Australian wineries and grape suppliers were consistent with the hypothesised relationships (H1, H2 and H4). However, the hypothesised relationship between “market and scout benefits” and “relationship value” was not significant. With respect to regression weights, the relationship is positive between “innovation” and “relationship value”, “profitability benefits” and “relationship value” and negative between “relationship costs” and “relationship value” as expected (Table 8.9).

**Table 8.9: Results of the moderated (two-group) structural model**

Hypotheses	Moderator - constrained	
	Wineries	Grape growers
H1 Innovation → Relationship value	0.21 (4.351) (A)	0.029 (1.966) (A)
H2 Profitability benefits → Relationship value	0.534 (6.106) (A)	0.35 (10.865) (A)
H3 Market and scout benefits → Relationship value	0 (R)	0 (R)
H4 Relationship costs → Relationship value	-0.1 (-2.011) (A)	-0.03 (-0.988) (A)

Unstandardised parameter estimates with critical ratios in brackets

(A) = hypothesis is accepted

(R) = hypothesis is rejected

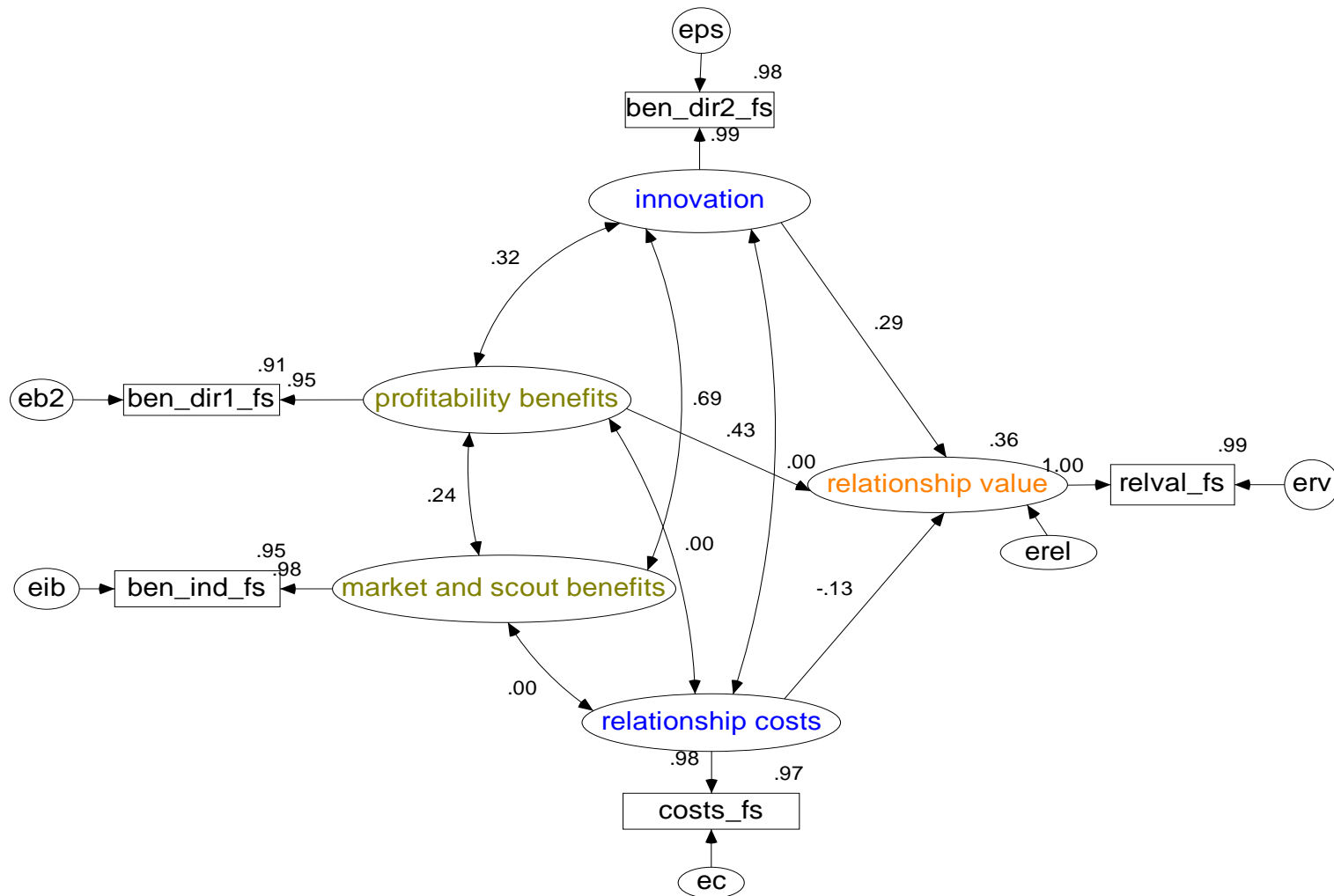


Figure 8.3: Estimated structural model for Australian wineries — standardised parameters

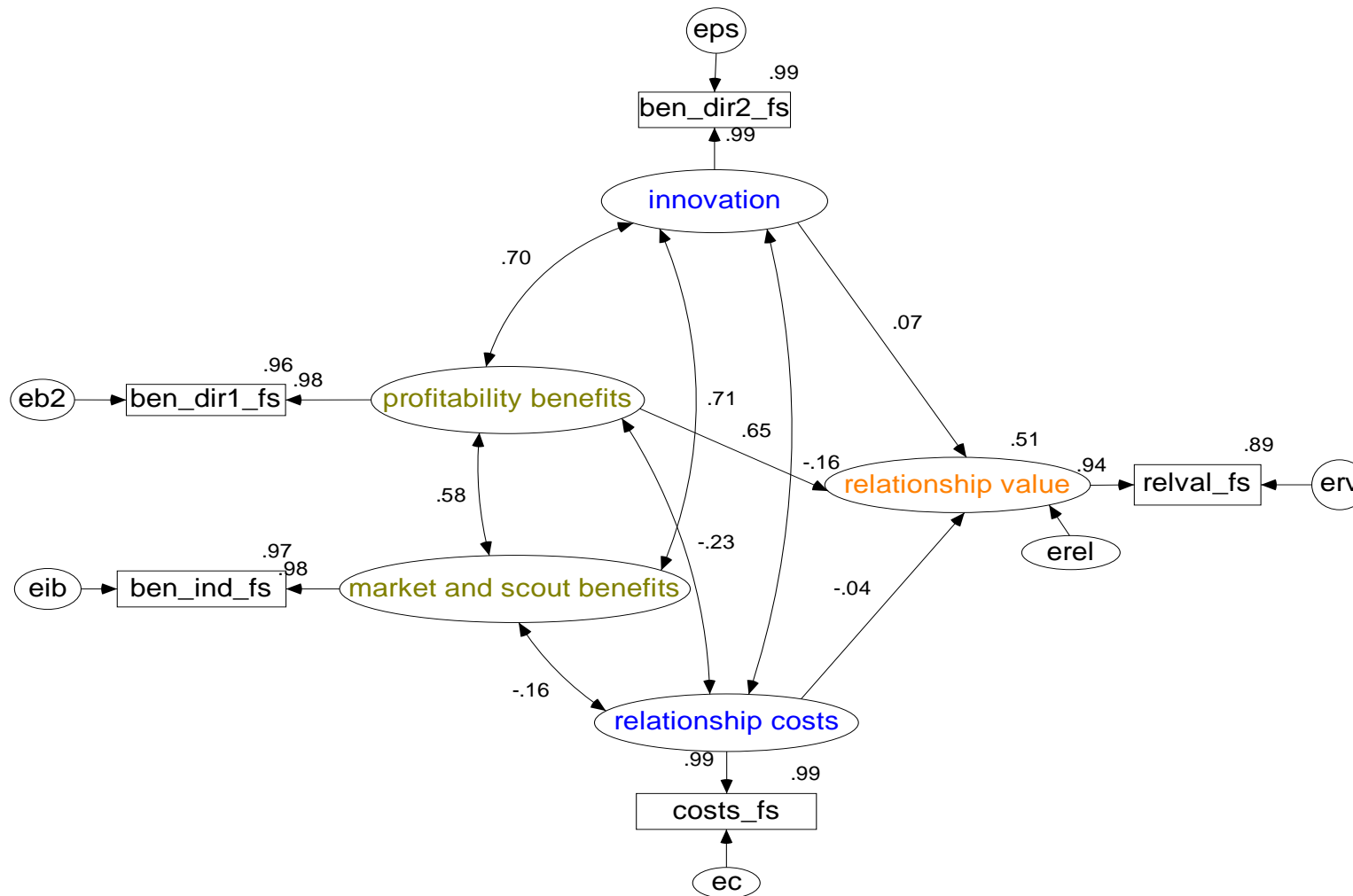


Figure 8.4: Estimated structural model for Australian grape growers — standardised parameters

The goodness-of-fit statistics of the constrained structural model (Table 8.10) show that in the light of recommended value of fit indices revealed for the hypothesised model there is no inconsistency between the model and the data. The following results exceed the recommendations for a good fit: the non-significant chi-square  $p > 0.077$ ; chi-square ( $\chi^2/df$ )  $1.99 < 3$ ; GFI  $0.993 > 0.95$ ; IFI  $0.995$ , CFI  $0.995 > 0.95$ ; and RMSEA  $0.042 < 0.05$ . Akaike's information criterion and ECVI had smaller values when compared to the independence and saturated models.

**Table 8.10: Goodness-of-fit measures for the two-group model of benefits and costs**

Goodness-of-fit or multivariate measure	SEM benefits and costs with moderator (wineries vs grape growers)
$\chi^2$ (df), p level	9.948 (5df), $p=0.077$ , Bollen-Stine bootstrap value $p=0.129$
CMINDF	1.99
GFI	0.993
AGFI	0.959
NFI	0.959
RFI	0.99
IFI	0.995
CFI	0.995
RMSEA	0.042 (0.584)
AIC	59.948
ECVI	0.106 (0.106 for saturated model)
Multivariate normality – Mardia index (CR) winery, grape growers	4.878 (3.835), respectively 7.888 (9.392)

Maximum Likelihood (ML) procedure was used in this research. The multivariate normality (and outliers) have been assessed and the Mardia indicators are presented in Table 8.10.

### 8.3.2. Comparison of winery and grape supplier perceptions

Further empirical analysis was undertaken to identify any significant variation in the perceptions between wineries and grape suppliers for the 24 measures of relationship value (Table 8.11).

