

Exploring consumers' risk perception in wine retail decision- making: insights for Chenin blanc

by

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DECLARATION

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This dissertation includes five unpublished manuscripts. The development and writing of the papers were the principal responsibility of myself, and for each of the cases where this is not the case, a declaration is included in the dissertation indicating the nature and extent of the contributions of co-authors.

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SUMMARY

South Africa is a large wine producing country without a wine-drinking culture. Therefore, the development of the domestic wine market is a priority of the Wine Industry Strategic Exercise (WISE). The study of risk perception is known to provide insights, valuable for marketing initiatives aiming to gain market share. Previous researchers identified significant perceived risks and risk-reducing strategies for wine as a generic category. However, this study was a pioneering effort to explore and describe consumer risk perception of a specific wine varietal.

Chenin blanc, South Africa's most planted wine grape variety, accounts for 23% of all varieties crushed for wine production. However, from 2011-2017, domestic Chenin blanc sales appeared to be low in the South African 750ml bottled white wine category. Therefore, the aim of this study was to explore and describe consumers' perceived risk of Chenin blanc wine. As South African consumers purchase wine primarily from retail stores, the study focused exclusively on consumers' retrospective, in-store decision-making of white wine.

An exploratory sequential mixed methods research approach was followed. Using semi-structured, personal interviews, consumers of white wine (n=8) were firstly interviewed to gain an understanding of Chenin blanc perceptions. Qualitative data, in combination with theory, were used to develop a measurement instrument, utilised in the sequential core quantitative phase. The measurement instrument was pilot tested (n=62) to assess internal reliability. Consequently, an online survey was used to collect data from a sample (n=2051) of wine consumers. Statistical analysis confirmed that the scales used were valid and reliable. Being the first instrument to measure wine varietal-specific perceived risk, further recommendations were made to improve some construct items.

The results show that there were significant differences in consumers' quality perception, subjective knowledge, purchase frequency and perceived goodness-of-fit for occasions between white wine varietals. Based on a comparison between Chenin blanc and the white wine category in general, Chenin blanc was perceived to be less available with a lower amount of information available, while respondents indicated to be more risk averse and lacking self-confidence to evaluate Chenin blanc in a purchase situation. The main perceived risks in the case of Chenin blanc were functional, time and financial risks, while respondents indicated to use another wine varietal as a risk-reducing strategy. Age appeared to have little influence on respondents' Chenin blanc perceived risk, but there were significant differences between ethnic groups' Chenin blanc perceived risk. Potential target markets for Chenin blanc were identified with strategies recommended to reduce Chenin blanc perceived risk.

Results of this study make a valuable contribution, not only to the South African wine industry, but also to the international body of knowledge on consumers' wine decision-making. The exploratory sequential mixed methods research approach and varietal-specific measurement instrument can be replicated to study other struggling varietals or even regions-of-origin aiming to gain market share. The target market identified, with strategies to reduce Chenin blanc-specific perceived risks, can be used by the South African wine industry to develop a Chenin blanc marketing plan, aiming to increase market share.

OPSOMMING

Suid-Afrika is 'n groot wynproduserende land sonder 'n wyndrink-kultuur. Daarom is die ontwikkeling van die plaaslike wynmark 'n prioriteit van die "Wine Industry Strategic Exercise" (WISE). Die studie van risiko-persepsie is bekend om waardevolle insae vir bemarkingsinisiatiewe, ten doel om markaandeel te vergroot, te lewer. Vorige navorsers het betekenisvolle waargenome risiko's asook risiko-verminderingstrategieë vir wyn as generiese kategorie geïdentifiseer. Hierdie studie is egter 'n eerste om verbruikers se risiko-persepsie van 'n spesifieke wynvariëteit te ondersoek en te beskryf.

Chenin blanc, Suid-Afrika se mees aangeplante wyndruifvariëteit, verteenwoordig 23% van alle variëteite wat vir wynproduksie gepars word. Maar, van 2011-2017, blyk plaaslike Chenin blanc verkope in die Suid-Afrikaanse 750ml witwyn bottelkategorie laag te wees. Vir hierdie rede was die doel van hierdie studie om verbruikers se risiko-persepsie van Chenin blanc te ondersoek en te beskryf. Omdat Suid-Afrikaanse verbruikers wyn grotendeels by kleinhandelwinkels aankoop, het hierdie studie eksklusief op verbruikers se retrospektiewe besluitneming van witwyn binne die winkelomgewing gefokus.

'n Eksploratiewe, opvolgende gemengde metode navorsingsbenadering is gevolg. Om Chenin blanc persepsies te verstaan, is semi-gestruktureerde, persoonlike onderhoude eerstens met verbruikers van witwyn (n=8) gevoer. Kwalitatiewe data, in kombinasie met literatuur, is gebruik om 'n meetinstrument te ontwikkel wat in 'n opvolgende kern kwantitatiewe fase gebruik is. Die meetinstrument is onderwerp aan 'n loodstudie (n=62) om interne betroubaarheid te toets. Daarna is 'n aanlynopname gebruik om data in te samel onder 'n steekproef (n=2051) van wynverbruikers. Skale se geldigheid en betroubaarheid is deur statistiese analise bevestig. Omdat hierdie instrument die eerste is om wynvariëteit-spesifieke risiko persepsie te meet, is verdere aanbevelings gemaak om sommige konstruktitems te verbeter.

Die resultate dui op betekenisvolle verskille wat betref verbruikers se kwaliteitspersepsie, subjektiewe kennis, aankoopfrekwensie en voorkeurkeuse vir geleenthede tussen witwynvariëteite. Gebaseer op 'n vergelyking tussen Chenin blanc en die witwynkategorie oor die algemeen, is daar 'n persepsie dat Chenin blanc minder beskikbaar is, ook met minder inligting, terwyl respondente aangedui het dat hul meer risiko-vermydend optree en laer selfvertroue het om Chenin blanc in 'n aankoop situasie te evalueer.

Die grootste waargenome risiko's in die geval van Chenin blanc was funksioneel-, tyd- en finansiële risiko's terwyl respondente aangedui het om 'n ander wynvariëteit as 'n risiko-verminderingstrategie te gebruik. Ouderdom het minimale invloed op respondente se Chenin

blanc risiko-persepsie gehad, maar daar was betekenisvolle verskille tussen etniese groepe se Chenin blanc risiko-persepsie. Potensiële teikenmarkte is vir Chenin blanc geïdentifiseer met aanbevelings vir strategieë om Chenin blanc risiko-persepsie te verlaag.

Resultate van hierdie studie maak 'n waardevolle bydrae, nie net vir die Suid-Afrikaanse wynbedryf nie, maar ook vir die internasionale liggaam van kennis oor verbruikers se wynbesluitneming. Die eksploratiewe opvolgende gemengde metode navorsingsbenadering en variëteit-spesifieke meetinstrument kan genaboots word om ander sukkelende variëteite of streke van oorsprong wat marktaandeel wil vergroot, te ondersoek. Met die doel om marktaandeel te vergroot, kan die geïdentifiseerde teikenmark, met strategieë om Chenin blanc-spesifieke waargenome risiko's te verlaag, deur die Suid-Afrikaanse wynbedryf gebruik word om 'n bemarkingsplan vir Chenin blanc te ontwikkel.

BIOGRAPHICAL SKETCH

Nadia van der Colff, née Prinsloo, was born in Potchefstroom, South Africa on the 2nd of September 1985 and matriculated at Hoër Volksskool, Potchefstroom in 2003. In 2008, Nadia obtained a 4-year B. Consumer Science (Food retail management) degree from the University of Pretoria. Focussing on consumers' in-store satisfaction with food labels, Nadia obtained a M. Consumer Science (cum laude) degree from the North-West University in 2011. In 2016, Nadia enrolled for a PhD in Wine Biotechnology at the Institute for Wine Biotechnology, Department of Viticulture & Oenology, Stellenbosch University.

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“When you have built a career on a brain, and the brain goes, there’s nothing left!”

– W. Smith

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“For God has given us a spirit (Ruah) not of fear, but of power and of love and of self-control.” 2 Timothy 1:7.

PREFACE

This dissertation consists of 8 chapters. Each chapter has its own introduction and reference list, while a combined table of contents is used for all chapters. Chapter 1, 4 and 8 are included as chapters and written according to a prescribed format for dissertations by the Stellenbosch University (Arial font, size 12 for headings and 11 for text, using the Harvard reference style). Chapters 2, 3, 5, 6 and 7 are included as unpublished research articles. Chapter 2 is written according to the guidelines of *Management Dynamics*, Chapter 3 and Chapter 6 are written according to the guidelines of *Food Quality and Preference*, Chapter 5 and Chapter 7 are written according to the guidelines of *International Journal of Wine Business Research* to which Chapter 7 was submitted.

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The untapped potential of South African Chenin blanc wine: a consumer market focus

Chapter 3: Literature review article 2

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Chapter 4: Research design and methodology

Chapter 5: Results article 1

A varietal-specific approach to explore consumers' wine risk perception

Chapter 6: Results article 2

An exploratory sequential mixed methods design to develop a wine-varietal perceived risk measurement instrument

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LIST OF ABBREVIATIONS

ANOVA	Analysis of Variance
CBA	Chenin Blanc Association
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
DST	Department of Science and Technology
DTI	Department of Trade and Industry
EFA	Exploratory Factor Analysis
GFI	Goodness-of-fit statistic
HTMT	Heterotrait-Monotrait ratio of correlations
IGWS	Institute for Grape and Wine Sciences
IWBT-DVO	Institute for Wine Biotechnology, Department of Viticulture and Oenology
IWC	International Wine Challenge
LSD	Fischer Least Significance Difference
PR	Perceived risk
PRS	Perceived Risk Scale
REC	Research Ethics Committee
RMSEA	Root Mean Square Error of Approximation
RRS	Risk-reducing strategies
SAWIS	South African Wine Industry Information & Systems
SEM	Structural Equation Modelling
STATS SA	Statistics South Africa
UK	United Kingdom
USA	United States of America
WESGRO	Cape Town & Western Cape Tourism, Trade & Investment
WHO	World Health Organisation
WOSA	Wines of South Africa

CHAPTER 1

INTRODUCTION

“...I don't think I know a Chenin blanc at all, so that would probably be the riskiest one...”–

Interview 6

1.1. INTRODUCTION

This study was an international first aiming to explore and describe consumer risk perception of a specific wine varietal. As Chenin blanc sales appear to be low in the South African wine market, this study aimed to investigate consumers' Chenin blanc-specific perceived risk during retrospective, in-store decision-making of bottled white wine. No academically published research on South African consumers' risk perception of wine exists, therefore, this study was a pioneering effort to explore South African consumers' perceived risk during wine decision-making. In this introductory chapter, the background and motivation, problem statement, research aims and objectives as well as a synopsis of the methodology followed in this study, are presented. To conclude this chapter, the structured outline of the dissertation is provided.

1.2. BACKGROUND TO THE RESEARCH PROBLEM

Development of the South African wine market has been identified a priority by the Wine Industry Strategic Exercise (WISE) (The Moss Group, 2015). Although South Africa was the 8th largest wine producing country in 2017, with ironically a low per capita wine consumption, (SAWIS, 2017), there is a lack of research on local wine consumers' decision-making and consumption preferences. However, insights gained from consumers are imperative for market development (Johansson & Carlson, 2015:62) and even more so in a country without an established wine drinking culture.

Due to the social and political history, South Africa has a heterogeneous consumer market (Martins, 2012), not only in terms of demographics, but also according to values, aspirations and consumption patterns (Duh & Struwig, 2015:99). In South Africa, wine has traditionally been associated with white, affluent minority groups. Only in the last decade, there has been an increase in wine consumption amongst the black middle class (Kew, 2015). Due to the population size and their increased access to resources, the South African black middle class is widely recognised as a lucrative market segment (Duh & Struwig, 2015). More research is therefore needed to explore and develop new markets for South African wine, which should include perspectives from the black middle class consumer segment.