The analysis of the individual items showed that:

- innovation: both winery and grape supplier respondents were inclined to disagree that joint alignment in setting strategic directions, and joint input in technical development and improvements in production processes were making a positive contribution towards relationship value. However, wineries were more inclined to agree that long range planning of supply to meet forecast changes in consumer preference was more likely to lead to relationship value;

**Table 8.11: Independent *t*-test comparison of difference between winery and grape supplier results on item measures for selected relationship value factor analysis model**

Construct	Item measures	Winery (A)		Grape supplier (B)		Cat A X B	
		Mean	S.D.	Mean	S.D.	t	Sig.
<b>A. Innovation</b>	Our relationship with this supplier/customer ...						
	Provides joint input into long range planning of supply	4.17	1.53	3.85	1.80	2.15	0.03
	Provides joint input into setting strategic directions	3.83	1.50	3.62	1.72	1.42	0.16
	Provides joint input into technical development matters	3.79	1.53	3.69	1.59	0.74	0.46
	Provides joint development of production processes	3.44	1.48	3.23	1.51	1.55	0.12
<b>B. Profitability benefits</b>	Provides a reliable supply of wine grapes (w)/ Provides a reliable market for our wine grapes (gs)	5.73	1.08	4.96	1.71	6.42	0.00
	Increases our product performance	5.52	1.10	4.44	1.54	8.30	0.00
	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)	5.35	1.34	4.72	1.67	4.82	0.00
	Helps to fulfil our customer requirements better	5.30	1.26	4.35	1.68	7.44	0.00
	Leads to the better fulfilment of wine grape specifications	5.27	1.12	4.52	1.45	6.62	0.00
	Enables an efficient outsourcing of our requirements for grapes (w)/ Enables an efficient marketing of our wine grapes (gs)	5.14	1.28	4.81	1.65	2.60	0.01
	Increases the competitiveness of our company	5.13	1.22	4.29	1.63	6.83	0.00
	Strengthens our strategic position	5.05	1.29	4.25	1.70	6.18	0.00
	Increases the profitability of our firm	4.90	1.25	4.19	1.74	5.47	0.00
	Leads to the optimisation of our operating processes	4.46	1.33	4.08	1.52	2.84	0.00
<b>Market and scout benefits</b>	Provides information about other potential suppliers/customers for our firm	3.61	1.47	3.14	1.47	3.49	0.00
	Provides access to information about the marketplace	3.58	1.91	4.15	1.60	-4.66	0.00
	Provides access to information about other third parties	3.51	1.30	3.62	1.50	-0.87	0.38
	Provides initiation of contacts with prospective suppliers/customers	3.47	1.44	3.16	1.48	2.28	0.02
	Provides access to information about our competitors	3.39	1.26	3.70	1.53	-2.55	0.01
	Provides direct reference with possible business partners	3.31	1.33	3.07	1.46	1.80	0.07
<b>Relationship costs</b>	Means additional expenditure of time	4.07	1.53	4.64	1.49	-4.16	0.00
	Causes additional coordination costs within our company	3.53	1.53	4.28	1.47	-5.49	0.00
	Causes additional coordination costs between our company	3.47	1.50	4.07	1.39	-4.51	0.00
	Incurs increased costs of relationship maintenance	3.39	1.45	4.26	1.49	-6.38	0.00

Cat A x B are significantly different at p=0.05

(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

- profitability benefits: winery respondents were more likely to agree than grape suppliers with selected profitability benefits including “provides a reliable supply of wine grapes” and “access to wine grapes that are good value for money”. This would suggest that

wineries were generally able to extract significantly greater value from their relationship with grape suppliers;

- market and scout benefits: grape suppliers indicated potential for their relationship with the wineries to increase access to information about the marketplace and information about competitors. Conversely, wineries perceived that their relationship with grape suppliers was more likely to provide information about other potential suppliers. However, in general, the relationship was not a major source of information for either wineries or grape suppliers;
- relationship costs: it was abundantly clear that grape suppliers incurred the majority of costs associated with maintaining their relationship with downstream customers

Between group responses were found to be similar for five item measures including joint input into setting strategic directions, into technical development matters and in production processes (innovation); for access to information about third parties and direct reference with possible business partners” (market and scout benefits). These benefits seldom arose from their relationship with their selected trading partner.

### **8.3.3. Discussion of Phase Two model**

The hypothesised relationship between profitability benefits and relationship value, innovation and relationship value and direct costs and relationship value were supported. However, the relationship between market and scout benefits and relationship value was not supported. The model showed that perceptions of relationship value were mainly increased by “profitability benefits” ( $\beta=0.43$  winery / $0.65$  grape supplier) (Table 8.12).

**Table 8.12: Standardised regression weights (winery/grape supplier) default model**

Phase Two model pathways		Winery	Grape Supplier	Summary
Innovation	Relationship value	0.29	0.07	Innovative benefits affect RV more for wineries
Profitability benefits	Relationship value	0.43	0.65	Profitability benefits affect RV more for grape suppliers, but are also the main pathway to RV for wineries
Relationship costs	Relationship value	-0.13	-0.04	Relationship costs have a greater negative affect on RV for wineries.

Correlations – default mode				
Innovation	Profitability benefits	0.32	0.70	A correlation exists between Innovation and Profitability benefits, which is very strong for grape suppliers
Innovation	Market and Scout benefits	0.69	0.71	A very strong correlation exists between Innovation and Market and Scout benefits, but more so for grape suppliers
Innovation	Relationship costs	0	-0.16	A negative correlation exists between Innovation and Relationship costs for grape suppliers
Profitability benefits	Market and Scout benefits	0.24	0.58	A correlation exists between Profitability benefits and Market and Scout benefits, which is quite influential for grape suppliers
Profitability benefits	Relationship costs	0	-0.23	A negative correlation exists between Profitability benefits and Relationship costs for grape suppliers only.
Market and Scout benefits	Relationship costs	0	-0.16	A negative correlation exists between Market and Scout benefits and Relationship costs for grape suppliers only

To a lesser extent, “innovation” ( $\beta=0.29/0.07$ ) also contributed to “relationship value”. In contrast, and as hypothesised, “relationship costs” ( $\beta=-0.13/-0.04$ ) detracted from “relationship value”.

However, a number of pathways were identified in the model which had not been previously specified (correlations between constructs). The largest effect in the Phase Two model was an association between “innovation” and “market and scout benefits” ( $\beta=0.69/0.71$ ). Statistically significant correlations also existed between “innovation” and “profitability benefits” ( $\beta=0.32/0.70$ ) and to a lesser extent between “profitability benefits” and “market and scout benefits” ( $\beta=0.24/0.58$ ), which was much stronger for grape suppliers.

For grape suppliers only, there was a statistically significant negative correlation between “market and scout benefits” and “relationship costs” ( $\beta=-0.16$ ), “innovation” and relationship costs ( $\beta=-0.16$ ), and “profitability benefits” and relationship costs ( $\beta=-0.23$ ) which highlighted the moderate sacrifice incurred by suppliers. While “market and scout benefits” do not lead

directly to “relationship value”, these benefits appear to have an important indirect role in value creation within the focal relationship.

#### **8.3.4. Conclusions of Phase Two model**

The main contribution of this theory building Phase Two model is the development and confirmation of a theoretical model to describe the perceived benefits and costs comprising relationship value in the Australian wine grape industry. Analogous to the Phase One SEM model (both models use the same one-factor measurement model for “relationship value”), the Phase Two model has three constructs for direct and indirect relationship benefits and one for costs as a means to predict “relationship value”.

Using a two-step structural modelling approach, one-factor congeneric measurement models were defined for “innovation”, “profitability benefits”, “market and scout benefits” and “relationship costs” and then tested using SEM to assess the adequacy of the hypothesised model. The estimated model mirrored the hypothesised model with the exception of “market and scout benefits”, which did not make a direct significant contribution to relationship value. Potentially however, this variable may have an important indirect role in the development of value benefits in the focal relationship. Goodness-of-fit criteria applied to the Phase Two model indicated an adequate fit.

The model was again multiple-sample, as the commonalities and differences between customer and supplier group perceptions were of comparative interest. Constructs and construct indicators were maintained to ensure meaningful comparisons. Similar to the Phase One results, the measurement model analysis showed unequal contributions of observed items toward the latent variables for wineries and grape suppliers. Furthermore, in the wine grape suppliers’ model, the relationships between costs and direct and indirect benefits were statistically significant, but not for the winery model. Despite these differences, the customer and supplier perspectives shared sufficient similarity to achieve a single model of adequate fit.

The findings have contributed to theory advancement and knowledge in relationship value studies through confirmation of hypothesised causal relationships between two direct benefits and the direct cost with relationship value for customers and suppliers. Profitability benefits were identified as the main contributors to relationship value, particularly for grape suppliers. These benefits include the firm’s realisable profits, but extended further to include other economic and strategic outcomes that result from the relationship. Overall, the Phase Two model showed that profitability benefits, together with innovation, serve to enhance firm competitiveness and drive its financial position, with relatively little consideration for the sacrifices involved.



## 8.4. Objective 3

### OBJECTIVE 3:

**Establish the relationship between the selected relationship-specific constructs and relationship value constructs through the identification of causal pathways.**

#### 8.4.1. Phase Three model

In Phase Three, antecedents of relationship value in the Phase One model and the results (benefits and costs) from the Phase Two model were combined into a final structural equation model (Table 8.13) (Figure 8.5, Figure 8.6).