The 750ml bottle category is the largest contributor to South African wine producers' income, followed by 5 litre bag-in-box wine (SAWIS, 2017). In South Africa, 65% of all wine produced is white wine, however, domestic sales statistics indicate that in the 750ml bottle category, more red wine is sold than white wine. Therefore, due to the availability of white wine, research should be conducted to gain insight into South African consumers' decision-making and perceptions of white wine. Considering domestic sales of the 750ml bottled white wine category, on average, three times more Sauvignon blanc has been sold per annum than either Chardonnay or Chenin blanc over the past seven years (SAWIS, 2017). Chenin blanc is, however, South Africa's most planted wine grape representing 18.6% of vineyards. Moreover, Chenin blanc grapes crushed for production purposes accounts for 23% of all white and red wine grape varieties (SAWIS, 2017).

Chenin blanc is a versatile wine grape, adaptable to South African terroir and suitable to produce wine in a variety of styles (Loubser, 2008). Previous researchers reported that Chenin blanc grapes are neutral with only a few primary grape-derived flavours, therefore, the sensory profile of Chenin blanc wine is largely attributed to wine-making techniques (Marais, van Schalkwyk & October, 2005). However, variances in wine-making techniques such as late picking, oak maturation and lees contact result in Chenin blanc wines of variable aromatic profiles (Van Antwerpen, 2012). This inconsistency in sensory characteristics could leave wine consumers confused and uncertain what to expect from Chenin blanc in terms of taste (Brower, 2009). Justified, the bulk of previous research on Chenin blanc focused on the chemical and sensory profiling of different Chenin blanc wine styles (Bester, 2011; Hanekom, 2012; Lawrence, 2012; Van Antwerpen, 2012; Weightman, 2014). Although recognised as an important focus for the development of Chenin blanc wine (Winetech, 2015), primary insights on South African wine consumers' perspectives on Chenin blanc are underexplored.

Due to the large amount of Chenin blanc wine available, it makes sense to stimulate consumer demand for this varietal. However, some wine industry role-players report that consumers might still perceive Chenin blanc as a lower quality wine partially due to its previous "work-horse" status (Institute for Grape and Wine Sciences, 2016). Although there have been numerous successful efforts to improve the quality of Chenin blanc through vineyard management and oenological methods (Nieuwoudt, van Antwerpen, Hanekom, Bester, Muller *et al.*, 2013), domestic sales of single varietal Chenin blanc in the 750ml bottle category, are not reflecting industry efforts. On the contrary, South African Chenin blanc has increasingly been recognised for outstanding quality on international platforms (IWC, 2016), with numerous renowned wine journalists reporting on the superiority of South African Chenin blanc (Goode, 2014). It is therefore believed that Chenin blanc has the potential to become South Africa's

flagship varietal, both locally and internationally – a goal of the Chenin blanc Association (Chenin Blanc Association, n.d.).

1.3. BACKGROUND TO AND MOTIVATION OF THEORETICAL PARADIGM

Considering the previously reported characteristics of Chenin blanc wine, the paradigm of quality perception and/or consumer satisfaction, using the (dis)confirmation theory (Oliver, 1980), seemed to be an appropriate construct to explore consumers' Chenin blanc perspectives. The measurement of consumer quality perception determines whether the perceived performance, i.e. experience with wine matches consumer expectations (Veale & Quester, 2009) according to intrinsic (Rahman & Reynolds, 2015) and extrinsic quality cues (Sáenz-Navajas, Campo, Sutan, Ballester & Valentin, 2013). In an effort to refine the problem and develop research objectives according to quality perception dimensions for Chenin blanc wine, a critical analysis of secondary data was performed. However, after carefully evaluating previous literature on consumers' wine perception, the theoretical paradigm of consumer risk perception was identified to be a better fit to the Chenin blanc "problem" than quality perception. Following is a motivation for the choice of risk perception, used as theoretical paradigm to explore and describe wine consumers' perspectives on Chenin blanc wine.

Previous consumer researchers identified risk perception as a critical element of wine decision-making (Spawton, 1991) as it is judged to be a key construct when an improvement in sales are sought-after (Mitchell, 1999), as in the case of Chenin blanc wine. In general, wine is a category notorious for causing consumers to perceive risk (Atkin & Thach, 2012), i.e. feelings of uncertainty about the product's anticipated performance in the consumption situation (Schiffman, Kanuk, Brewer, Crous, du Preez *et al.*, 2014:154). As a result, perceived risk during consumers' decision-making of wine received considerable attention in previous international studies (Aqueveque, 2006; Atkin & Thach, 2012; Bories, Pichon, Laborde, & Pichon, 2014; Bruwer, Fong & Saliba, 2013; Bruwer & Rawbone-Viljoen, 2013; Celhay & Passebois, 2011; Cho, Bonn & Kang, 2014; Johnson & Bruwer, 2004; Lacey, Bruwer & Li, 2009; Mitchell & Greatorex, 1988; Mitchell & Greatorex, 1989; Spawton & Bourqui, 1997). Different to quality perception, consumers' perceived risk extends beyond the functional properties of a product and include situational and psychological dimensions related to the buying and consumption situation (Hoyer, MacInnis & Pieters, 2013:58). Perceived functional (sensory) and physical (health) risks typically have implications for wine-making while the other risks, such as a perceived financial and social risk (uncertainty whether others will

approve) mostly have implications for marketing strategy (Atkin & Thach, 2012; Bruwer & Rawbone-Viljoen, 2013; Mitchell & Greatorex, 1988).

Risk, as perceived by the consumer, is furthermore conceptualised as a barrier to the act of purchase (Ram & Sheth, 1989) and was therefore judged to be an appropriate concept to facilitate an exploration of why some South African consumers of white wine do not regularly buy Chenin blanc per 750ml bottle. Previous wine researchers emphasised that the practical value of a perceived risk analysis for strategic marketing purposes (Bruwer *et al.*, 2013:385; Atkin & Thach, 2012:60; Johnson & Bruwer 2004:28) is particularly helpful for new product and brand-image development (Mitchell, 1999:164). Yet, first-hand insight from the consumer perspective is required prior to strategy development. Based on assumptions, industry specialists might cause further uncertainty in an attempt to reduce consumer risk (Gaskell *et al.*, 2004; Hagemann & Scholderer, 2009). Therefore, the primary aim of this study was to explore South African wine consumers' risk perception of Chenin blanc wine. Consequently, risk reducing strategies which consumers find useful in the purchase process could then be recommended as part of the marketing strategy for Chenin blanc wine.

1.4. MAIN THEORETICAL CONSTRUCTS AND RESEARCH ASSUMPTIONS

Based on a review of extant research on the core theoretical constructs and characteristics of consumer risk perception, the following ontological assumption was adopted for this study: consumer risk is subjective and therefore relative to the perceiver (Mitchell, 1999:165). Also, as this study aimed to investigate consumer risk perception of a specific wine varietal, the product-specific risk perception definition (Dowling, 1999:420) was accepted and adapted for this study: the uncertainty of the potential negative consequences as a result of buying and consuming South African Chenin blanc wine. Table 1.1. provides a summary of the main theoretical constructs as reviewed and argued in Chapters 2-7 where literature, relevant to the aim and scope of each chapter/article, were included.

Table 1.1. Summary of main findings from the literature review on perceived risk constructs

Perceived risk constructs and characteristics	
Definitions:	<i>Generic definition:</i> "The uncertainty that consumers face when they cannot foresee the consequences of their purchase decisions" (Schiffman <i>et al.</i> , 2014:154).

	<i>Product-specific definition:</i> “The uncertainty of the possible adverse consequences which a person thinks will attach to buying or using a product” (Dowling, 1999:420).
Perceived risk drivers:	Perceived risk is known to be high when: consumers have lacking product information, consumers have had little previous experience with brands of a product category, when a product is new, when consumers lack self-confidence to evaluate brands, when variations in quality between alternatives are evident, when the price is high and when the purchase is important to the consumer (Bettman, 1973).
Perceived risk dimensions:	Six known generic risk dimensions are described: functional risk (product performance), financial risk (economic value) social risk (others’ approval), physical risk (health consequences), psychological risk (mental state) and time (time wasted) (Bruwer <i>et al.</i> , 2013; Schiffman <i>et al.</i> , 2014:155).
Risk-reducing strategies (RRS):	When consumers perceive risk, RRS are used in an effort to relieve risk and to ultimately help consumers to reach a decision. Six generic RRS are recognised: seek information, remain brand loyal, buy only well-known brands, rely on the reputation of a trusted store, buy within a certain price range and to seek reassurance (Bruwer <i>et al.</i> , 2013; Schiffman <i>et al.</i> , 2014:156).
Risk in the context of consumer decision-making:	In any decision, consumers move through a decision-making process and engage in efforts to search and evaluate information prior to making a decision. When risk is perceived, consumers tend to be higher involved and therefore evaluate alternative options more carefully in an attempt to avoid risk. Within the decision-making process, perceived risk is negatively correlated with purchase intention and consumers tend to purchase products when they feel ascertain that their expectations would be met (Hoyer, MacInnes & Pieters, 2013).
Marketing significance:	Due to the known correlation between perceived risk and purchase intention (Yeung & Morris, 2006), developing marketing strategies to relieve perceived risk is widely recognised as effective to increase product sales (Ram & Sheth, 1989; Tian-Que, 2012). Ultimately, in a competitive and convenience driven retail environment, marketing managers often strive to gain consumer trust and loyalty which

	reduces consumer decision-making complexities and risk (Hoyer <i>et al.</i> , 2013; Johansson & Carlson, 2015).
Perceived risk is product-specific and subjective:	Due to a plethora of factors such as personality characteristics, cultural influences, socio-demographic and situational factors as well as motives to purchase (Conchar, Zinkhan, Peters, Olavarrieta, 2004), perceived risk behaviour is subjective (Mitchell, 1999:165) and differs between products (Dowling, 1999:420). Different consumers might therefore not perceive one product with the same risk intensity, nor use the same strategies to relieve risk.
Complexities and measurement of perceived risk:	Due to its multi-dimensionality, previous researchers reported on the difficulties of measuring perceived risk in its entirety (Bruwer & Rawbone-Viljoen, 2013; Dowling & Staelin, 1994; Mitchell, 1999). Complex models of perceived risk, with multiple variables, have been theoretically proposed (Conchar <i>et al.</i> , 2004; Cunningham, 1967). However, to develop perceived risk measurement instruments, inclusive of all the constructs, remain challenging and unrealistic (Mitchell, 1999).

1.5. SCOPE OF THE RESEARCH

In South Africa, the majority of wine is sold in the off-trade, retail sector (67,8%) by specialist retailers, supermarkets and hypermarkets (Marketline 2014; WESGRO 2017). With an array of alternative wine options, usually without a chance to taste the wine prior to a purchase, consumers are known to perceive high levels of risk in the in-store retail environment (Atkin & Thach, 2012; D'Alessandro & Pecotich, 2013). This study therefore focused exclusively on consumer decision-making within the in-store retail setting. As already mentioned, 750ml glass bottle sales are the largest contributor to South African wine producers' income, therefore, this study only considered the 750ml white wine category. In South Africa, 750ml bottled wine is typically sold with the varietal name, such as Chenin blanc, together with the producer's name on the front label, therefore regarded a quality cue.

Being a varietal-specific approach to risk perception, different styles of white wine were not considered. Therefore, upon measurement, distinctions were made between "white wine" (category), Chenin blanc, Sauvignon blanc, Chardonnay and "white blends", together accounting for the majority of white wine sales in South Africa (SAWIS, 2017). This study furthermore aimed to specifically gather perspectives of non-expert wine consumers (as

motivated in 1.2 and 1.3), therefore, wine industry professionals/employees were excluded. Throughout this study, “perceived risk” and “risk perception” were used interchangeably, therefore considered synonyms. Three main concepts of risk perception were identified and addressed throughout the phases of this study: risk drivers, perceived risk dimensions and risk-reducing strategies (Table 1.1).

1.6. PROBLEM STATEMENT

Despite ongoing efforts from producers and industry role players to improve the quality of Chenin blanc wine, domestic sales in the 750ml category remain low. In recent years, South African Chenin blanc wine has increasingly been awarded on the international arena which confirms the potential and expertise to produce Chenin blanc of good intrinsic quality. Evidently, a need exists for consumer research to understand and grow the local Chenin blanc market to complement the efforts of producers and industry role players such as the Chenin Blanc Association (CBA). However, the local market’s perception of Chenin blanc, South Africa’s most planted wine grape variety, remains under-researched from a wine industry and academic point of view. Although the majority of wine purchases in South Africa are made in retail stores where consumers are unable to taste wine, there is a general lack of research about South African wine consumers’ purchase behaviour. Alike, the bulk of previous research on Chenin blanc has focused on complex sensory aspects. As a result, insights on South African consumers’ retail purchasing decisions of Chenin blanc, and the seeming purchase barrier are lacking.

Perceived risk, i.e. consumers’ uncertainty about the anticipated negative consequences as a result of a product purchase, is a well-described purchase barrier. The study of consumer risk perception is popular in wine research as risk-reducing strategies are often recommended to relieve the identified risks with the aim to improve wine sales. Concerning Chenin blanc, there are existing opinions amongst industry professionals about the causes of consumers’ seeming uncertainty. However, without primary insights from the wine buyer, industry specialists might elicit more uncertainty during their marketing efforts to reduce, what they assume consumers perceive as risks. Empirically, this study therefore aimed to explore and describe consumers’ perceived risks of Chenin blanc wine during retrospective, in-store decision-making, which could have implications for wine-making as well as strategic marketing.

A scrutiny of previous related research on consumer risk perception revealed further limitations which were addressed in this study. Risk perception is a complex construct and difficult to measure while consumers’ risk behaviour as part of a traditional consumer decision-

making model has been neglected. Theoretically, this study therefore aimed to clarify and describe perceived risk behaviour by adapting a recognised consumer decision-making model, inclusive of the main risk perception constructs. Moreover, this study is a pioneering effort to investigate risk perception of a specific wine varietal and there is no standardised measuring instrument to investigate wine risk perception on varietal level. Therefore, this study aimed to describe the methodology to develop and test a wine varietal-specific perceived risk measurement instrument.

1.7. AIM AND OBJECTIVES

Using a mixed methods research design, the aim of this study was to explore and describe consumers' perceived risks of Chenin blanc wine during retrospective, in-store decision-making of white wine. To reach the aim, a set of objectives was identified. Empirical objectives four to seven and the practical objective were developed based on the findings from secondary research and a qualitative phase which addressed empirical objective one.

Theoretical objective: To review previous wine risk perception research and integrate risk perception constructs within a recognised consumer decision-making model.

Empirical objectives:

1. To qualitatively explore consumers' risk perception of Chenin blanc wine.
2. To use qualitative data and risk perception theory to develop and propose a measurement instrument to investigate wine varietal-specific risk perception.
3. To quantitatively test the reliability and validity of a wine varietal-specific risk perception measurement instrument.
4. To quantitatively explore and describe consumers' perception of Chenin blanc within the South African white wine category according to risk driver variables.
5. To explore and describe the most severe Chenin blanc risk dimensions.
6. To explore and describe differences in Chenin blanc perceived risk across age and ethnic groups.
7. To explore and describe the use of a wine varietal as risk-reducing strategy (RRS).

Practical objective: To recommend strategies to reduce Chenin blanc perceived risks

1.8. SYNOPSIS OF RESEARCH METHODOLOGY

An exploratory sequential mixed methods research design (Creswell, 2014:225) was followed in this study (Figure 1.1). As this study was a novel attempt to investigate wine varietal-specific perceived risk, a similar research design of a previous product-specific study (McCarthy & Henson, 2005), outside the scope of wine, was adopted. An initial qualitative phase was required to explore consumers' Chenin blanc perceived risk. Semi-structured interviews were used to gather qualitative data from a small sample (n=8) of wine consumers until data saturation was reached. At the point of interface, qualitative data, in combination with theory, were used to develop a measurement instrument, conceptual framework and hypotheses for this study.

The questionnaire was pilot tested (n=62) where after Cronbach alpha coefficients were used as indicators of internal reliability. Some amendments were made to improve internal reliability prior to main data collection. Due to the heterogeneity of the South African population, one of the aims of this study was to describe differences in perceived risk behaviour across age and ethnic groups. Therefore, a large sample size was required to gather data during the core quantitative phase. An online survey was used to collect quantitative data from a sample of convenience with respondents included according to the following criteria: (1) South African citizens of (2) legal drinking age (18+) who had to (3) at least be aware of Chenin blanc and (4) buy white wine at least occasionally.

Over a period of seven months, a total of 2051 usable questionnaires were retrieved which includes responses gathered from a snowball sampling technique (n=631) and a large market research company (n=1420). Quantitative data were statistically analysed using descriptive and inferential statistics. Confirmatory Factor Analysis (CFA), Structural Equation Modelling (SEM), tested construct validity while Heterotrait-Monotrait (HTMT) ratio of correlations tested discriminant validity of the measurement constructs. In total, ten construct measurement items below the reliability and validity thresholds, as indicated in Chapter 6, were removed. After the removal of the items, a third-round reliability analysis and second-round CFA, SEM were conducted, and is reported on in Chapter 6 and 7. In addendum B, the results of the second-round CFA models are presented.

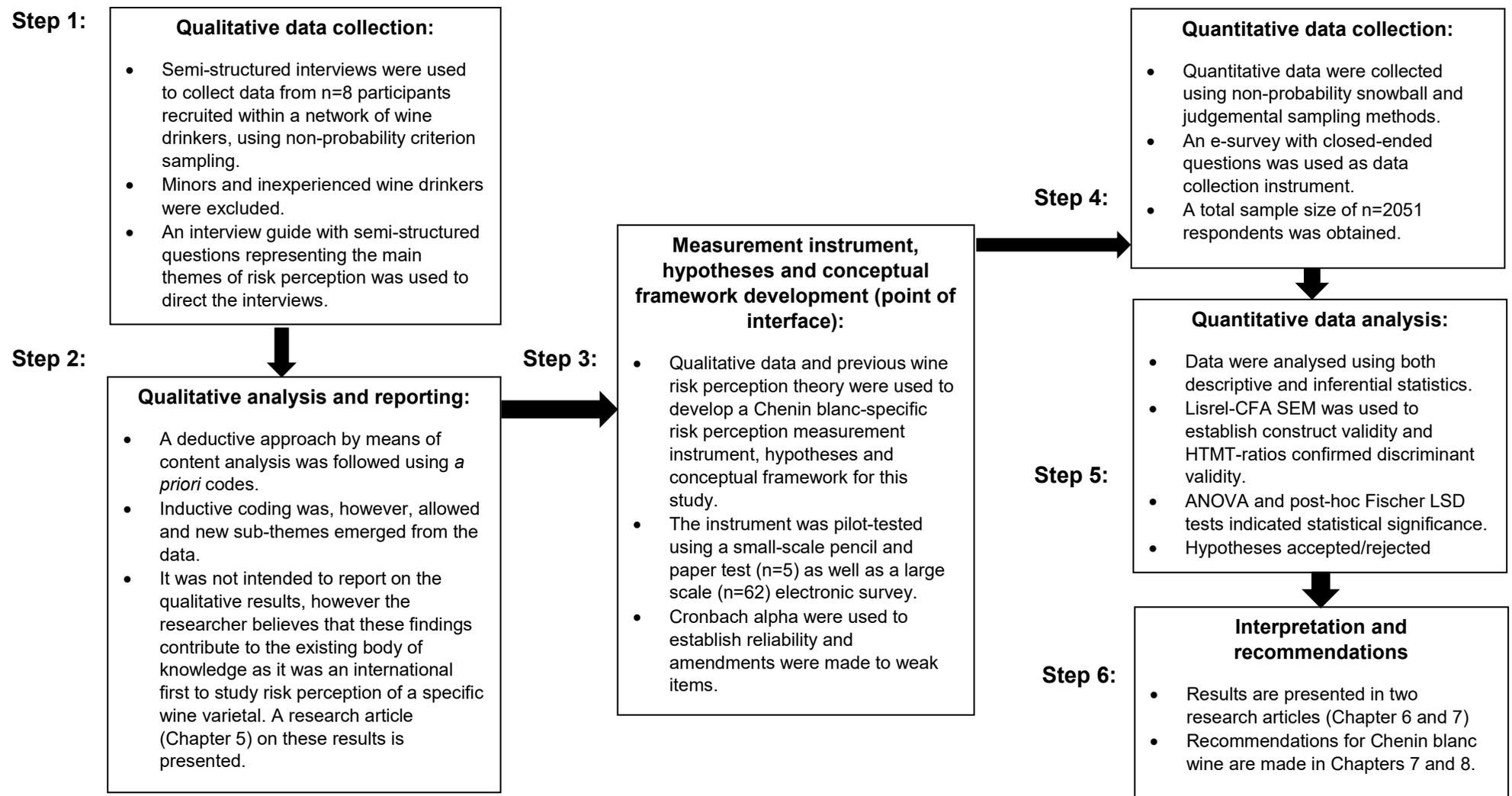


Figure 1.1. Flowchart of the procedures in the exploratory sequential mixed methods approach used in this study (adapted from Creswell, 2014:220)

Analysis of Variance (ANOVA) and post-hoc Fischer Least Significance Difference (LSD) indicated statistical significant differences at 95% confidence intervals which tested the following set of hypotheses:

H1. There are significant differences between Chenin blanc and the white wine category in terms of:

H1.1. availability

H1.2. lack of self-confidence

H1.3. risk-taking behaviour and

H1.4. perceived amount of information available

H2. There are significant differences between Chenin blanc and other white wine varieties in terms of:

H2.1 quality

H2.2 consumer experience and

H2.3 goodness-of-fit for occasions

H3. Functional risk is a significantly more severe perceived risk than financial risk in the case of Chenin blanc wine

H4. Financial risk is a significantly more severe perceived risk than functional risk in the case of Chenin blanc wine

H5. There are significant differences between age groups' Chenin blanc perceived risk

H6. There are significant differences between age groups according to perceived risk dimensions

H7. There are significant differences between ethnic groups according to Chenin blanc perceived risk

H8. There are significant differences between ethnic groups according to perceived risk dimensions

H9. Sauvignon blanc is a significantly more important RRS than well-known brands

H10. Sauvignon blanc is a significantly more important RRS than price

H11. There are significant differences between the importance of Chenin blanc RRS

1.9. OUTLINE OF DISSERTATION

This dissertation consists of 8 chapters and is structured as outlined below:

Chapter 1 provides a background to the study as well as the problem statement, scope of research, aim and objectives with a synopsis of the research methodology.

Chapter 2 reviews the South African wine landscape, highlighting opportunities for Chenin blanc wine.

Chapter 3 proposes an adapted consumer-decision making model, inclusive of risk perception constructs in a review article.

Chapter 4 provides a discussion of the research methodology, including the population, sample and sampling techniques as well as data collection and analysis in the qualitative and quantitative phase. The hypotheses and conceptual framework of this study are also presented in this chapter.

Chapter 5 is a research article on the qualitative results of this study that explored consumers' Chenin blanc perceived risk.

Chapter 6 presents an exploratory sequential mixed methods article to develop a wine-varietal perceived risk measurement instrument, inclusive of reliability and validity testing.

Chapter 7 is a research article based on qualitative and quantitative results to describe Chenin blanc perceived risk. Some risk-reducing recommendations are made for Chenin blanc wine.

Chapter 8 concludes this dissertation with a summary of findings, further recommendations for Chenin blanc wine, study limitations, directions for future research and novel contributions.