**Table 8.13: Parameter estimates for the Phase Three structural models**

Phase One pathways	Wineries	Grape growers
H2 Trust → Cooperation	0.401 (4.356) (A)	0.63 (16.834) (A)
H4 Performance satisfaction → Trust	0.221 (8.866) (A)	0.63 (16.834) (A)
H6 Communication → Performance satisfaction	0.607 (2.566) (A)	0.372 (5.322) (A)
H7 Communication → Trust	0.132 (1.91) (A)	0.164 (4.143) (A)
H8 Communication → Cooperation	0.234 (2.731) (A)	0.164 (4.143) (A)
H9 Power asymmetry ↔ Conflict resolution	0 (R)	-0.388 (-7.26) (A)
H10 Power asymmetry → Performance satisfaction	-0.465 (-2.598) (A)	-0.209 (-5.219) (A)
H11 Power asymmetry → Trust	-0.182 (-3.397) (A)	-0.101 (-3.389) (A)
H12 Power asymmetry → Cooperation	0.316 (3.942) (A)	0 (R)
H13 Conflict resolution → Communication	0.691 (7.989) (A)	0.805 (19.149) (A)
H14 Conflict resolution → Performance satisfaction	1.111 (3.893) (A)	0.432 (5.718) (A)
H15 Conflict resolution → Trust	0.249 (2.763) (A)	0.159 (3.799) (A)
<b>Phase Three hypothesised pathways</b>		
H16 Performance satisfaction → Profitability	0.122 (2.326) (A)	0 (R)
H19 Cooperation → Profitability	0.377 (2.397) (A)	0.386 (6.203) (A)
H21 Cooperation → Market and scout benefits	0.745 (4.201) (A)	0.425 (4.145) (A)
H23 Trust → Profitability	0.261 (1.850) (A)	0 (R)
H24 Trust → Innovation	0.404 (3.362) (A)	0.297 (4.851) (A)
<b>Phase Three unhypothesised pathways</b>		
Innovation → Profitability	0.048 (1.172) (A)	0.459 (16.239) (A)
Market and scout benefits → Innovation	0.884 (11.370) (A)	0.73 (18.320) (A)
Conflict resolution → Relationship costs	-0.463 (-3.526) (A)	-0.180 (-2.817) (A)
Power asymmetry → Relationship costs	0.319 (2.695) (A)	0 (R)

Unstandardised parameter estimates with critical ratios in brackets

(A) = hypothesis is accepted

(R) = hypothesis is rejected

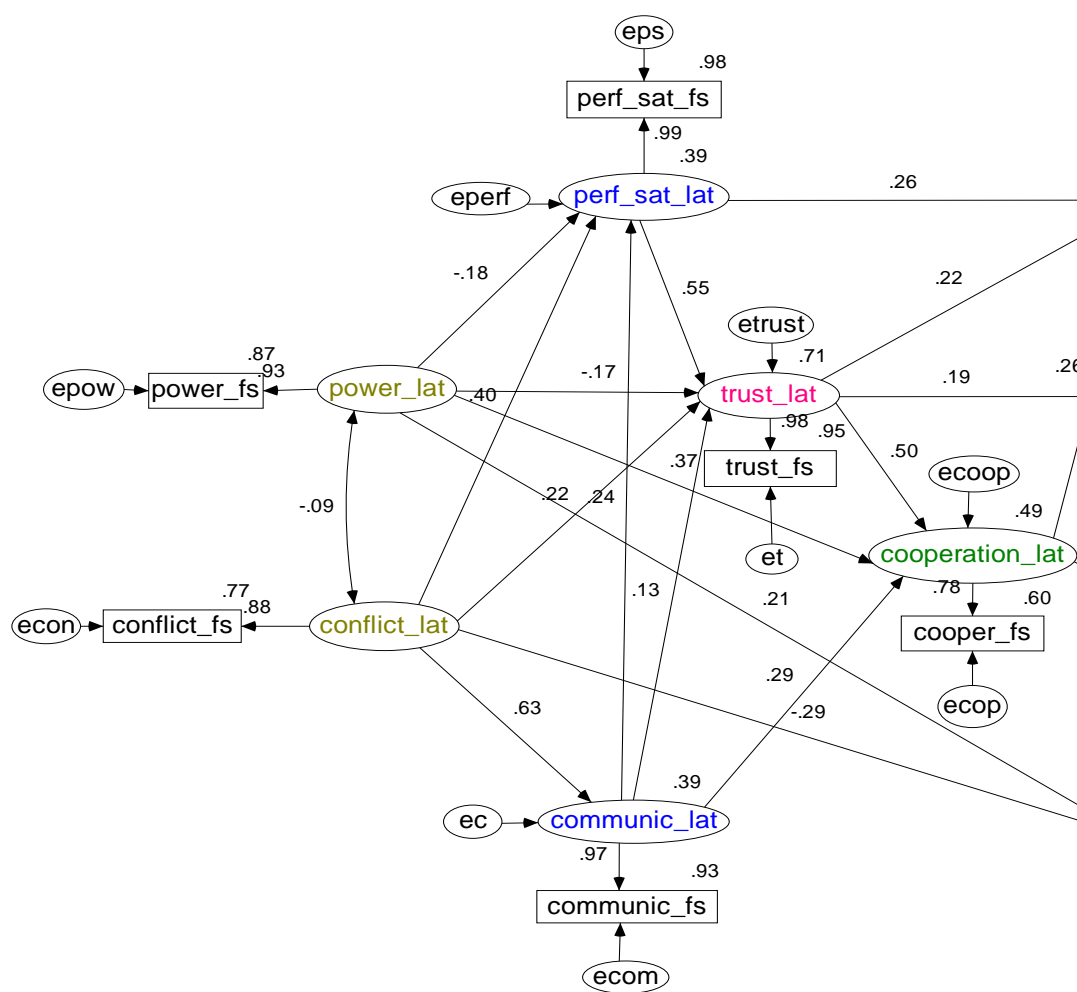
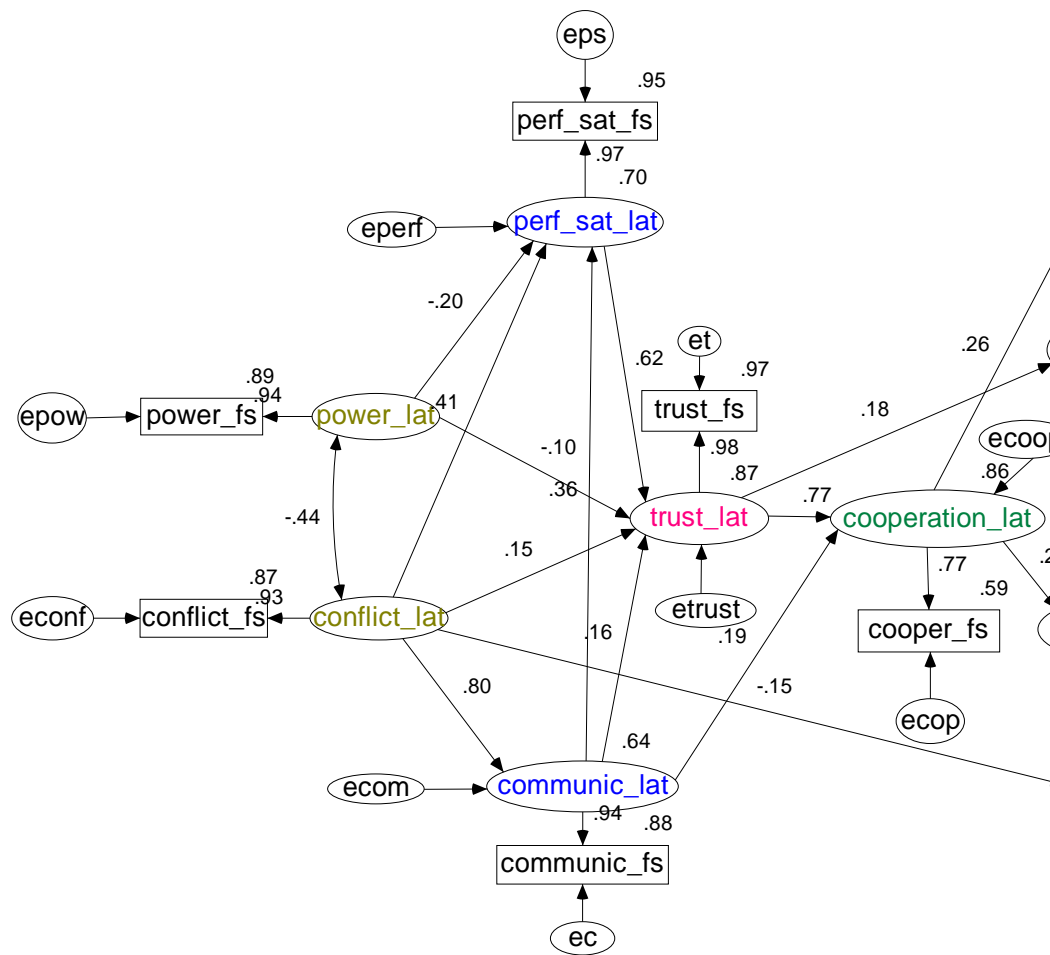


Figure 8.5 Estimated structural model for Australian wineries — standardised parameters



**Figure 8.6 Estimated structural model for Australian grape growers – standardised parameters**

All parameter estimates are statistically significant ( $p < 0.05$ ).

In order to improve model fit, a number of respecifications were made that were found to have to have the necessary theoretical support. As a result, five hypothesised and four unhypothesised pathways were identified to relationship benefits and relationship costs in working relationships between Australian wineries and grape suppliers. “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 wineries, but was not significant for the grape suppliers.

The goodness-of-fit measures were consistent with the recommended thresholds/values for most indices in the Phase Three model for Australian wineries (Table 8.14).

**Table 8.14: Goodness-of-fit measures for the structural model for Australian wineries**

Goodness-of-fit or multivariate measure	SEM premise relationship value, benefits and costs (wineries)
$\chi^2$ (df), p level	30.752 (24 df), p=0.161, Bollen-Stine bootstrap value p=0.333
CMINDF	1.281
GFI	0.966
AGFI	0.922
NFI	0.951
RFI	0.908
IFI	0.989
CFI	0.989
RMSEA (p)	0.04 (0.619)
AIC	92.752
ECVI	0.539 (0.64 for saturated model)
Multivariate normality — Mardia index (CR) winery	16.923 (7.184)

The following results exceed the recommendations for a good fit in the winery model: the non-significant chi-square  $p > 0.161$ ; chi-square ( $\chi^2/df$ )  $1.281 < 3$ ; GFI  $0.966 > 0.95$ ; IFI  $0.989$ , CFI  $0.989 > 0.95$ ; and RMSEA  $0.04 < 0.05$ . Akaike’s information criterion and ECVI had smaller values when compared to the independence and saturated models.

In the grape supplier’s model,  $\chi^2$  has a significant value, but most other measures indicate good fit (Table 8.15). For following results exceed the good measures for a good fit: chi-square ( $\chi^2/df$ )  $2.051 < 3$ ; 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 (Akaike 1973, 1987).

**Table 8.15: Goodness-of-fit measures for the structural model for Australian grape suppliers**

Goodness-of-fit or multivariate measure	SEM premise relationship value, benefits and costs (grape suppliers)
$\chi^2$ (df), p level	61.538 (30 df), <b>p=0.001</b> , Bollen-Stine p=0.01
CMINDF	2.051
GFI	0.971
AGFI	0.946
NFI	0.973
RFI	0.96
IFI	0.986
CFI	0.986
RMSEA (p)	0.052 (0.42)
AIC	59.948
ECVI	0.282 (0.278 for saturated model)
Multivariate normality — Mardia index (CR) grape growers	11.938 (7.706)

#### 8.4.2. Discussion of the Phase Three model

Phase Three involved a comprehensive model showing how selected relational constructs confer specific benefits (profitability benefits, innovation and market and scout benefits), and sacrifices (relationship costs).