1.10. AUTHORS' CONTRIBUTIONS AND DECLARATION

A number of researchers were involved in the planning and execution of this study. Each researcher's role is outlined in Table 1.2.

Table 1.2. Authors' contribution

Author	Contribution
Mrs. N. van der Colff	PhD candidate, main investigator and author.
Dr. H.H. Nieuwoudt	Supervisor, project administrator and advisor on oenology.

Dr. C.D. Pentz	Co-supervisor and advisor on consumer behaviour and strategic marketing.
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The supervisor and co-supervisor also co-authored the five unpublished manuscripts produced from this study. The declaration below confirms their contributions, also giving permission to include the unpublished manuscripts in this dissertation.

I declare that I have approved the unpublished manuscripts included in this dissertation, that my role in the study, as indicated above, is representative of my actual contribution, and that I hereby give my consent that it may be published as part of the Doctor of Philosophy Agricultural Sciences of Mrs N van der Colff.

N. van der Colff
PhD candidate and author

Dr. H.H. Nieuwoudt
Supervisor and co-author

Dr. C.D. Pentz
Co-supervisor and co-author

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CHAPTER 2
LITERATURE REVIEW ARTICLE 1:

**THE UNTAPPED POTENTIAL OF SOUTH AFRICAN CHENIN BLANC
WINE: A CONSUMER MARKET FOCUS**

Written according to the guidelines of Management Dynamics

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TITLE: THE UNTAPPED POTENTIAL OF SOUTH AFRICAN CHENIN BLANC WINE: A CONSUMER MARKET FOCUS

ABSTRACT

South Africa is a large wine producing country, with ironically, a low per capita wine consumption. Significant amounts of South African wine are exported, yet, robust competition from other large wine producing countries and a global wine surplus lead to an unstable international demand. Some industry role-players believe that South African Chenin blanc, the most planted wine grape variety, holds potential to become South Africa's flagship wine. Currently, expensive Chenin blanc of exceptional quality are produced, which might only be appreciated by small high-end niche markets. However, domestic sales of bottled Chenin blanc wine appears to be low. Therefore, due to the large amount of Chenin blanc wine available, this article aims to review the South African wine landscape, highlighting opportunities for Chenin blanc in the untapped domestic market. Previously, very few research efforts have been made to gain insights to support the development of the domestic wine market.

INTRODUCTION

South Africa has a rich wine history and the first wine grapes were planted by Dutch colonialists in the 17th century already (James, 2013). In 2017, South Africa was the 8th largest wine producing country (SAWIS, 2017), also a large contributor to employment in wine producing regions (WESGRO, 2017). However, the South African wine industry is relying quite heavily on international demand as 48% of total wine produced is exported (SAWIS, 2017). According to the Cape Town and Western Cape Tourism, Trade and Investment (WESGRO) report, key challenges for South African producers are a global wine surplus as well as instability of international demand (WESGRO, 2017). It is, therefore, sensible to stimulate local demand for wine and engage in efforts to cultivate a previously lacking wine culture in South Africa. As part of the "Brand SA" strategy driven by the Wine Industry Strategic Exercise (WISE), wine market development and promotion have recently been identified as key pillars for growth of the South African wine industry (The Moss Group, 2015). Yet, from a consumer market perspective, academic and industry research on South African consumers' wine perception and consumption preferences is lacking. This paper aims to review

the current wine landscape in South Africa, highlighting growth opportunities for especially Chenin blanc wine, South Africa's most planted wine grape, yet seeming lesser preferred wine varietal. This paper also reviews previous consumer wine research, emphasising the value of consumer insights, not only for market development, but also for innovation in wine production to deliver according to consumer needs.

WINE PRODUCTION IN SOUTH AFRICA

South Africa, a large wine producing country, supplies 4% of the world's wine (SAWIS, 2017). Wine is mostly produced in the Western Cape province at a latitude of 34° South with a climate suitable for viticulture (WESGRO, 2017). Production areas are divided into ten major regions with Stellenbosch (16.1%), Paarl (16%), Bredekloof (13.7%) and Robertson (13.7%) accounting for 60% of wine grape vineyards (SAWIS, 2017). The South African wine landscape is characterised by diversity in terms of many different white and red grape varieties (Table 1) (SAWIS, 2017), used for a variety of wine styles including dry, semi-sweet, sweet, noble late harvest, fortified as well as sparkling wines (James, 2013). Wine, therefore, refers to a diverse category, where "still wine" includes only non-fortified and non-sparkling wine (SAWIS, 2017).

South African wine producers' income is largely dependent on international and domestic sales of "still wine", and slightly more "still wine" is exported than sold locally (SAWIS, 2017). South African wine is labelled using the wine varietal name as significant differentiator, rather than region of origin, as in "old world" European wine producing countries (James, 2013). "Varietal" refers to the grape variety (Valente *et al.*, 2018), such as Chenin blanc, used to produce the wine, which should be at least 85% to allow a single varietal label claim on the wine bottle (SAWIS, 2014).

In South Africa, certified wine is produced in compliance with the Wine of Origin Scheme. Therefore, a certification seal on the wine bottle confirms adherence to quality standards in terms of origin, varietal and vintage, as determined and assessed by the Wine and Spirits Board (SAWIS, 2017). However, according to some analysts, South African wines have traditionally struggled in the international market due to low price points and a reported dislike of the overt wood matured red wines and excessive acidic white wines (James, 2013). Following South African winemakers' commitment to improve wine quality, exports increased substantially, yet with robust competition from Australia, New Zealand and Chile, international demand is

unstable (WESGRO, 2017). Some critics argue that the best South African wines are white wines, which gained international appreciation from niche markets. The Bordeaux-style white blend of Sauvignon blanc and Sémillon, produced from grapes grown in cooler areas (James, 2013), as well as South African Chenin blanc, produced from older vines in warmer climates, are acknowledged for exceptional quality (IGWS, 2016a).

Table 1. Total percentage hectare distribution of main wine grape varieties in SA (SAWIS, 2017)

White variety	2010	2011	2012	2013	2014	2015	2016	2017
Chenin blanc	18.3	18.2	18.2	18.0	18.0	18.0	18.5	18.6
Colombar(d)	11.9	11.8	11.7	11.7	12.0	12.0	12.0	11.9
Sauvignon blanc	9.5	9.6	9.5	9.4	9.3	9.3	9.7	9.8
Chardonnay	8.2	8.1	7.9	7.7	7.4	7.4	7.2	7.1
Muscat d'Alexandrie	2.2	2.1	2.0	2.0	2.0	2.0	1.9	1.8
Sémillon	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Viognier	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Muscat de Frontignan (Muscadel)	0.7	0.7	0.7	0.8	0.8	0.8	0.9	0.9
Other white varieties	3.3	3.2	3.1	3.0	3.1	3.1	3.1	3.1
Total white varieties	56.0	55.6	55.1	54.6	54.6	54.6	55.2	55.2
Red variety								
Cabernet Sauvignon	12.2	12.0	11.8	11.7	11.5	11.5	11.1	11.0
Shiraz	10.0	10.3	10.5	10.5	10.5	10.5	10.4	10.3
Pinotage	6.2	6.5	6.9	7.2	7.4	7.4	7.4	7.4
Merlot	6.4	6.4	6.3	6.2	6.1	6.1	5.8	5.8
Ruby Cabernet	2.2	2.2	2.3	2.3	2.4	2.4	2.4	2.4
Cinsaut	2.0	2.0	1.9	1.9	1.9	1.9	1.8	1.9
Pinot noir	1.0	1.0	1.1	1.1	1.1	1.1	1.2	1.3
Cabernet Franc	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Other white varieties	3.0	3.1	3.3	3.5	3.6	3.6	3.9	4.0
Total red varieties	44.0	44.4	44.9	45.4	45.4	45.4	44.8	44.8

In terms of hectares planted and volumes produced, white wine varieties dominate the South African wine industry. In 2017, white wine grape varieties represented 55% of vineyards (Table 1), while 65% of all wine produced, was white wine (SAWIS, 2017). Chenin blanc, Colombar(d) and Sauvignon blanc respectively represent 23%, 20% and 8% of all wine grapes crushed for production purposes (SAWIS, 2017). More Chenin blanc (86.7%) and Colombar(d)

(93.5%) are crushed by producer cellars than Sauvignon blanc (55.7%) (SAWIS, 2017). Producer cellars are large cooperative companies that represent a number of market dominating wine brands (WESGRO, 2017). On the contrary, private cellars, i.e. smaller scale, individual wine-makers (WESGRO, 2017) crush more Sauvignon blanc wine grapes (32.1%) than Chenin blanc (10.6%) and Colombar(d) (6.4%) (SAWIS, 2017). Considering the latest report on wine exports, more Chenin blanc was exported in bulk (67.9%) than in the packaged format (32.2%) during 2017 (SAWIS, 2017). However, 14.7% more Sauvignon blanc was exported than Chenin blanc in the packaged format, which is indicative of the utilisation of the different varieties for wine production purposes.

Due to the high-yields and versatility of Chenin blanc and Colombar(d), (Table 1), these white wine grapes are also used for bulk and blended wines as well as brandy production (James, 2013). Although brandy has traditionally been a significant contributor to the South African wine industry (WESGRO, 2017), sales statistics over the last decade reveal a decline in brandy consumption especially in the domestic market, in favour of other trending spirits such as gin, whisky and vodka (SAWIS, 2017). Considering the large area under vines of especially Chenin blanc (Table 1) and the combined instability of international demand and decreased brandy consumption, alternative offsets for Chenin blanc need to be investigated to ensure a steady income for wine producers.

In 2014, the Wine Industry Strategic Exercise (WISE), was launched by a number of industry role-players aiming to ensure consistent profitability, international competitiveness and sustainability of the South African wine industry (WESGRO, 2017). A key focus of WISE is to increase sales of packaged wine over bulk wine, while market development, inclusive of the domestic market (WESGRO, 2017), known as the “Brand SA” initiative, is another priority (The Moss Group, 2015). Due the large amount of Chenin blanc grapes available and wine producers’ dedicated efforts to improve the quality of Chenin blanc wine, it is believed that Chenin blanc could become South Africa’s signature varietal (IGWS, 2016a). Efforts to stimulate consumer demand for Chenin blanc should therefore be considered a priority. In the following sections, the value of previous consumer insights for innovation in the wine industry is discussed followed by the history and characteristics of Chenin blanc, also highlighting research gaps and opportunities in the South African market.

THE SIGNIFICANCE OF CONSUMER INSIGHTS FOR INNOVATION IN WINE PRODUCTION AND MARKET DEVELOPMENT

The global food and beverage industry seems to have recognised the value of gaining consumer insights to supply a total product according to consumers' ever-changing expectations and preferences. However, there seems to be a general lack of consumer research relevant to South African wine in both industry as well as the academic environment. In contrast, some other wine producing countries such as Australia and the USA, have dedicated wine business institutions where industry-driven consumer research are canalised to wine producers (Lockshin and Corsi, 2012). For example, at the University of South Australia's Ehrenberg-Bass Institute for Marketing Science, academic researchers provide evidence-based insights to wine industry role-players about wine market dynamics and consumers' buying behaviour, as well as strategies for wine brand positioning (Ehrenberg-Bass Institute for Marketing Science, n.d.). Following are some examples of wine product development initiatives, in response to changing consumer demands.

There are indications that internationally, wine consumers are becoming increasingly concerned about high alcohol content in wine due to health consciousness and social concerns (Theron, 2015). Therefore, in response to the demand for lower alcohol wines, New Zealand wine producers, in partnership with their government, are currently experimenting with viticultural and cellar techniques to reduce alcohol content in wine. Modifications to common techniques such as lower leaf-grape ratios, Botrytis and harvest time alternatives, as well as the exclusion of alcoholic fermentation are considered amongst others (Theron, 2015). Likewise, in Argentina a preliminary experiment has been done to substitute added sulphur dioxide (SO₂), a common consumer offender (Costanigro, Appleby, and Menke, 2014), with resveratrol as anti-microbial agent in Cabernet Sauvignon through a new vinification process (Pastor, Gargantini, Murgo, Prieto, Manzano, Aruani, Quini, Covas and Iermoli, 2015). Unlike SO₂, consumers perceive resveratrol as healthy which would most likely result in a lower perceived risk during the wine purchase process. However, in a sensory preference/acceptance test, consumers will not necessarily be able to distinguish between wine with added resveratrol and wine with added SO₂ (Parr, Mouret, Blackmore, Pelquest-Hunt, and Urdapilleta, 2011; Ballester, Patris, Symoneaux and Valentin, 2008). Consumers would rather acquire their reassurance through extrinsic packaging cues at the point-of-purchase and through other advertising efforts from the producers (Williamson, Lockshin, Leigh Francis, and Loose, 2016;

Sáenz-Navajas, Ballester, Peyron and Valentin, 2014; Mueller, Lockshin, Saltman and Blanford, 2010).

As consumers only evaluate intrinsic wine properties based on extrinsic cues such as label information (Atkin and Johnson, 2010), a collective research effort from all industry role players are needed to ensure that the total product offering is supplied and communicated effectively. Ultimately, consumers are the end users of a food and beverage product, hence their voice is vital not only for marketing purposes, but for production purposes as well (Williamson *et al.*, 2016). Peter and Olsen (2005) argue that a producer's whole organisational plan should be based on consumer research and success often depends on a thorough understanding of consumers.

In a country such as South Africa with a diverse population, consumer research is even more important to ensure consumers from the different segments' needs and expectations are being met (Schiffman, Kanuk, Brewer, Crous, du Preez, Human, Jansen van Rensburg, Raninger, Tshivhase, Shosbree and Ungerer, 2014). Immense effort can be put into production processes such as wine-making, which can become costly and ineffective when information on e.g. product attributes are not communicated effectively to the intended user (Mpinganjira, Dos Santos, Botha, Du Toit, Erasmus, Maree and Mugobo, 2014). In the context of wine in South Africa, it can be argued that perhaps too much of the Eurocentric (French) wine culture and jargon such as technical sensory descriptors and food pairing suggestions might have been inherited without adopting it to successfully reach the diverse and overwhelming majority of Afrocentric consumers. However, the local wine market has seen some growth in recent years with new interest and an increase in wine consumption amongst the upcoming black middle class (Kew, 2015).

An isolated, but successful endeavour from the renowned South African wine producer, Distell, emphasises the importance of consumer research and the growth potential of the local wine market. After some extensive research on local consumers, Distell recognised an opportunity for sweeter style wines to specifically target the segment of young urban South African females. Consequently, wine producers from Distell responded firstly with a sweet Rosé and later also sweet red and white wines (4th Street, 2016). Distell launched its sweet style wines under the "4th Street" brand in 2009 with unconventional packaging and branding accurately reflecting young urban South African females' aspirational needs of sophisticated lifestyles (Holtzkampf, 2015) rather than providing technical sensory descriptions. For the period 2010-

2015, the Rosé market showed some significant growth in the medium price sector range (R19-R32 per bottle), most likely due to 4th Street (Holtzkampf, 2015). The local wine market furthermore showed a significant increase of 7,7% in volume from 2014 to 2015 and according to Holtzkampf (2015) this growth was largely attributed to new sweet red and Rosé wines, such as 4th Street which grew by 150% in the same period.

The case of 4th Street is unfortunately one of only a few local wine product development efforts based on consumer research, but with many diverse consumer segments in South Africa (Mpinganjira *et al.*, 2014) numerous more research endeavours should be pursued. There seems to be a general lack of consumer research relevant to South African wine in both industry as well as the academic environment with few scientific publications on South African consumers' wine-related decision-making. Some studies were conducted in tasting rooms only using blind versus sighted assessments to report on the influence of extrinsic cues on intrinsic quality assessment (Priilaid, Barendse, Kato-Kalule, and Mubangizi, 2013; Priilaid, 2007; Priilaid, 2006) while Engelbrecht, Herbst and Bruwer (2014) focussed on the single extrinsic label cue of region-of-origin as a potential marketing strategy. Beneke, Cumming and Jolly (2013) explored the effect of item reduction on assortment satisfaction of red wine in the online environment and Ndanga, Louw and Van Rooyen (2010) reported on potential markets for wine with specific reference to the emerging middle class.

These previous investigations should be lauded, but in the greater context of consumer behaviour, efforts are fragmented with a lacking focus on retail purchase behaviour. With a heterogeneous population characterised by first world as well as third world characteristics and eleven national languages (Martins, 2012) one could expect that large variances in local consumers' wine related behaviour might be present. Therefore, more research enquiries are needed to segment, understand and grow the local market (The Moss Group, 2015).

WINE CONSUMPTION IN SOUTH AFRICA AND OPPORTUNITIES FOR CHENIN BLANC

With a population of close to 60 million people (STATS SA, 2018), South Africa has a low per capita wine consumption (7.8ℓ) when compared to some of the other large wine producing countries such as Italy (37.8ℓ), France (36.8ℓ) and Australia (23.6ℓ) (SAWIS, 2017). For South Africans, wine is much lesser preferred than beer that owns 76% of the total alcoholic beverage volume market share (SAWIS, 2017). Clearly, South Africa, a beer drinking nation, does not

have an established wine drinking culture. An earlier study (Mitchell and Greated, 1988) on British consumers' wine behaviour reminds very much of the current slow growing wine market in South Africa.

In the 1980's, the United Kingdom (UK) did not have a wine drinking culture, also characterised by a low per capita consumption of wine. Mitchell and Greated (1988) highlighted that "perceived risk" could be the reason for the sluggish growth of the wine market during that time. Generally, consumers are known to experience significant amounts of uncertainty, i.e. perceived risk during wine decision-making due to the large number of available alternatives to choose from, highly technical back label information, the inability to taste wine prior to purchase and wine's relatedness to occasion-specific consumption (Bruwer, Fong and Saliba, 2013; Atkin and Johnson 2010). This multiplicity of variables during wine decision-making leaves consumers uncertain about the goodness-of-fit for e.g. a menu or friends' and family's wine preferences (Lockshin and Corsi, 2012; Spawton, 1991; Mitchell and Greated, 1988). Consequently, marketing strategies to reduce consumers' wine risk perception is popular amongst wine business researchers as it provides direction for price points, promotions and other product related decisions such as intrinsic characteristics, packaging and distribution (Atkin and Thach, 2012; Johnson and Bruwer, 2004; Spawton and Bourqui, 1997; Mitchell and Greated, 1989). In the case of UK consumers, recommendations were made to reduce consumers' wine risk perception using marketing strategies inclusive of wine tastings, taste descriptors, and recommendations from informal sources such as friends and families (Mitchell and Greated, 1989).

Ironically, today, the UK is by far the largest importer of South African wines (SAWIS, 2017) and has a considerably higher per capita consumption (20.6ℓ) than South Africa (Statistica, 2018). Therefore, the case of the UK wine market indicates that the development of a wine market, with a previous low per capita consumption, is possible. However, dedicated efforts from all industry role-players to actively engage in research efforts to understand and grow the local wine market is required. Considering current wine sales in the domestic market, the 750ml glass bottle category is the largest contributor to producers' income followed by 5 litre bag in box wine (SAWIS, 2017). A distinction is furthermore made between off-trade consumption (e.g. wine sold in supermarkets and retail wholesalers) and on-trade consumption (e.g. wine sold at restaurants and hotels) (WESGRO, 2017). In South Africa, the majority of wine is sold

in the off-trade retail sector (62%) (Marketline, 2014) with almost 40% of all purchases occurring in supermarkets alone (WESGRO, 2017).

Although white wine grape varieties dominate in terms of production, it seems as if South African consumers rather prefer wine produced from red varieties. Within the total 750ml bottled wine category, more red wine (45%) is sold than white wine (37.5%) (SAWIS, 2017). Therefore, the white wine category per se requires some development and promotion in the domestic market. In terms of the different white wine varieties, Sauvignon blanc, Chardonnay and Chenin blanc are the largest contributors to national sales of white wine labelled and marketed according to the varietal name (excluding blended wines). However, when the sum of all bottled white wine volume sales per 750ml is considered, Sauvignon blanc (30.3%) seems to be most preferred while Chenin blanc only contributed 9.5% to national sales in 2017 (Figure 1) (SAWIS, 2017).

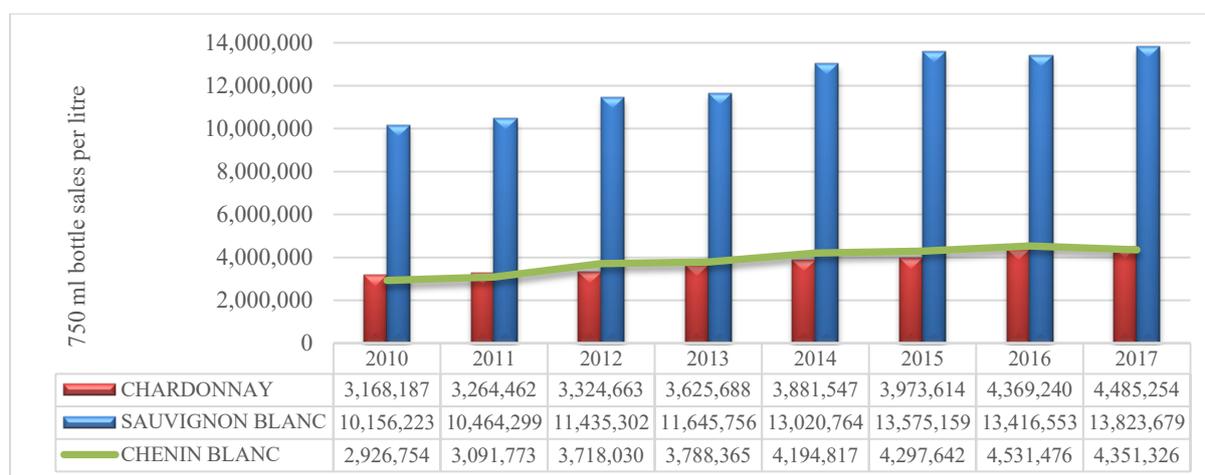


Figure 1. Sales comparison of the three main single white varieties sold per 750ml from 2010-2017 (SAWIS, 2017).

If it is assumed that the three main varieties represent 100% of domestic white wine sales (per 750ml) and vineyards, it furthermore becomes clear that Chenin blanc has a negatively skewed planted: sold/750ml ratio (2,6:1) when compared to Sauvignon blanc (0,44:1) and Chardonnay (1,2:1) (Figure 2) (SAWIS, 2016). This skewed ratio is probably due to the mass utilisation of Chenin blanc grapes for other purposes such as bulk wine supply and brandy production and fewer Chenin blanc is therefore used for the bottled wine category (Figure 2). However, statistics indicate that total grape crop utilisation for brandy production reduced by half in the last decade (SAWIS, 2016). Also, international demand for total litres of Chenin blanc as well

as brandy seems to be unstable (SAWIS, 2016). Therefore, considering the large potential buying power of the untapped South African market, opportunities for developing markets for Chenin blanc, specifically in the off-trade retail sectors where it is sold as a single variety in the 750 ml bottled format, should be pursued.