The hypothesised pathways between the relational antecedents which were significant in Phase One, were again significant in the Phase Three model (Table 8.16). The same three antecedent pathways to relationship benefits were positive, strong and influential for both groups: (i) “conflict resolution” to “communication” ( $\beta=0.63/0.80$ ); (ii) “performance satisfaction” to “trust” ( $\beta=0.55/0.62$ ); and “trust” to “cooperation” ( $\beta=0.50/0.77$ ), but more so for grape suppliers. Again in Phase Three, power and influence were shown to detract from the ability to resolve conflicts and problems that arose in the relationship, more so for the grape suppliers ( $\beta=-0.44$ ) who have no other choice than to adhere to the winery’s demands. In situations where firms exert a strong influence, control all the information and are perceived as having all the power, there is a reduction in performance satisfaction ( $\beta=-0.18/-0.20$ ) and trust ( $\beta=-0.17/-0.10$ ).

**Table 8.16: Standardised regression weights (winery/grape supplier) default model**

Phase Three pathways		Winery	Supplier	Summary
<b>Phase One hypothesised correlations</b>				
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
<b>Phase One hypothesised pathways</b>				
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	
	Trust	0.22	0.15	
<b>Phase Three hypothesised pathways</b>				
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	
<b>Phase Three unhypothesised pathways</b>				
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

### ***Profitability benefits***

As expected, winery satisfaction with supplier performance lead to a moderate increase in profitability ( $\beta=0.26$ ) through better fulfilment of wine grape specifications, which allowed a subsequent improvement in the quality of the wines. Furthermore, profitability will be directly influenced by trust ( $\beta=0.22$  winery only) and cooperation ( $\beta=0.26$ ). By comparison, the profitability of grape suppliers was derived primarily from cooperation ( $\beta=0.26$ ) and innovation ( $\beta=0.62$ ).

It is reasonable to assume that trust and relationship value are satisfactorily strengthened when past outcomes from the working relationship have been fulfilled (Ganesan 1994). As a result, a firm will develop a greater conviction that the other partner has the necessary expertise to increase their profitability through the better fulfilment of wine grape specifications. Firms are more willing to place confidence in partners who have been found to be reliable and capable of fulfilling their obligations within an exchange relationship (Schurr and Ozanne 1985). In exchange situations where mutual trust prevails, partners can be confident that, over the long term, the short-term inequities will be corrected to yield mutual long-term benefits (Dwyer et al. 1987). Such a belief is the basis for wineries that trust their suppliers to increase their perceptions of the value created from their relationship with preferred grape suppliers.

The model showed that cooperation between firms will lead to a moderate increase in profitability. The level of trust between the customer and supplier will temper the extent to which cooperative norms develop (Gundlach et al. 1995) and facilitate joint collaborative effort towards achieving economic goals (Ford et al. 1986, Dwyer et al. 1987, Cannon and Perreault 1999). Collaboration and cooperation will lead to mutual benefits (Wilkinson and Young 2002), particularly where the importance of supply is high and purchase requirements are complex (Cannon and Perreault 1999). For the grape suppliers, it is abundantly clear that the greatest benefits come from innovation. Grape suppliers have been increasingly relying on the winery's support in long-term planning, together with the provision of technical information and advice to produce quality grapes for specialised wine markets. For this reason, wineries and grape suppliers cooperate to increase the rewards and resources available to them both in their relationship over the long term.

### ***Innovation***

In addition, profitability was achieved through innovation ( $\beta=0.09/0.62$ ), mainly for grape suppliers. Relationships offer the means to innovate by combining a grape supplier's own resources and activities with those of their winery customers into a new, more efficient resource constellation (Ford et al. 2003). Innovation is vital to avoid being caught in the middle of intensifying competition and the squeeze on margins. Profitability can be improved through innovation in production and processing, enhanced efficiency, improved economies of scale, improved grape quality and greater ability to match grape varietal supply with changing

preferences for wine styles in the consumer market. It was evident that for grape suppliers in particular, there was a strong need to innovate to remain profitable in the competitive market for wine grapes.

“The future success of the Australian wine industry is intrinsically bound up with the ability of Australia’s wine grape growers to continue to innovate to supply grapes for Australia’s ‘value for money’ wines cost competitively, and to maintain economic sustainability in an increasingly globalised and internationally competitive wine market”

(Kiri-ganai Research 2006, p.4)

Although the pathway between innovation and profitability benefits was not statistically significant for wineries, it has been retained in the winery model on the basis of strong theoretical support (e.g. Aylward 2003, Anderson and Narus 2004, Aylward 2005), on the premise that trading partners working together can adapt over time to successfully “expand the pie” of mutual benefits between them and significantly enhance economic and strategic outcomes. Indeed, the significance level for wineries may be just an artefact of this particular sample.

Grape suppliers found it extremely beneficial to be jointly involved in the long-range planning of supply in a move towards developing niche specialty wine styles that command premium grape prices, setting of strategic directions and decisions on technical development matters. In reality, both trading partners benefit from joint input into many aspects of maintaining the supply of grapes desired by the winemaker (Osborn 2000). Nevertheless, in an oversupplied market for wine grapes, those grape suppliers who are willing to innovate with winery customers effectively have the opportunity to increase economic and strategic outcomes by better meeting winery requirements and expectations. Customers value customised solutions (Walter and Ritter 2003), therefore wineries can be expected to purchase higher volumes from a preferred supplier, often for a higher price (Table 7.76).

As expected, trust ( $\beta=0.19/0.18$ ) was shown to be antecedent to achieving innovation, for both wineries and grape suppliers. If there is to be meaningful, relationship-specific innovation, buyers and sellers must be able to trust their partner to fulfil their obligations (Morgan and Hunt 1994). In a trusting relationship, both customers and suppliers believe that long-term relationship-specific innovations can be made with limited risk because both parties will refrain from using their power to renege on contracts or to use a change in circumstances to obtain profits in their own favour (Batt and Wilson 2001).

#### ***Market and scout network benefits***

The model showed network benefits to be powerful drivers towards the achievement of innovation ( $\beta=0.0.65/0.68$ ) for both groups. The *market* function and the *scout* function in the focal relationships, both have a very important role in indirect value creation through connected relationships. The development of these market and scout functions in a business relationship



gives firms an opportunity to differentiate themselves from alternative partners (Walter et al. 2002a). In addition, there is greater opportunity for suppliers to reduce the need to compete on price alone.

Wineries and grape suppliers are now drawing on more advanced technology and information to innovate in specialised wine markets (Aylward 2003). Close relationships have been identified between suppliers, research agencies, advisory bodies, training providers and government organisations (Aylward 2005). Knowledge has been recognised as a strategic asset and a source of competitive advantage, particularly in multinational firms and their subsidiaries (Nanaka and Takeuchi 1995). The knowledge, skills and training contributions from these network sources are being valued for their contribution to the 'innovative capacity' of the relationship as a whole.

As expected, cooperation with trading partners had a positive affect on achieving market and scout network benefits for both groups ( $\beta=0.39/0.23$ ), but to a greater extent for wineries. Firms that cooperate are more willing to provide assistance to partners to attract new customers/suppliers and to access new markets through reference or on the basis of reputation. In addition, firms have been willing to provide meaningful information about future developments in the customers'/suppliers' market, competitors, and other suppliers/customers for the firm in order to advance their relationship. These cooperative actions arise from the recognition that each partners performance depends upon the activities and support obtained through their relationships and indirectly through indirect relationships in the industry networks (Wilkinson and Young 2002).

### ***Relationship costs***

The power asymmetry which exists in the relationship can increase costs ( $\beta=0.0.21$ ) but only for the wineries. In the preliminary research, it was noted that many wineries have increased their investment in time and resources in their relationship with preferred grape suppliers in a concentrated effort to improve the quality, price, consistency and reliability of the wine they produce. Grower liaison staff use a combination of supplier service, technical and business skills to support their grape growers to enable them to better meet the winery's objectives (Beuman and McLachlan 2000).

Using their legitimate power as the customer for the grapes cultivated, many larger wineries have chosen to proactively manage their supplier relationships. For example, grape suppliers to the Orlando Wyndam Group may be grouped and managed according to their perceived needs, skills and products (Beuman and McLachlan 2000). Suppliers may be strategically important because they are critical to the firm's wine brands, located in preferred geographic locations and/or able to produce wine grapes to the wineries volume and quality specifications. Inexperienced suppliers may need extensive viticultural support, whereas long-term established

suppliers may seek only irregular and very specific advice. Where wineries have high quality expectations, relationships with grape suppliers are vital and take up a large part of the wineries time (Osborn 2000).

Conflict is an inescapable feature of business relationships (Ford et al. 2003). The ability to jointly resolve conflicts as they arise can reduce relationship costs for both wineries and grape suppliers ( $\beta=0.029/-0.15$ ). When firms work on solutions to prevent conflict and problems from recurring, the participants can expand their understanding of the issues and tasks involved. These productive discussions clear the air by defusing harmful tensions or ill feeling, and result in policy changes and procedures that add value or reduce costs within the partnership (Coughlan, Anderson, Stern & El-Ansary 2001).

Winery liaison staff who are in contact with grape suppliers on a regular basis are in a position to identify emerging problems and to try to resolve them informally and immediately before they escalate into relationship-threatening crises.

#### **8.4.3. Conclusions on Phase Three model**

To date, there has been a dearth of empirical research on the outcomes of cooperative business relationships. As cooperative relationships need to be managed well enough to achieve the desired net benefits or value, this research has been designed to meet this gap in the literature. By applying theoretical structural equation modelling techniques, a three-phase sequential framework was developed to form two comprehensive customer and supplier models of relationship benefits and relationship costs in cooperative trading relationships within the Australian grape and wine industry. Unlike most previous studies, the resultant structural equation model allows industry managers to examine simultaneously all the associations between the six key relational antecedents which contribute towards four relationship value outcomes.

By grouping the constructs in Phase One and Phase Two, it was possible to compare and identify the magnitude of similarities and differences between the model constructs for each group. The resultant Phase Three model highlights the differences in how customer and supplier behaviours lead to relationship benefits and costs. For grape suppliers, trust and cooperation are core antecedents to relationship benefits. Conflict resolution offers the opportunity to reduce relationship costs. Grape suppliers also have the opportunity to increase the value of their relationships to the extent that they are willing to innovate. Wineries have greater opportunity to increase relationship benefits directly through satisfaction, which is derived from the performance of their grape suppliers. However, the wineries incur higher relationship cost in securing those benefits from their contracted grape suppliers.

This thesis has both theoretical and practical implications in the area of business relationship management. The first two models were built from theory and empirical research to represent

the relational factors which contribute towards relationship value in order to explore new ground with a third model which provides a foundation for further research. The findings provide useful guidelines which managers can proactively incorporate into relationship management programs to optimise desired net value outcomes resulting from relationships with trading partners.