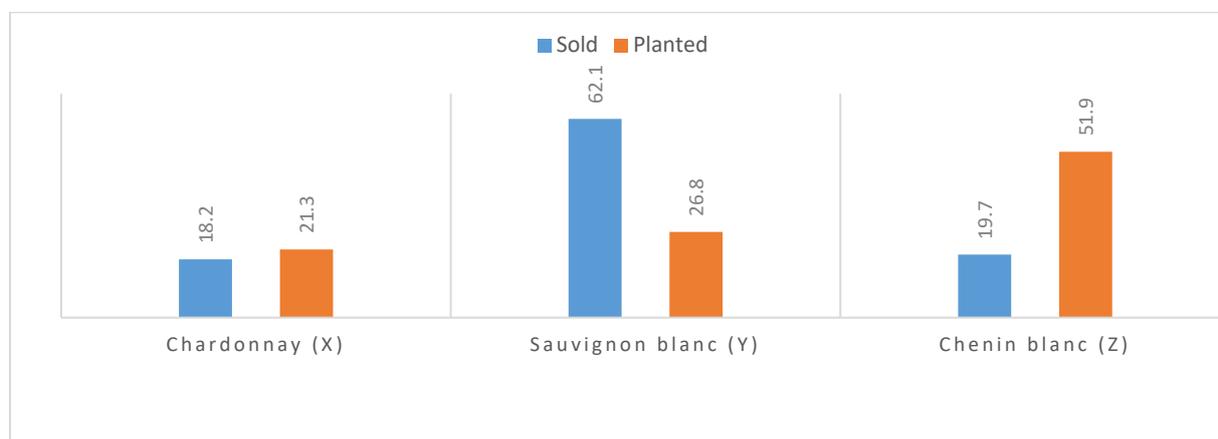


Figure 2. Planted and sold/750 ml ratios of the three main white varieties assuming that $X+Y+Z=100\%$ (SAWIS, 2016) .

Perspectives on Chenin blanc

Chenin blanc (*Vitis vinifera L.*), originally from the Loire valley in France, was one of the very first grape varieties brought to South Africa by Dutch colonial administrator and later Commander of the Cape, Jan van Riebeeck during the 17th century (John, 2011). Also known as Steen, Chenin blanc was reportedly popular amongst the early colonialists due to its rigidity against warmer climates and ability to deliver high yields (Clarke and Rand, 2007). For some time, Steen and Chenin blanc were recognised as two different grape varieties as Steen was believed to be unique to South Africa. However, in the 1960's it was confirmed (through research done by Stellenbosch University) that Steen is in fact Chenin blanc and the latter name was accepted thereafter (Chenin Blanc Association, n.d.).

Due to its high yields and aptitude to grow in South African terroir (van Niekerk and Burke, 2009), Chenin blanc soon became the “work-horse” (Loubser, 2008) utilised for mass production of brandy with less emphasis on wine quality (James, 2013). As the vines aged, several winemakers uprooted Chenin blanc vineyards as it was judged to no longer be economically viable due to reduced yields (Goode, 2013). Notwithstanding, Chenin blanc is still and by quite some margin, the most planted local variety as it covered 18.6% of the total area planted with wine grapes in 2017 (SAWIS, 2017). South Africa is also the largest producer of Chenin blanc globally, holding approximately half of all Chenin blanc vineyards in the world

with France, the U.S. (California) and Argentina some of the other significant producers (Robinson, n.d.).

Chenin blanc is an extremely versatile grape variety and is used to make dry, semi-dry, semi-sweet, sweet and noble late harvest wines, as well as sparkling wine, sherry and brandy (van Niekerk and Burke, 2009; Marais, 2003) ranging from premium to lower quality (Loubser, 2008). Contrary to some other white grape varieties, Chenin blanc grapes have a naturally lacking aromatic profile with only a few primary grape derived flavours (Marais, van Schalkwyk and October, 2005) mostly reflecting tropical guava fruit (Du Plessis and Augustyn, 1981). As a result, the flavour development of Chenin blanc largely depends on viticultural and oenological factors (Marais *et al.*, 2005) which could include late picking, oak maturation, the use of new oak, lees contact, malolactic and natural fermentation (Loubser, 2008; Marais *et al.*, 2005; Marais and Jolly, 2005). Van Antwerpen, (2012) concluded that variety in the flavour and style of Chenin blanc are mostly a result of variances in wine-making techniques and of a lesser degree due to the wines' region of origin. On the contrary, Chenin blanc is known to respond well to terroir (Goode, 2014) and due this responsiveness to climatic and soil conditions, wines from different regions have been reported to show stylistic differences (Clarke and Rand, 2007). Irrespective, the variances in wine-making techniques together with Chenin blanc wine grapes' natural adaptability result in quite a number of wine styles and flavour profiles, which often causes consumer uncertainty (Goode, 2012; Bester, 2011). According to a leading South African retailer, the variety in styles leaves consumers uncertain of what to expect of the sensory characteristics of Chenin blanc wine when it is not visibly indicated on the bottle label (Brower, 2009). In an effort to reduce consumer uncertainty, the Chenin Blanc Association (CBA) categorised Chenin blanc into six different styles according to residual sugar levels as indicated in Table 2.

Chenin blanc wines produced in the fresh and fruity style (Table 2) are mostly unwooded and tend to display sensory attributes of stone and tropical fruit as well as citrus (Bester, 2011). These wines are described as more crisp and is often produced from less ripe grape berries (Jones, 2014) harvested earlier from irrigated vineyards (Loubser, 2008). Richer and more complex Chenin blanc wines in the rich and ripe (Table 2) style typically offer sensory attributes such as almond and honey (Bester, 2011). These fuller bodied flavours are the result of one or a combination of riper grape berries, more time on the lees, malolactic fermentation, wood contact and the presence of botrytis on the grapes (Jones, 2014; Hanekom, 2012; Van Antwerpen, 2012; Loubser, 2008).

In a recent publication (Valente *et al.*, 2018), based on a lattice analysis of varietal sensory descriptors, a complex set of Chenin blanc attributes was reported for the unwooded category. Moreover, after modelling over 500 sensory descriptors, a large overlap of sensory attributes was observed between Chenin blanc and Sauvignon blanc. This reported overlap in sensory attributes between Sauvignon blanc and Chenin blanc could further add to consumer uncertainty, perhaps not being able to clearly differentiate between the two varieties. More research is therefore needed to differentiate and profile Chenin blanc wine.

Table 2. A classification of Chenin blanc styles (Chenin Blanc Association, 2016.)

Style	Key indicator (Residual sugar)
Fresh and Fruity	Less than 9g/ ℓ
Rich and ripe – unwooded	Less than 9g/ ℓ
Rich and ripe – wooded	Less than 9g/ ℓ
Rich and ripe – slightly sweet	Between 9 and 30 g/ℓ residual sugar)
Sweet	More than 30 g/ℓ residual sugar
Sparkling (Tank fermented or Cap Classique)	Sweet-Dry

South Africa is host to a large collection of “old vine” Chenin blanc vineyards (Rudman, 2010) which primarily grow in the warmer Swartland and Paarl regions (Goode, 2013). For a vine to be classified as “old”, it should be at least 35 years of age, while reportedly, some Chenin blanc vineyards are estimated to be around 100 years old and still deliver a yield to enable the production of quality wines (WOSA, 2013; Rudman, 2010). Many of these older vines which were previously used for delivering high quantities now offer excellent quality grapes which could be attributed to the natural changes that occur as vines age (Goode, 2013). The most significant change is a lower, but more concentrated and aromatic yield which results in wines with great complexity (John, 2011). These wines produced from “old vines” are often sold at higher prices when compared to other Chenin blanc wines on offer in the marketplace (John, 2011), yet it is considered to only be appreciated by a small market segment of wine connoisseurs (James, 2013).

South African Chenin blanc wines are increasingly being commended on international platforms. In 2010, only 10 awards were handed to South African Chenin blanc wines at the IWC (International Wine Challenge) which steadily increased each year thereafter to 41 awards in 2016, including one trophy and two gold medals (IWC, 2016). Chenin blanc, especially those produced from old vines, is said to have the potential to become South Africa's flagship wine on the international arena (Goode, 2014; John 2011). The Chenin Blanc Association (CBA) has its aim set on establishing Chenin blanc as a distinct white wine category while promoting it to indeed become South Africa's flagship variety. In support of the CBA's aim, the Institute for Wine Biotechnology (IWBT), Department of Viticulture and Oenology (IWBT-DVO), Stellenbosch University, is acutely involved in Chenin blanc-specific research. To date, the majority of research included chemical and sensory profiling of different Chenin blanc wine styles (Weightman, 2014; Hanekom, 2012; Lawrence, 2012; Van Antwerpen, 2012; Bester, 2011). More recently, the Chenin blanc effort expanded and a task team was appointed with representatives of Winetech, the CBA, the IWBT, Wines of South Africa (WOSA), SAWIS as well as producers and viticulturists. Therefore, South African wine industry role players are committed to endorse Chenin blanc through a variety of initiatives such as the preservation of old vines, improvements in vineyard management and oenological methods used in Chenin blanc production (IGWS, 2016a). One of these more recent endeavours include, a previously lacking, consumer research focus to enable an understanding of consumers' wine related behaviour concerning Chenin blanc. Such research is certainly needed as the local bottled Chenin blanc sales per 750ml might indicate that it is currently not a favoured choice of white wine amongst many South African consumers (Figure 1) (SAWIS, 2017).

Consumer risk perception and its relevance for Chenin blanc wine

According to the Institute for Grape and Wine Sciences (IGWS) at the Stellenbosch University, ineffective communication from the producers' side and a lack of interest from the local market is a dual challenge for the growth of Chenin blanc (IGWS, 2016b). Partial ignorance or a lack of interest in a product is closely related to the concept of perceived risk in consumer behaviour theory (Mitchell, 1999). From a consumer behaviour and marketing perspective, other related concepts such as a negative attitude or low quality perception could also explain why some consumers do not buy a product (Schiffman *et al.*, 2014; Barber and Taylor 2013). However, previous consumer researchers identified risk perception as a "critical element" of wine

decision-making (Spawton, 1991) as it is judged to be a key construct when an improvement in sales are sought-after (Mitchell, 1999) as in the case of Chenin blanc. Risk perception is specifically linked to consumers' pre-purchase decision-making situation (Tian-Que, 2012) which distinguishes this concept from other consumer behaviour themes such as quality perception which are formed during both pre-purchase and post-purchase phases of the consumer decision-making process (Schiffman *et al.*, 2014; Sáenz-Navajas, Campo, Sutan, Ballester and Valentin, 2013). It is understood that investigations into consumers' perceived risk also offer an explanation of why consumers do not purchase a product (Tian-Que, 2012) and perceived risk is therefore seen as a sales barrier (Ram and Sheth, 1989), also in the case of wine (Outreville and Desrochers, 2016). Therefore, risk perception could be an appropriate construct to use as theoretical underpinning for investigating the Chenin blanc problem: during the pre-purchase phases of searching and evaluating wines, most South African consumers of bottled white wine (per 750ml) do not move to the desired state - the act of purchase.

According to Bettman (1973) consumers are known to have heightened levels of perceived risk under the following conditions:

- consumers have insufficient information about a product category;
- consumers have little previous experience with brands of a product category;
- when a product is new;
- consumers lack self-confidence in evaluating brands;
- variations in quality between alternatives are evident;
- the price is high and
- the purchase is important to the consumer.

When taking the abovementioned "conditions of risk perception" into consideration, it can be anticipated that some South African consumers perceive risk when confronted with Chenin blanc in a purchase situation. South African consumers might have limited information (IGWS, 2016b) or lacking experience of Chenin blanc while the variety in sensory characteristics (Goode, 2012; Bester, 2011), previous lower quality "work-horse" perception (James, 2013) and variances in price and quality (e.g. high priced and good quality wines from old vine Chenin blanc versus low priced Chenin blanc) (John, 2011) could all add to consumer uncertainty. However, these aforementioned assumptions of consumers' uncertainty about

Chenin blanc are industry perspectives and it is known that consumer and industry perspectives of risk differ (Gaskell, Allem, Wagner, Kronberger, Torgersen, Hampel and Bardes, 2004). Producers tend to assess and manage risk technically using actuarial and scientific parameters, while consumers include subjective and contextual criteria (Hagemann and Scholderer, 2009). Yet, without researching risk perception from the consumer perspective, industry specialists might even elicit more uncertainty during their communication efforts to reduce, what they assume consumers perceive as risks (Hagemann and Scholderer, 2009; Gaskell *et al.*, 2004). Research is therefore needed to investigate perceived risk of Chenin blanc wine from the wine buyer's perspective.