## 8.5. Objective 4

### **OBJECTIVE 4:**

**Identify the extent to which model constructs are consistent within groups.**

Univariate *t*-tests undertaken in the two previous sections in this chapter highlighted differences in the perceptions between the winery and grape supplier groups. This section will conduct further within group investigation to reveal differences in perceptions within each winery and grape supplier group.

Using SPSS, cluster analysis was undertaken to reveal any heterogeneity within winery and grape supplier groups with regard to their perceptions of relationship value and selected relational antecedents (Phase One model) and the four predictors of relationship benefits and costs (Phase Two model). Cluster analysis involves segmenting the wineries and grape suppliers into more homogenous groups which are more dissimilar to each other. The cluster results are discussed for a two-group cluster solution for wineries and a two-group cluster solution for grape suppliers.

### 8.5.1. Cluster analysis for wineries

#### *Phase One model*

A hierarchical clustering using Ward's method and the squared Euclidean distance was applied to the seven factor scores corresponding to relationship value and its antecedents in the Phase One model to identify the most appropriate number of clusters. A two-cluster solution for the winery group was found to be appropriate. The K-means cluster algorithm was used to define the composition of the subsequent clusters.

The MANOVA goodness-of-fit tests (Pillai's Trace, Wilks's Lambda, Hotelling's Trace, and Roy's gcr) were all significant ( $p < 0.001$ ) suggesting that the vector of factor scores was significantly different between the cluster of wineries with a high relational orientation (Cluster 1) versus those with a low relational orientation (Cluster 2) (Table 8.17). Cluster 1 includes wineries with the highest values of performance satisfaction, trust, cooperation, communication, conflict resolution and relationship value and the lowest value for power asymmetry, while Cluster 2 includes wineries with the lowest value on the constructs (except power asymmetry).

**Table 8.17: Perceptions of relationship value and its antecedents across high and low involvement clusters (winery)**

Variable	Cluster Number of Case		Mean	Std. Dev	Std. Error	95% Confidence Interval for mean	
	1 (N=126)	2 (N=47)				Lower Bound	Upper Bound
P. Satisfaction	1		5.581	0.830	0.075	5.434	5.728
	2		4.162	0.853	0.122	3.921	4.403
Trust	1		6.349	1.047	0.063	6.226	6.473
	2		5.014	1.088	0.102	4.812	5.216
Cooperation	1		5.316	0.919	0.080	5.159	5.473
	2		4.330	0.877	0.130	4.073	4.587
P. Asymmetry	1		2.887	0.993	0.117	2.656	3.118
	2		3.282	1.517	0.191	2.904	3.66
Communication	1		5.825	1.321	0.07	5.688	5.963
	2		4.459	0.887	0.114	4.234	4.685
C. Resolution	1		5.439	0.991	0.078	5.284	5.593
	2		4.303	0.900	0.128	4.05	4.556
R. Value	1		5.786	1.013	0.086	5.616	5.957
	2		4.399	0.974	0.141	4.12	4.678

Where 1=strongly disagree, 4=neither agree or disagree, 7=strongly agree

The univariate test indicated that each of the antecedents of relationship value (except power asymmetry) and the outcome were significantly different between the two winery groups (Table 8.18). The majority of winery respondents indicated that their firm had a high relational orientation and belonged in Cluster 1 (72%). Clearly, customer firms with a high relational orientation were able to achieve superior relational value outcomes to those with a low relational orientation in Cluster 2 (mean 'Cluster 1' 5.8 wineries/mean 'Cluster 2' 4.4 ). Clustering results from the Phase One model highlight the importance of developing and managing a high relational orientation for those firms seeking to increase relationship value.

Perceptions of winery respondents in Cluster 1 and Cluster 2 were clearly divergent in terms of 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), cooperation (5.3/4.3) and relationship value (5.8/4.4). However, respondent perceptions on power asymmetry were not significantly different between winery clusters (2.9/3.3), with all wineries acknowledging their dominant trading position. More positive perceptions of relationships with grape suppliers in Cluster 1 correspond with more positive perceptions of relationship value. Those wineries in Cluster 2 were more likely to neither agree nor disagree on aspects of their supplier relationships with corresponding perceptions of the relationship value.

**Table 8.18: ANOVA results — winery clusters**

		<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
<b>Performance satisfaction</b>	Between Groups	68.956	1	68.956	98.557	.000
	Within Groups	119.641	171	0.700		
	Total	188.597	172			
<b>Trust</b>	Between Groups	61.049	1	61.049	123.983	.000
	Within Groups	84.201	171	0.492		
	Total	145.250	172			
<b>Cooperation</b>	Between Groups	33.269	1	33.269	41.688	.000
	Within Groups	136.468	171	0.798		
	Total	169.738	172			
<b>Power asymmetry</b>	Between Groups	5.340	1	5.340	3.099	.080
	Within Groups	294.666	171	1.723		
	Total	300.006	172			
<b>Communication</b>	Between Groups	63.886	1	63.886	103.914	.000
	Within Groups	105.131	171	0.615		
	Total	169.017	172			
<b>Conflict resolution</b>	Between Groups	44.145	1	44.145	57.018	.000
	Within Groups	132.392	171	0.774		
	Total	176.536	172			
<b>Relationship value</b>	Between Groups	65.910	1	65.910	70.256	.000
	Within Groups	160.421	171	0.938		
	Total	226.331	172			

***Phase Two model***

When comparing the perceived benefits and costs between high and low relational orientation clusters for wineries, the high relational orientation group had consistently higher scores for direct and indirect benefits, and a lower score for costs (multivariate test and ANOVA test significant at  $p = 0.000$ ) (Table 8.19). These findings suggest that cooperation, trust, communication, conflict resolution, and performance satisfaction are associated with higher profitability and more positive perceptions of benefits, while at the same time, diminishing the perceived costs of the relationship.

**Table 8.19: Perceived benefits and costs across high and low relational orientation clusters (winery)**

Dependent Variable	Cluster Number	Mean	Std. Deviation	N	Std. Error	95% Confidence Interval	
						Lower Bound	Upper Bound
Profitability	1	5.480	0.794	126	0.071	5.341	5.619
	2	4.473	0.787	47	0.116	4.245	4.702
Innovation	1	4.185	1.315	126	0.118	3.952	4.418
	2	3.137	1.355	47	0.193	2.755	3.519
Market and scout benefits	1	3.590	1.132	126	0.105	3.382	3.798
	2	2.960	1.310	47	0.173	2.619	3.300
Relationship costs	1	3.274	1.479	126	0.127	3.024	3.524
	2	4.054	1.263	47	0.208	3.644	4.464

Where 1=strongly disagree, 4=neither agree or disagree, 7=strongly agree

#### *Profile of winery clusters*

Finally, Pearson chi-square tests (cross-tabulations) were then used to investigate any relationship between clusters and any characteristics of the wineries.

The size of the winery, its revenue, number of employees, method of price determination and the number of years the winery has been established were not associated with the high and low relational orientation clusters, whereas there were significant statistical differences in the clusters in terms of location (state) of the winery and being affiliated to a larger organisation.

South Australia and Victoria also have the highest percentage of firms in Cluster 1 with high relational orientation (84% and 74%, respectively) (Table 8.20).

**Table 8.20: Percentage high and low relational orientation winery clusters by state**

State	Cluster		Total
	1	2	
South Australia	52 (84%)	10 (16%)	62
Victoria	37 (74%)	13 (26%)	50
New South Wales	16 (62%)	10 (38%)	26
Western Australia	21 (60%)	14 (40%)	35
<b>Total</b>	<b>126</b>	<b>47</b>	<b>173</b>

Pearson chi-square = 8.441 (3 df), p=0.038

While only 36 per cent of the respondent firms were affiliated with a larger winemaking organisation, a higher percentage of these firms (87%) had a high relational orientation than unaffiliated firms (67%) (Table 8.21).

**Table 8.21: Percentage high and low relational orientation winery clusters by affiliation**

Is the winery a division/subsidiary of a larger organisation	Cluster		Total
	1	2	
Yes	46 (87%)	7 (13%)	53
No	80 (67%)	39 (33%)	119
<b>Total</b>	<b>126</b>	<b>46</b>	<b>172</b>

Pearson chi-square = 7.165 (1 df), p=0.007

A more professional approach to relationship management is more likely to be adopted in the larger wine companies with access to the necessary resources. Higher net profits (Deloitte 2005) and economies of scale enable the large wineries to employ grower liaison personnel for the purpose of increasing the quality and extent of face-to-face communication with the winery's grape suppliers. Increased interaction between trading partners creates the potential to enhance relationship outcomes through greater joint participation in future production planning, better communication of winery expectations for wine grapes, and monitoring of vineyard activities.

Other interesting findings were that wineries with high relational orientation had a significantly lower percentage of crush from own vineyards (29%) and a higher percentage of crush from grape suppliers (>39%), compared to wineries with a low relational orientation which crushed an average 44 per cent from their own vineyards and purchased less than 25 per cent of their wine grape requirements from independent grape suppliers (Table 8.22, Table 8.23).

**Table 8.22: Percentage of crush derived from own vineyards, other wine grape suppliers or processed for others under contract**

Source of grapes in total crush for 2005	Cluster Number of Case	Mean	Std. Error	95% Confidence Interval for mean	
				Lower Bound	Upper Bound
	1 (N=126)				
	2 (N=47)				
<b>Grapes from own vineyard</b>	1	29.146	3.137	22.863	35.430
	2	44.412	4.871	34.654	54.170
<b>Purchased wine grapes</b>	1	39.512	3.493	32.515	46.510
	2	24.706	5.425	13.839	35.573
<b>Contracted winemaking</b>	1	33.171	3.950	25.258	41.084
	2	31.471	6.135	19.182	43.760

**Table 8.23: MANOVA results — winery clusters**

Effect		Value	F	Hypothesis df	Error df	Sig.	Noncent. Parameter	Observed Power(a)
Intercept	Pillai's Trace	.988	1440.653(b)	3.000	54.000	.000	4321.959	1.000
	Wilks' Lambda	.012	1440.653(b)	3.000	54.000	.000	4321.959	1.000
	Hotelling's Trace	80.036	1440.653(b)	3.000	54.000	.000	4321.959	1.000
	Roy's Largest Root	80.036	1440.653(b)	3.000	54.000	.000	4321.959	1.000
QCL_2	Pillai's Trace	.142	2.977(b)	3.000	54.000	.039	8.931	.673
	Wilks' Lambda	.858	2.977(b)	3.000	54.000	.039	8.931	.673
	Hotelling's Trace	.165	2.977(b)	3.000	54.000	.039	8.931	.673
	Roy's Largest Root	.165	2.977(b)	3.000	54.000	.039	8.931	.673

a Computed using alpha = .05

b Exact statistic

c Design: Intercept+QCL\_2

### 8.5.2. Cluster analysis for wine grape suppliers

#### *Phase One model*

Using hierarchical clustering, Ward's method and the squared Euclidean distance a two-cluster solution for the grape suppliers group was found to be appropriate for the constructs in the Phase One model. Again, the K-means cluster algorithm was used to define the composition of the subsequent clusters.