CONCLUSION

With a highly competitive and unstable international market, dedicated efforts are required to develop the South African wine market. Ironically, South Africa is a large wine producing country without a wine drinking culture. However, with a population of close to 60 million people, there are certainly opportunities to attract new wine consumers in a market where beer currently dominates. As wine is known to elicit uncertainty amongst consumers, research is needed to first understand the heterogeneous South African consumer market's wine-related needs and perception. Yet, contrary to other large wine producing countries, research on South African wine consumers' behaviour is lacking. Previously, the study of perceived risk (consumers' uncertainty in a wine purchase situation) contributed to identify growth barriers in the slow growing UK market in the 1980's, which today, is the largest importer of South African wines. Considering consumer and market research of wine, the study of risk perception is regarded as supreme for marketing strategy development and to improve wine sales and should therefore be considered in South Africa.

A scrutiny of the current South African wine landscape revealed that white wine grape varieties dominate, yet local consumers tend to prefer red wine. Therefore, to match wine producers' supply, marketing efforts should involve the promotion of white wine amongst South African consumers. Considering the availability of South African white wine varieties, Chenin blanc seems to have potential for improvement, especially in the 750ml bottle category. Chenin blanc grows abundantly in South African terroir and is used for brandy making as well as blended wines. However, in terms of 750ml bottle sales, the largest contributor to South African wine producers' income, significantly more Sauvignon blanc is sold in the domestic market.

Therefore, a research focus beyond the scope of sensory profiling is needed to help establish Chenin blanc as a preferred white wine varietal amongst South African consumers.

Gaining consumer insights is essential for strategic decision-making when modifications and repositioning of a product, as in the case of Chenin blanc are considered. Currently, there are concentrated efforts from wine producers to specifically improve the quality of Chenin blanc. Especially Chenin blanc produced from old vines are of exceptional quality, yet fairly expensive and perhaps a too risky choice in an underdeveloped wine market. Consumer research is therefore critical to identify and manage growth barriers for Chenin blanc and to ensure that wine-making efforts are in accordance with local consumer needs. An inquiry into consumers' risk perception could be key in identifying the reasons consumers do not regularly prefer Chenin blanc as a single variety white wine. Marketing strategies can be developed to reduce consumers' Chenin blanc-related risks, based on primary insights from consumers, rather than on industry assumptions.

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CHAPTER 3
LITERATURE REVIEW ARTICLE 2:

**INTRODUCING AN ADAPTED CONSUMER-DECISION MAKING
MODEL: RISK PERCEPTION APPLIED IN WINE RETAIL
PURCHASING**

Written according to the guidelines of Food Quality and Preference

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Title: Introducing an adapted consumer decision-making model: risk perception applied in wine retail purchasing

Abstract

In this article, an adapted model of the consumer decision-making process is proposed. Little evidence from theory could be found where risk perception has been illustrated to be part of the conventional consumer decision-making process. However, due to the previously reported complexities of risk perception constructs, this paper aims to review and describe risk perception in consumer decision-making. Although risk perception constructs and measurement remain debated, practical contributions such as strategies to reduce consumer risk, seem to be prioritised above the clarification of the related affective and cognitive processes involved in the decision-making process. Risk perception investigations are popular in consumer and marketing studies, especially in categories such as wine, considered a high risk purchase on the spectrum of food and beverage decisions. Therefore, in a review of previous wine risk perception studies, this paper frames risk perception within a conventional consumer decision-making model, believed to contribute to the understanding of this complex phenomenon. The adapted consumer decision-making model can be used as theoretical framework, also outside the scope of wine. Based on the combined insights of previous wine risk perception research, and the context provided by the conventional consumer decision-making process, recommendations for future research on wine risk perception are made.

Keywords Consumer decision-making model, Disconfirmation paradigm, Risk perception, Wine retail purchases.

Paper type Review paper.

1. Introduction

Perceived risk is almost inherently part of wine decision-making (Bruwer, Saliba, & Miller, 2011; Spawton, 1991) and is regarded an obstacle to wine sales (Mitchell & Greator, 1988). Therefore, numerous studies identified perceived risks and suggested strategies to reduce consumers' risk in wine purchasing and consumption situations (Bories et al., 2014; Cho et al., 2014; Bruwer et al., 2017; Bruwer et al., 2013; Bruwer & Rawbone-Viljoen, 2013; Atkin & Thach, 2012; Celhay & Passebois, 2011; Lacey et al., 2009; Aqueveque, 2006;

Johnson & Bruwer, 2004). Although perceived risk is a popular research construct in consumer and marketing studies, its inherent complexities and consequent measurement remain debated and non-standardised approaches are often followed across several disciplines (Bruwer, Fong, & Saliba, 2013; Mitchell, 1999). Alike, there seems to be a lack of consensus on the perceived risk types and approaches to measurement in previous wine risk perception studies (Bruwer et al., 2013; Bruwer & Rawbone-Viljoen, 2013; Mitchell & Greatorex, 1988; Spawton, 1991).

After carefully analysing risk perception literature, there seems to be a lack of evidence suggesting the conceptualising of perceived risk constructs within a conventional model of consumer decision-making. The researchers believe that the inclusion of perceived risk, as part of a conventional consumer decision-making process (Engel, Blackwell, & Miniard, 1995), offer some explanatory power to clarify cognitive and affective processes in high risk decisions, such as wine selection. Therefore, this study aimed to conceptualise and discuss risk perception within a conventional model of decision-making. Due to the complexities of perceived risk and consequent measurement intricacies, the inclusion of perceived risk as construct within the consumer decision-making process might also be of value to researchers outside the scope of wine research. In addition, previous research on consumers' wine decision-making, inclusive of risk perception are reviewed and recommendations are made for future research on wine risk perception.

2. The basic elements of consumer decision-making

To reach a decision, consumers move through a process initiated by the recognition of a need (Schiffman et al., 2014) (Figure 1). Needs can be either innate or acquired, as identified in the well-known hierarchy presented by Maslow (Maslow, 1970). Innate needs are basic physiological needs, such as the need for food or housing while acquired needs include higher order needs such as the need for belonging and authority (Schiffman et al., 2014). Due to an unfulfilled need, consumers are motivated by their psychological tension and engage in efforts to reach the desired state where the need has been fulfilled (Hoyer, MacInnis, & Pieters, 2013). Needs are dormant and can therefore not be created, but only aroused by physiological states, such as hunger, affective and/or rational thought processes such as awareness of new knowledge and by external stimuli such as advertisements (Schiffman et al., 2014). After a need has been recognised, consumers continue to search for information, most often using a combination of internal and external sources (Figure 1).

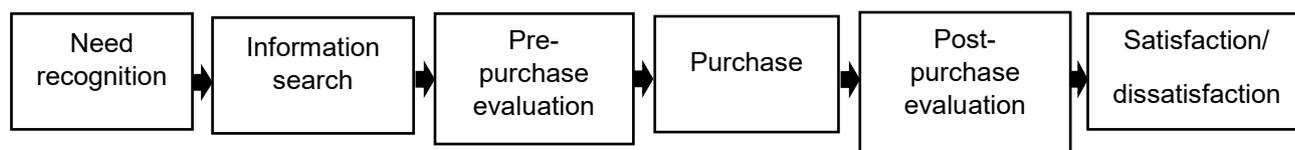


Figure 1. A basic model of the consumer decision-making process (adapted from (Engel et al., 1995).

Internal information is previously acquired information, most likely due to a similar buying and/or consumption experience. Therefore, in the case of a new product and/or experience, information retrieved from the memory will be limited and consumers would most likely engage in a more extensive external search for information (Schiffman et al., 2014). External sources of information typically include marketing stimuli, media communication as well as other consumers or professionals consulted for product information (Engel et al., 1995). Consumers typically consider information such as recommendations from their own reference groups more trustworthy than recommendations from sales assistants/marketers as the former has nothing to gain from providing the information (Schiffman et al., 2014). Once sufficient information has been gathered, consumers evaluate alternative (Figure 1) options based on criteria, i.e. desired and undesired attributes to fulfil a need (Hoyer et al., 2013). However, due to a large amount of stimuli, consumers often make use of heuristics, also known as cognitive schemata, i.e. mental shortcuts, which are strategies to reduce the decision-making complexity (Schiffman et al., 2014). At this stage, consumers tend to, albeit sometimes unconsciously, apply different decision-making rules to evaluate and enable a product choice. Some consumers might evaluate a small selection of alternative options, also known as the evoked set, based on individual attributes and choose the product based on the highest average score on all the attributes (Hoyer et al., 2013). A different decision-making rule to evaluate alternatives would be to eliminate all products from the evoked set with any perceived undesired attributes. Therefore, based on a rational perspective, consumers would then continue to purchase (Figure 1) the product where the benefits outweigh the undesired attributes (Schiffman et al., 2014).

After purchase and usage/consumption, consumers tend to once again engage in an evaluation of the selected product (Figure 1). During this post-purchase evaluation, consumers judge the actual performance (real experience) of the product against their pre-conceived expectations (Hoyer et al., 2013) (Figure 1). Expectations can be defined as an anticipated standard when approaching the decision-making process (Ha, 2006) and are formed mostly due to previous experience of the same or similar product (Schiffman et al., 2014). However, a

certain level of expectation can be created through marketing communication, competitor offerings in the same product class, as well as word-of-mouth (Erasmus & Donoghue, 1998; Hoyer et al., 2013). Yet, for each consumer, the level of expectation(s) might be different due to individual needs and situational factors such as when consumers perceive a price as high, they expect the quality of the product to be very good (Schiffman et al., 2014).

Based on this post-purchase/consumption evaluation of expectations and performance, consumers arrive at an affective state of satisfaction or dissatisfaction (Hoyer et al., 2013). In consumer behaviour literature, satisfaction is often explained by the (dis)confirmation paradigm (Oliver, 1980) using the constructs of expectations and perceived performance. According to the disconfirmation paradigm, three outcomes are likely during an evaluation of expectations versus actual performance (Oliver, 1980):

1. positive disconfirmation result when the perceived performance of the product is better than expected which would lead to satisfaction.
2. negative disconfirmation result when the perceived performance of the product falls below the customer's expectations which would lead to dissatisfaction.
3. confirmation occurs when perceived performance meets customer's expectations, which would lead to satisfaction.

Satisfied consumers tend to repeat purchases, participate in positive word-of-mouth, and when repetitively satisfied, brand loyalty and resistance towards other product alternatives could follow (Schiffman et al., 2014). Brand loyalty is the ultimate consequence of consumer satisfaction and many companies strive to create consistent positive product experiences so that the brand is associated with feelings of satisfaction (Johansson & Carlson, 2015). Hence, to establish brand loyalty, a process of consumer learning is required where the consumers' response can be considered conditioned towards the brand (stimuli) (Schiffman et al., 2014).

Although a basic model (Figure 1) offers an overview of the core sequential steps in consumer decision-making, it provides an over-simplified view of the complex decision-making process. Consumers are influenced by a wide range of factors, most commonly classified into internal and external influences that, in combination, determines consumer behaviour during the decision-making process (Mpinganjira et al., 2014). Internal influences include psychological factors such as individual motives, attitudes, perception, personality and knowledge while external influences relate to marketing stimuli/communication, culture, social class, reference groups and situation-specific circumstances (Schiffman et al., 2014). An

interplay between internal and external factors therefore largely direct and explain consumers' behaviour during decision-making. Although not usually illustrated as part of consumer decision-making models, risk as perceived by consumers, is another complex construct, known to influence decision-making, especially in the case of products that require higher levels of consumer involvement (Hoyer et al., 2013). Concerning consumers' food and beverage decision-making, inexpensive staple food products would typically require low involvement and is not associated with high amount of consumer risk (Hoyer et al., 2013; Lockshin & Cohen, 2011). However, on the other spectrum, products such as wine, which requires some amount of previous experience and product knowledge to evaluate a complex set of product attributes, often requires higher consumer involvement (Lockshin & Cohen, 2011). Therefore, wine is considered a product category that provokes significant amounts of consumer risk (Spawton, 1991).