The MANOVA goodness-of-fit tests (Pillai's Trace, Wilks's Lambda, Hotelling's Trace, and Roy's gcr) were all significant ( $p < 0.001$ ) suggesting that the vector of factor scores is significantly different between the cluster of wine grape suppliers with a high relational orientation (Cluster 1) versus those with a low relational orientation (Cluster 2) (Table 8.24). The majority of wine grape suppliers indicated that their firm had a high relational orientation and belonged in Cluster 1 (65%). Cluster 1 includes grape suppliers with the highest values of performance satisfaction, trust, cooperation, communication, conflict resolution and relationship value and the lowest value for power asymmetry, while Cluster 2 includes grape suppliers with the lowest value on the constructs (except power asymmetry).



**Table 8.24: Perceptions of relationship value and its antecedents across high and low relational orientated clusters (grape supplier)**

Dependent Variable	Cluster No. of Case	Mean	Std. Dev	Std. Error	95% Confidence Interval	
					Lower Bound	Upper Bound
	1 (N=259)					
	2 (N=138)					
P.Satisfaction	1	5.153	0.876	0.063	5.029	5.277
	2	2.546	1.242	0.087	2.375	2.716
Trust	1	5.419	0.917	0.061	5.300	5.538
	2	2.555	1.072	0.083	2.392	2.717
Cooperation	1	5.333	0.877	0.063	5.210	5.457
	2	3.554	1.227	0.086	3.384	3.723
P.Asymmetry	1	5.165	1.359	0.077	5.013	5.317
	2	6.487	0.992	0.106	6.279	6.695
Communication	1	5.574	0.807	0.062	5.452	5.696
	2	3.649	1.291	0.085	3.482	3.817
C.Resolution	1	5.310	1.068	0.075	5.162	5.458
	2	2.998	1.438	0.103	2.796	3.201
R.Value	1	5.721	1.192	0.086	5.553	5.889
	2	3.895	1.674	0.117	3.665	4.126

Where 1=strongly disagree, 4=neither agree or disagree, 7=strongly agree

In the grape suppliers sample, relationship value and its antecedents are significantly different between high (Cluster 1) and low (Cluster 2) relational orientation (Table 8.25).

Wine grape suppliers showed greater divergence between Cluster 1 and Cluster 2 for performance satisfaction (mean 'Cluster 1' 5.2/mean 'Cluster 2' 2.5), trust (5.4/2.6), conflict resolution (5.3/3.0), communication (5.6/3.6) cooperation, (5.3/3.6), power asymmetry (5.2/6.5), and relationship value (5.7/3.9). Those grape suppliers in Cluster 1 tended to have more positive perceptions about their relationship with wineries, in contrast to those grape suppliers in Cluster 2 who had negative perceptions. Although both clusters acknowledge that wineries are the dominant party and hold the majority of power in the relationship, those suppliers in Cluster 2 perceived the power imbalance to be significantly greater. The grape suppliers in Cluster 1 who had more positive relationships with their grape customers were not so concerned about the power asymmetry.

**Table 8.25: ANOVA results – grape supplier clusters**

		Sum of Squares	df	Mean Square	F	Sig.
<b>Performance satisfaction</b>	Between Groups	612.132	1	612.132	590.635	0.000
	Within Groups	409.376	395	1.036		
	Total	1021.509	396			
<b>Trust</b>	Between Groups	738.775	1	738.775	779.117	0.000
	Within Groups	374.547	395	0.948		
	Total	1113.322	396			
<b>Cooperation</b>	Between Groups	285.069	1	285.069	278.472	0.000
	Within Groups	404.358	395	1.024		
	Total	689.426	396			
<b>Power asymmetry</b>	Between Groups	157.325	1	157.325	101.694	0.000
	Within Groups	611.078	395	1.547		
	Total	768.403	396			
<b>Communication</b>	Between Groups	333.451	1	333.451	332.102	0.000
	Within Groups	396.605	395	1.004		
	Total	730.056	396			
<b>Conflict resolution</b>	Between Groups	481.231	1	481.231	329.078	0.000
	Within Groups	577.634	395	1.462		
	Total	1058.865	396			
<b>Relationship value</b>	Between Groups	300.073	1	300.073	157.979	0.000
	Within Groups	750.283	395	1.899		
	Total	1050.356	396			

***Phase Two model***

When comparing the perceived benefits and costs between high and low relational orientation clusters for wine grape suppliers, the high relational orientation group had consistently higher scores for direct and indirect benefits, and a lower score for costs (multivariate test and ANOVA test significant at  $p = 0.000$ ) (Table 8.26).

**Table 8.26: Perceived benefits and costs across high and low relational orientation (gs)**

Dependent Variable	Cluster Number	Mean	Std. Deviation	N	Std. Error	95% Confidence Interval	
						Lower Bound	Upper Bound
<b>Profitability</b>	1	4.788	1.127	259	.078	4.636	4.941
	2	3.735	1.449	138	.106	3.526	3.944
<b>Innovation</b>	1	4.092	1.582	259	.099	3.896	4.287
	2	3.088	1.630	138	.136	2.820	3.355
<b>Market and scout benefits</b>	1	3.362	1.331	259	.083	3.199	3.525
	2	2.900	1.339	138	.114	2.676	3.123
<b>Relationship costs</b>	1	4.154	1.315	259	.082	3.992	4.315
	2	4.498	1.333	138	.112	4.276	4.719

Where 1=strongly disagree, 4=neither agree or disagree, 7=strongly agree

### *Profile of wine grape supplier clusters*

Finally, Pearson chi-square tests (cross-tabulations) were then used to investigate any relationship between clusters and the characteristics defining grape suppliers.

The location (state) of the grape supplier, size of the vineyard, age of the business, annual revenue, number of employees, affiliation and tonnage last vintage were not associated with the high and low relational orientation clusters of grape suppliers.

Only the average length of contracts was found to have a statistically significant relationship with the level of relational orientation of the grape supplier. While only 40 per cent of grape suppliers had contracts exceeding five years duration, a very high percentage of these respondents had a high relational orientation (76%) (Table 8.27).

**Table 8.27: High and low relational orientation grape supplier clusters by average length of the contract**

Average length of the contract (years)	Cluster		Total
	1	2	
1 -5 years	137 (58%)	100 (42%)	237 (60%)
6 or more years (incl. ongoing verbal contracts)	122 (76%)	38 (24%)	160 (40%)
<b>Total</b>	<b>259</b>	<b>138</b>	<b>397 (100%)</b>

Pearson chi-square = 21.507 (5 df), p=0.001

By comparison, 58 per cent of suppliers with contracts of five or less years duration had high relational orientation.

Other interesting findings were that grape suppliers with high relational orientation indicated that their grapes were allocated to wine products with a retail price (weighted by price segment<sup>1</sup>) about twice as high as the grape suppliers with low relational orientation (A\$9.65 versus A\$5.45) (Table 8.28, Table 8.29).

**Table 8.28: Retail price segment(s) that grape are usually allocated**

Dependent Variable	Cluster No. of Case	Mean	Std. Dev	Std. Error	95% Confidence Interval	
					Lower Bound	Upper Bound
Price segment	1 (N=259)	9.6255	10.64990	.66175	8.3224	10.9286
	2 (N=138)					
	1	5.4580	7.79606	.66364	4.1457	6.7703
	2					

<sup>1</sup> The median price in each interval was considered and A\$50.00 for the category above A\$40.00 (Table 7.75).

**Table 8.29: ANOVA – Wine grape supplier clusters**

		<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Price segments	Between Groups	1563.659	1	1563.659	16.432	.000
	Within Groups	37589.093	395	95.162		
	Total	39152.752	396			

### 8.5.3. Discussion of cluster analysis

Cluster analysis has identified two distinct levels of high and low relational orientation within winery and grape supplier groups. Findings showed the majority of firms have a higher relational orientation, more so for wineries (73%) than grape suppliers (65%). Perceptions of a high relational orientation among antecedents such as conflict resolution, communication, performance satisfaction, trust, commitment and cooperation clearly leads to higher relationship value outcomes. The fact that perceptions of relationship value were higher for wineries than grape suppliers may lead one to assume that even where the parties collaborating, the dominant firms may use their position, overtly or covertly to capture a higher proportion of the value for themselves.

Factors contributing to a higher relational orientation were found to be different for wineries and grape suppliers. Wineries in South Australia and Victoria were more likely to have a higher relational orientation, as were wineries that were affiliated with a larger winemaking organisation and outsource the majority of their wine grapes.

Grape suppliers producing wine grapes for wine products at the higher end of the market are more likely to have a higher relational orientation and those with contracts exceeding five years duration. This is to be expected, for at lower price points, the cost of the grapes makes a much greater contribution to the total cost of the product.

## 8.6. Conclusion

This chapter confirmed and discussed the results of the three structural models which were developed to address the first three research objectives for this study. The results were further analysed with cluster analysis to answer the fourth objective.

The use of structural equation modeling in the analyses has allowed the researcher to analyse the relationships between constructs simultaneously. It has also provided the reliability and validity tests for each indicator variable in representing their underlying constructs. In the three model series, sixty indicator variables were included for the analyses to represent eleven constructs; ten of which feature in the final Phase Three model. Collectively, the three models comprised twenty eight hypothesised relationships (excluding those that were deleted after the removal of constructs), twenty two which were found to be significant and six were found to be

not significant. In addition, four additional pathways were suggested by the statistical program in Phase Three.

In the Phase One model, the contribution of the two items (*this supplier/customer is willing to change its processes and procedures for us* and *this supplier/customer has gone out of its way to link us with its business*) to the “adaptation” construct were insignificant, and as a result, the construct and the items were deleted. Reflecting on preliminary findings, much of the success achieved by the wine industry in domestic and international markets has been intrinsically bound by the willingness of wine grape growers and wineries to change and adapt to meet their market requirements, so this result was disappointing. However, it would appear that the adaptive dimension of these relationships were better addressed by the contribution of four items (*our relationship with this supplier/customer: provides joint input into long range planning of supply, provides joint input into setting strategic directions, provides joint input into technical development matters, provides joint development of production processes*) to the innovation construct used in the Phase Two and Phase Three models. More specifically, the Phase Three model highlights the need for Australian wine grape suppliers to continue to innovate in order to be cost competitive and economically sustainable in an oversupplied market for grapes and wine.

To summarise the findings, the Phase One and Phase Two models 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. Multiple group models were necessary in the first two phases for comparative purposes and to cross-validate each of the models.

## **9. Conclusions and Implications**

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### **9.1. Chapter outline**

In this final chapter, the findings of the study are used as a basis for the formulation of a number of conclusions and recommendations. The chapter begins with a brief summary of the research problem, followed by a discussion on the major findings in relation to the aims that guided the research. A number of theoretical implications resulting from the findings as well as some practical implications on the use of the three models for managing trading relationships in the Australian grape and wine industry will also be discussed in this chapter. As with most studies, this investigation has its limitations and these are also discussed together with recommendations for further research.

### **9.2. Summary of the research problem**

Without a generally accepted measure of the relationship value concept in the literature (Walter et al. 2001, Lindgreen and Wynstra 2005), empirical studies 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.

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). Therefore, more conclusive information is required to assist with the firm's decision making in the formulation of relationship management strategy.

The Australian grape and wine industry was selected for the research because of the importance of the trading relationships between buyers and sellers of wine grapes. Wineries rely on the quality of the wine grapes they buy from their grape suppliers to improve their own market offering and to increase the overall profitability of their firm. Value outcomes call for the two parties to work together to deliver on those quality attributes that are important to the consumer at predetermined price points. For this reason, the relationships between wineries and their grape suppliers tend to close, communicative and cooperative — throughout the growing season, during ripening, during vintage and harvest, right up until the grapes are delivered to the winery. Mostly, these trading arrangements are ongoing, with wineries seeking to establish contracts with preferred grape suppliers for an average of three to five years duration (Scales et al. 1995, Edmonds 2000, Anderson 2001b, Table 7.37). Increasingly, business success for wineries and grape suppliers has become reliant on working with the right partners and being able to develop and manage these relationships to improve value outcomes.

The dissertation has followed successive stages in the SEM process to develop theoretical hypotheses and paths for the three models based on a review of the purchasing and relationship marketing literature. Exploratory, qualitative findings from sixteen in-depth interviews with ‘matched pairs’ of Western Australian wineries and grape suppliers were fundamental to the atheoretical respecification of the models to suit the industry context.

An important step in developing a set of models for the prediction of relationship value in the grape and wine industry is to understand the industry manager’s attitudes and perceptions of their working relationships. Therefore, a preliminary, qualitative study was undertaken for the purpose of gathering rich and in-depth descriptions of exchange partner relational attributes and perceptions of relationship benefits and costs. First hand knowledge of industry changes and the trading environment was needed, due to the potential for environmental factors to influence relationship behaviours between customers and suppliers.

From the literature review and the findings of the secondary research on the grape and wine industry, it was apparent that the grape oversupply problem and the subsequent decline in grape prices, together with the emergence of other problems including the extensive consolidation occurring in Australia’s largest wine companies were detrimental to some trading relationships in the wine grape industry. On the other hand, there was also strong evidence that many wineries were striving to develop closer, more collaborative relationships with their contracted grape suppliers to create competitive advantage. Strong support was found for the proposed model constructs – cooperation, trust, performance satisfaction, communication, conflict resolution and power. The commitment construct was removed and adaptation was included in the Phase One model to capture the extensive changes noted to the interaction, activities and resources between wineries and wine grape suppliers in recent times, only to be removed again in the exploratory analysis.

The hypothesised structural equation models were tested using data gathered from comprehensive surveys of 175 wineries and 400 wine grape suppliers located in South Australia, Victoria, New South Wales and Western Australia. The structured questionnaires were comprised of comparable questions for customers and suppliers to permit direct comparisons of variables between winery and wine grape supplier respondents. The structural equation modelling (SEM) process involved two main steps of validating the measurement model (mainly through confirmatory factor analysis) and testing the hypothesised structural model through path analysis with latent constructs using AMOS 6.0 software to confirm the models (Anderson and Gerbing 1988).

A comprehensive examination of the working relationships between customer and supplier firms has provided valuable insights into the relational behaviours leading to the emergence of cooperative norms. The Phase One model 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 contribute towards relationship value. While the Phase One model demonstrates that wineries and wine grape suppliers have recognised the benefits of working together in cooperative relationships, research findings showed that neither party were realising their relationship value potential.

Clarification of the specific value goals in these trading relationships was the main purpose of the Phase Two model. Drawing from previous empirical conceptualisations of relationship value in the literature, the second phase model was designed to test new interpretations of relationship value for customers and their suppliers comprising four constructs of direct and indirect relationship benefits (profitability benefits, innovation and market/scout benefits) and relationship costs.

The third phase integration of the first and second phase models identified the main pathways through which the selected relational behaviours confer direct and indirect relationship benefits and incur relationship costs. The results provided strong empirical evidence in support of the role of cooperative relationship strategy as being instrumental to the optimisation of relationship value. Unlike previous studies, the final comprehensive model will enable industry managers to examine simultaneously the nature of all the relationships amongst the key relational antecedents that contribute towards direct and indirect relationship value outcomes for the customer and the supplier. Given the managerial emphasis in recent years on the doctrine of 'relationship value', the results of this research are of considerable practical as well as theoretical significance.

### **9.3. Conclusions on the research questions**

The first three research questions were addressed sequentially in each of the three phases in the model. The Phase One model identified the role of important relationship elements and measured their contribution towards achieving relationship value. The Phase Two model identified and measured critical direct and indirect benefits and cost dimensions of relationship value. Phase Three combined the two sets of constructs to identify what relationship elements were responsible for the realisation of specific relationship benefits and relationship costs. To address the fourth research question, there is conclusive discussion for the two-cluster solution which identified trading relationships with "high relational orientation and "low relational orientation" within the Australian grape and wine industry.



### 9.3.1. Objective 1

**OBJECTIVE 1:**

**How do the selected relational antecedents lead to relationship value?**

**What are the similarities and differences between group perceptions towards the selected relational antecedent constructs?**

The first objective in the research was to identify the relational antecedents that lead to relationship value. The resultant Phase One model from the qualitative exploratory research (Figure 5.1) was evaluated using factor analysis and structural equation modelling based on the quantitative survey of Australian wineries (customers) and wine grape growers (suppliers) (Figure 8.1 and 8.2).

It was evident from the Phase One model that power asymmetry, conflict resolution, communication, performance satisfaction, trust and cooperation were important dimensions of relationships between customers and their suppliers in business markets. The data and subsequent analysis has supported the hypotheses for the relationships between these six relationship elements leading to relationship value outcomes.

Conflict resolution was a core antecedent in the Phase One model which directly drives communication and performance satisfaction to increase trust and cooperation, leading to superior relationship value for customers and suppliers. 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. 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 and overall satisfaction with their partner's performance.

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 and increased the level of benevolence and credibility in their relationship, while at the same time reduced their partners' perceptions of opportunistic behaviour. Although the results indicated that performance satisfaction was important for achieving relationship value, the parameter values show that pathways that include trust and cooperation have the strongest effect on increasing relationship value.

“Cooperation” was a strong predictor of “relationship value”, along with “performance satisfaction”. 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.

Relationship value in the Phase One model was broadly defined as the customer's or supplier's perceptions of the estimated net benefits (benefits less costs) that were realised from the relationship, including those realised indirectly through connected business relationships. It was evident from the model that the two direct pathways from performance satisfaction and cooperation were currently realising higher relationship value for wineries than grape suppliers.

Another part of the first research objective was look at the differences in how the model worked for both wineries (customers) and wine grape growers (suppliers). While the Phase One model for both groups does not vary in direction, there were differences in perceptions for key relationship constructs between wineries and grape suppliers. Both groups had the same principal indicator items for relationship value (*this supplier/customer has high value for firm/ the value of this relationship is very high in comparison with alternative suppliers/customers*), trust (*confidence in the supplier/winery, this supplier/winery is honest when problems arise*), communication (*we keep each other well informed, 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*) and conflict resolution (*this relationship enables joint conflict resolution, this supplier/customer is quick to handle complaints*). However, there were differences in the item contributions to composite scales.

Other constructs such as performance satisfaction, cooperation and power asymmetry reflected the differences in perceptions between the two groups (e.g. growers have a shorter term outlook – annual, compared to wineries – several years) which resulted in greater variation in the contribution to key indicator variables. The main indicator variables for performance satisfaction for wineries were “*less strain working with this partner*” and “*satisfaction with overall relationship*”. These indicators highlight the high level of importance wineries place on good working relationships with their suppliers which were fulfilling, gratifying and free from

conflict and stress. The perceptions of performance satisfaction for grape suppliers had stronger contributions over more indicators including “*satisfaction with overall relationship*”, “*firm usually gets at least a fair share of the rewards and cost savings from the relationship*”, “*less strain working with this partner*” and “*benefits achieved from the relationship have greatly exceeded our expectations*”. From a temporal perspective, grape suppliers were looking for immediate gratification or reward for their contribution to the value creating process which finished on delivery of the grapes to the winery, whereas for wineries, it may take years before value was realised. These results emphasise that social satisfaction for suppliers enhanced the functioning of their trading relationships (Geyskens and Steenkamp 2000), and can be helpful in overcoming any current economic dissatisfaction by increasing the potential for future relationship performance. As declining returns in the Australian wine industry threaten the financial viability of all but the major wine producers (Deloitte 2005), returns on vineyard operations show a similar decline due to falling prices for both cool and warm climate wine grapes as a result of the current global and domestic oversupply (ABARE 2005b). Grape suppliers were not rewarded for producing superior quality, however, wineries cannot offer higher prices because they in turn were aggressively competing (Deloitte 2005)

The key indicator variable for the cooperation construct (*I feel that by going along with this partner, I will be favoured on some other occasion*) reflected an expectation by wineries and grape suppliers of a balanced exchange, reciprocity and mutuality over time. Furthermore, grape suppliers were motivated to cooperate to the extent to which they believed that *the customer and their firm shared compatible goals*. These expectations of “mutuality” reflect the suppliers desire for a combined and collaborative effort towards achieving both intra-firm and inter-firm goals. This particularly applied in the Australian grape and wine industry where close cooperation between wineries and their contracted growers was needed to ensure superior quality grapes (Scales et al. 1995). On the other hand, wineries as the dominant partner, may cooperate by choosing to *put aside contractual terms in order to work through special circumstances or difficult problems* with their suppliers. The message from wineries was one of flexibility towards their wine grape suppliers, with an attitude that the purchase agreement was just the starting point which can be modified as the market and the relationship and the fortunes of the two parties evolve.

The power asymmetry construct revealed the principal indicators for the wineries to be *the supplier exerts a strong influence over the firm* and *this supplier has all the power in our relationship*. However, the factor score showed that wineries did not agree with these statements. The preliminary research findings showed that although there were plenty of alternative sources of supply, there was a reluctance among wineries to source a new supplier given the time and effort required to build a relationship with a new trading partner. The power asymmetry construct for grape suppliers had strong contributions over more indicators including

*that we have no choice other than to adhere to this customer's demands, this customer has all the power in our relationship, this customer exerts a strong influence over us and this customer controls all the information.* The factor score showed that wine grape suppliers tended to agree with these statements. Clearly, winery power was an important issue for wine grape suppliers, with some negative relational connotations for both parties in terms of reducing the perceptions of performance satisfaction and trust in the relationship. Wineries may use various reward and coercive powers and legitimate authority to cajole and coerce cooperation from suppliers, however, it was the use of non-mediated power that inevitably built social bonds and close relationships.

There were also two hypothesised pathways for which relationships were significant for one group, but not for the other. In the Phase One model, the hypothesised pathway between power asymmetry and cooperation (H12) was significant for wineries but not for wine grape suppliers. After all, it is not unreasonable for wineries, as the customer, to stipulate purchase specifications and to expect supplier compliance and cooperation providing it was beneficial for the supplier to do so. The hypothesised pathway with a negative association between power asymmetry and conflict resolution (H9) was significant for suppliers only. Findings in the preliminary research showed that some wine grape suppliers had not encountered any problems through their relationships, while others mentioned problems or complaints which they had successfully resolved with winery liaison personnel at an operational level. Some wine grape suppliers had found that it was more difficult to resolve problems at a higher management level. While wineries are finding the grape market favourable, it would appear that they are being less responsive to the complaints of their grape suppliers and less inclined to address some of the tough issues such as the lack of objective and transparent standards for assessing the quality of the wine grapes, the use of quality provisions within contracts to downgrade grape prices (Kiri-ganai research 2006) and late payment for wine grape purchases.

### 9.3.2. Objective 2

**OBJECTIVE 2:**

**Examine customer and supplier perceptions of factors that are instrumental in the optimisation of relationship value in the grape and wine industry.**

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

The aim of the Phase Two model was to conceptualise relationship value in a business market, from a customer and a supplier perspective. The Phase Two model was tested using factor analysis and structural equation modelling (Figures 8.3 and 8.4). In this formative model, three benefit constructs and a single sacrifice construct were used as predictors to the relationship value construct (used in the phase one model). Separate analysis of the different dimensions of

relationship value has provided a more comprehensive understanding of the composition of relationship value in business relationships.

The model confirmed that the critical dimensions of relationship value for both parties were profitability benefits, innovation and relationship costs. Of these three dimensions, the benefits contributing to increased profitability displayed the largest association with relationship value. The model failed to support a path from indirect market and scout benefits to relationship value. Nevertheless, the high correlation of market and scout activities with the other predictors of relationship value seemed to elevate the importance of these indirect benefits.

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. As expected, the Phase Two 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 for many wineries and grape suppliers, such as jointly setting strategic directions and the long-range planning of wine grape supply, have been shown in the Phase Two model to increase customer and 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.

Having evaluated the Phase Two model to determine the constructs making up relationship value, the differences in responses between wineries (customers) and wine grape growers (suppliers) was assessed. While the Phase Two model for both groups does not vary in direction, 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 initiation 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.

### 9.3.3. Objective 3

#### **OBJECTIVE 3:**

**Establish the relationship between the selected relationship-specific constructs and relationship value constructs through the identification of causal pathways.**

The third research objective was to evaluate the associations in the Phase Three model between relation-specific constructs and relationship value constructs. This was assessed using structural equation modelling (Figure 8.5 and Figure 8.6).

Phase Three involved a comprehensive ten construct model showing how the six relationship elements (power asymmetry, conflict resolution, communication, performance satisfaction, trust and cooperation) confer specific benefits (profitability benefits, innovation, and market and scout benefits) and incur sacrifices (relationship costs). The data and subsequent analysis has supported twenty one hypotheses for the relationships between the different constructs, however, five hypotheses were significant for one group but not for the other. The model confirms that while all relational behaviours were important, some were more important than others in the contributions they make towards relationship value.

Significant relationships between relational antecedents in Phase One were again significant in the Phase Three model. Three key relational antecedents — conflict resolution, performance satisfaction and trust — remained strong and influential for both groups, but more so for grape suppliers. Although power asymmetry had a positive impact on cooperation for wineries, it has been shown to significantly reduce performance satisfaction and trust for both groups, and to reduce conflict resolution for grape suppliers.

The results of the Phase Three model showed that while both parties shared key relational antecedents and value outcomes, the means by which relationship value was 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 were willing to innovate to build strategic position, reduce costs and improve quality to increase profitability.

Wineries had greater opportunity to increase relationship benefits directly through satisfaction with the performance of their grape suppliers, but these firms also incurred greater relationship costs in the efforts required to acquire those benefits. Network relationships were a significant driver of innovation for wineries and grape suppliers in cooperative trading relationships. 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.

#### 9.3.4. Objective 4

##### **OBJECTIVE 4:**

**Identify the extent to which model constructs are consistent within groups.**

The fourth 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 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 Phase Three 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 (Donald and Georgiadis 2000, Batt and Wilson 2001). 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. In this particular situation, less intensive grower liaison activity is required from the winery as the monitoring of vineyard practices is shared by both parties. 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 those 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 Phase One 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 Phase Two 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 remuneration for their wine grapes to be above current market price (Table 7.52). 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.

## **9.4. Significance of the research: theoretical and practical implications**

This research has sought to make several contributions to the knowledge of relationship value with its theoretical and practical implications. This 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.

### **9.4.1. 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. 2002a, 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 multi-group Phase One 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 add to the literature by providing evidence that key relationship-specific constructs 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.** In Phase Two, the study has provided a multiple sample, multi-dimensional formative 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 (Granovetter 1992, Anderson, Håkansson and Johanson 1994). This approach was designed to examine and measure the value of primary and secondary relationships (Anderson and Narus 2004). Direct profitability benefits were found to be the strongest predictors of relationship value; yet the Phase Two model and to a greater extent the Phase Three 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 (Walter et al. 2001), thereby raising the value of customer and supplier relationships.

As in other previous empirical studies (eg. Werani 2001, Ulaga and Eggert 2006), 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 Phase Three 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 (Table 8.13). 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 multi-group Phase One 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 (Blankenburg Holm et al. 1996), 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 Phase Three 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. Therefore, the findings of this research advance the literature by providing the first evidence of the means by which those in cooperative working relationships can raise indirect value in secondary relationships.

**Heterogeneity 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 perspectives 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 on 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 partners (Ganesan 1994, Walter et al. 2000) to create a higher level of relationship value.

**Implications for research methodology.** Finally, the research used a unique three phase analogous structural equation model design to conceptualise and measure relationship value. The relationship value construct used as the dependent variable in Phase One model was used again as the dependent variable in Phase Two. The remaining constructs in Phase One and Phase Two models were combined in the Phase Three models. Each phase of the model was designed to address research objectives to measure and compare perceptions between customer and supplier groups. The study required a multiple group structural equation model design which was tested and tight-cross validated (MacCallum, Rosnowski, Mar, and Reith 1994, Hair et al. 2006), using factor structure equivalence and error variance equivalence (30% of the sample was selected to check the models) in Phase One and Phase Two. Such an approach adds robustness and validity to these models. Although the Phase Three model findings must be viewed as tentative due to the four respecifications that were necessary, it provides a comprehensive basis for further theory development in this area.

#### **9.4.2. 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 Phase Three 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.

In view of the present need for both wineries and wine grape suppliers to increase their cooperation it may be useful to draw upon Campbell (1985) who developed guidelines for managerial action by focussing on the cooperative interaction strategies that firms use in their relationships with trading partners. The conditions in the grape and wine industry favour “high” relational, cooperative purchasing and marketing strategies in terms of product (e.g. common goals to optimise grape quality), industry (e.g. both industries are concentrated), firm (e.g. both firms need to be cooperative) and individual characteristics (e.g. product is perceived as being important by both parties) that are applicable to buyers and sellers of grapes to the premium, super premium and icon wine market. The “interaction” model specifies the management implications of a mutually cooperative strategy for customers (adapt, cooperate and work together) and for suppliers (customise, specialise, differentiate and innovate) (Campbell 1985); an approach which is largely reflected in the Phase Three model. However, this early IMP management model by Campbell (1985) concentrates solely on customer-supplier relationships and does not consider the managerial implications of connected relationships within a network context as this study has done.

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 Phase Three 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.

## **9.5. 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. Also, the study findings on relationship value were limited to the Australian grape and wine industry, rather than in customer and supplier relationships overall.

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.

Although the measures for the models performed well, it is certainly possible that better measures could be developed for several of the constructs. The difficulty lies in the need to achieve mirror measures for customers and suppliers in constructs which need to take account of the different functions that each perform. For example, the performance satisfaction construct features both economic and social attributes (Geyskens et al. 1999). The attributes that comprise the “economic” component reflect the desired outcomes of either the marketing or purchasing functions. By generalising these different functions to the point where they apply to either marketing or purchasing situations, some of the depth and clarity of these measures for this construct (and others) may have been diminished.

As pointed out by Anderson and Narus (1990), the testing of structural equation models comprising a large number of constructs can lead to a more comprehensive understanding of how business relationships work. However, there is an implicit trade-off between making models more comprehensive and the subsequent ability to achieve an adequate sample to support the number of parameters in the model. From a managerial perspective, an interesting extension of the present research would be to further explore the effects of high and low relational orientations and how they achieve corresponding levels of relationship value. The research would need to be undertaken in a larger industry where the required sample sizes are achievable.

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# Appendix 1: Preliminary research questions

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

Where 1 is strongly disagree and 6 is strongly agree

**Grape supplier satisfaction with winery performance (grape supplier respondents)**

Item
1. 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.
2. I always have time to seek alternative arrangements and/or prevent further loss upon receiving notification for possible downgrading, penalties or rejection.
3. Where vineyard assessment results in disease detection, I am given the option to be involved and a formal assessment of the block is made as early as possible:
4. The winery provides me with constructive feedback on the resultant wine quality of the grapes and makes any recommendations to assist with improvement.
5. Wine grape specifications and tolerances are written, clear and understandable.
6. I receive quality, timely support from winery viticultural staff to assist with seasonal vineyard management.
7. 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.
8. The winery works with me to make the quality linkage between grapes and end products clear and understandable.
9. 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.
10. The winery provides me with constructive feedback on the vineyard assessments

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?**

<input type="text"/>	Not specified
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**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 disagree; **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 disagree; 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 price min. 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 question 18b*

**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 disagree; 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 about our welfare	1	2	3	4	5	6	7
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?**

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

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**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 disagree; TA = Tend to agree; A = Agree; SA = Strongly agree)

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

		SD	D	TD	N	TA	A	SA
	Our relationship with this customer ...							
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?**

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**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.**