3. Risk perception in consumer decision-making

In this section, the theoretical constructs of risk perception are reviewed, with pertinent reference to the pre-purchase phases of consumer decision-making. Perceived risk is therefore integrated into a traditional model of consumer decision-making (Figure 2) which provides insight to the affective and cognitive processes involved in consumer risk perception. Consequently, similarities between risk perception and the disconfirmation paradigm are highlighted. Lastly, the decision-making process, inclusive of risk perception constructs, are applied to wine retail decision-making.

3.1. Defining consumer perception

It is required to first consider the definition of perception as it provides context to the subjective nature of the perceived risk concept. Perception (Figure 2) per se can be defined as the process individuals follow to select, categorise and interpret stimuli into a comprehensible cognitive image (Hoyer *et al.*, 2013). Individuals however only select stimuli from their environment according to their own motives (e.g. aspirational), expectations (e.g. expect that the wine's sensory characteristics will be acceptable) and the nature of the stimuli (e.g. brand name/type of bottle closure). Human sensory receptors (organs such as eyes, nose and mouth) receive the stimulus separately or in combination during the product evaluation. After sensory stimuli have been selected, it is organised and interpreted to create meaning (Schiffman *et al.*,

2014). During this cortical process, consumers react to stimuli according to their own frame of reference i.e. already established cognitive schemata where related stimuli from previous experiences are cognitively categorised.

Medical scientists for example confirmed that exposure to stimuli that is perceived to be unpleasant due to previous experiences, result in fractioned neurological activation and causes negative affective reactions such as anxiety or uncertainty (Mpinganjira *et al.*, 2014). Therefore, when confronted with stimuli associated with previous negative information or experiences, some consumers might apply selective perception to block or ignore unfamiliar and unpleasant marketing stimuli to avoid negative emotions such as uncertainty (Schiffman *et al.*, 2014). On the contrary, when a product is perceived as being highly beneficial, lower levels of risk and consequent negative emotions are experienced (Ueland *et al.*, 2012). Thus, to select stimuli such as a familiar brand name, a certain level of awareness and/or previous positive evaluation is required, which reduces consumer risk perception in the decision-making process (Johansson & Carlson, 2015).

3.2. *The perceived risk concept*

Bauer (1960) firstly conceptualised risk in consumer behaviour. He argued that in any decision, risk is present as a two-dimensional phenomenon, later proposed in a two-component model of probability (P) and importance (I) by Cunningham (1967). Importance relates to the uncertainty of the severity of the consequences following a decision, i.e. the importance (I) of loss to the individual, while probability relates to the uncertainty a consumer perceives due to the likelihood (P) of a decision to be “incorrect” (Bauer, 1960). Perceived risk can therefore be broadly defined as “the uncertainty that consumers face when they cannot foresee the consequences of their purchase decisions” (Schiffman *et al.*, 2014). Thus, when risk is perceived prior to a purchase (Figure 2), consumers do not necessarily seek out benefits, but rather evaluate products based on anticipated negative consequences, i.e. performance failure which would result in dissatisfaction (Figure 2) (Peter & Olsen, 2005; Mitchell, 1999). Therefore, risk as perceived by consumers include an affective component, i.e. feelings of uncertainty as well as a cognitive component, i.e. evaluation and information seeking to a level of acceptable risk (Dowling & Staelin, 1994).

Bauer (1960) continued to conclude the obvious – that consumers purchase the product alternative that has the smallest amount of risk linked to it. A number of researchers confirmed

the negative correlation between a high risk perception and decreased product preference/purchase intention (or vice versa) (Beneke *et al.*, 2012; Kakkos *et al.*, 2015; McCarthy & Henson, 2005; Yeung & Morris, 2006). Perceived risk therefore offers an explanation of why consumers do not continue to the act of purchase (Figure 2) (Tian-Que, 2012) and can therefore be regarded as a purchase barrier (Ram & Sheth, 1989). However, individuals do not deal with risk in its entirety as an objective phenomena, but only according to what the consumer perceives, implying that risk behaviour is subjective (Bauer, 1960; Mitchell, 1999). Therefore, as a result of individual differences in consumers' personal circumstances, such as financial resources, and differing personality characteristics (Figure 2), such as an affinity for risk, the perceived intensity and risk tolerance varies amongst consumers (Conchar, Zinkhan, Peters, & Olavarrieta, 2004; Dowling & Staelin, 1994).

Due to the complexity of the perceived risk construct, multifaceted models of risk have been proposed considering numerous influencing factors, cognitive processes, antecedents and consequences (Conchar *et al.*, 2004; Dowling & Staelin, 1994; Mitchell, 1999). Yet, the measurement of the perceived risk construct remains challenging and non-standardised due to the inherent complexities (Bruwer *et al.*, 2013; McCarthy & Henson, 2005; Mitchell, 1999). From the literature, there seems to, at least be consensus about the position of risk perception within a typical consumer decision-making process. Risk is perceived during the pre-purchases phases of consumer decision-making (Figure 2) and involves an evaluation as well as information search in efforts to reduce risk (Conchar *et al.*, 2004; Mitchell, 1999; Peter & Olsen, 2005).

3.3. Risk perception in the consumer decision-making process: expectations versus anticipated performance?

It has previously been recommended that perceived risk constructs should be integrated into a conventional consumer decision-making model (Conchar *et al.*, 2004). However, after a careful evaluation of risk perception literature, there seems to be little evidence thereof in applied consumer risk perception studies. Also, it has been recommended that further research should be done to investigate the conceptual links between expectations, satisfaction and risk perception constructs, as they are believed to be closely related (Conchar *et al.*, 2004; Simcock, Sudbury, & Wright, 2006). Establishing connections between these aforementioned constructs might be valuable, as the measurement of expectations and satisfaction seem to be less complex

than the measurement of perceived risk. Figure 2 is a consumer decision-making model, adapted from the renowned model of Engel et al. (1995), with the main risk perception constructs included as part of the pre-purchase decision-making process.

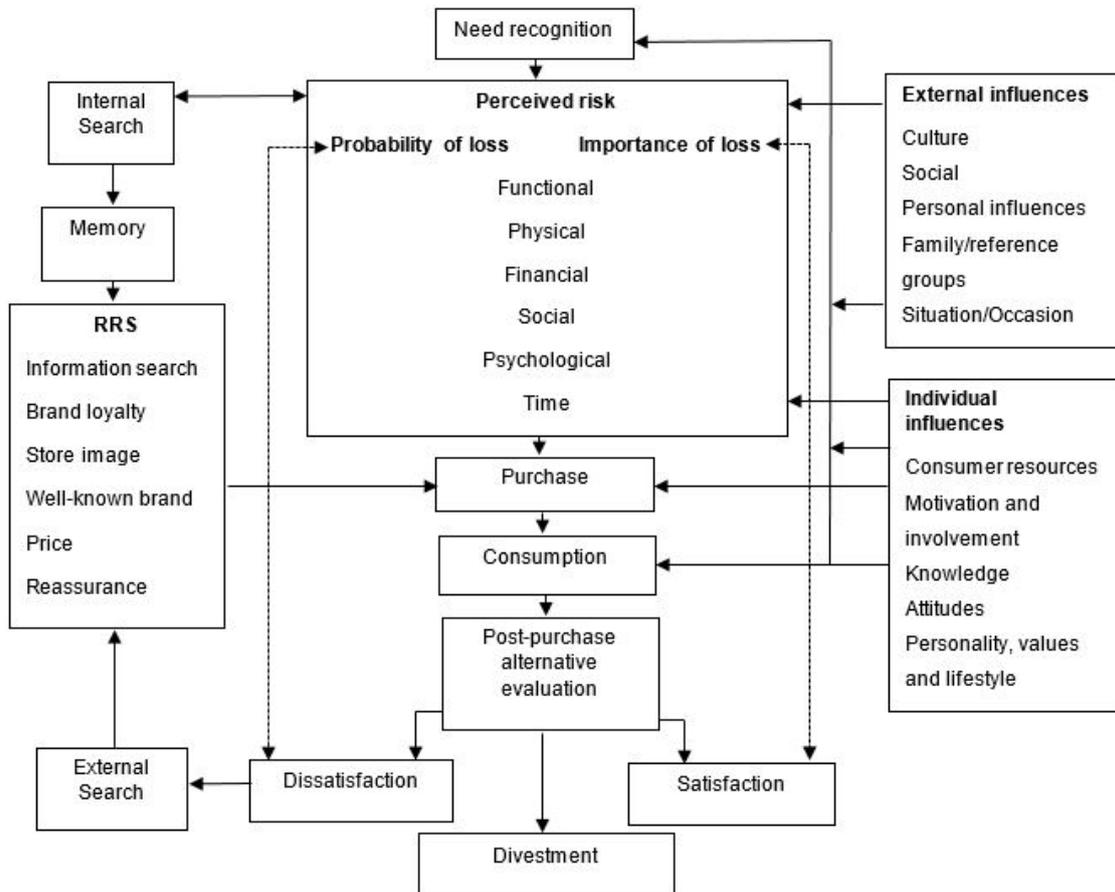


Figure 2. An adapted consumer decision-making model inclusive of risk perception constructs (Adapted from Engel et al., 1995).

After conceptualising perceived risk constructs in the pre-purchase phases of a conventional decision-making model (Figure 2), the authors of this paper postulate that the disconfirmation paradigm might hold significant explanatory power of perceived risk during consumers' decision-making. Following, is a critical analysis of the disconfirmation paradigm and apparent similarities between the aforementioned paradigm and risk perception constructs. In the bulk of consumer behaviour and marketing literature, the disconfirmation paradigm (Oliver, 1980) has almost exclusively been applied to quality perception and satisfaction during post-purchase evaluation (Chen-Yu & Hong, 2002), with only a few researchers recognising the phenomena of pre-purchase satisfaction (Chae, Black, & Heitmeyer, 2006; Chen-Yu & Hong, 2002; Simintiras, Diamantopoulos, & Ferriday, 1997; van der Colff, van der Merwe,

Bosman, Erasmus, & Ellis, 2016). This focus on satisfaction in post-purchase phases of the decision-making process is somewhat self-explanatory as to why the similarities between risk perception and the disconfirmation paradigm are not commonly acknowledged. Considering the disconfirmation paradigm, quality perception and/or satisfaction/dissatisfaction is often measured through a gap analysis between actual performance and expectations (Ha, 2006). In consumer and marketing research, expectations tend to be measured in terms of the importance of various product attributes (Ha, 2006; van der Colff et al., 2016). Alike, in a previous study on wine quality perception (Veale & Quester, 2009), expectations were measured in terms of the importance of three attributes of country-of-origin, price and acidity.

It seems as if the concept of expectations in the disconfirmation paradigm closely resembles that of the importance of loss (I) construct in risk perception theory, also measured in terms of the importance of product attributes, i.e. risk dimensions (Bruwer et al., 2013; Bruwer & Rawbone-Viljoen, 2013; McCarthy & Henson, 2005). In a definition proposed of perceived functional risk, the conceptual similarities between perceived risk and satisfaction/the disconfirmation paradigm become more apparent: “Functional risk is the risk that the product will not perform as expected” (Schiffman et al., 2014). The aforementioned definition of functional risk, clearly also indicates a performance gap between expectations and performance, similar to the disconfirmation paradigm. However, considering the perceived performance and probability of loss risk dimensions, the former seems to rather be based on actual performance, while the probability of loss relates to anticipated performance failure (Conchar et al., 2004).

Perhaps the only difference between satisfaction and risk perception could be that the one deals with actual product performance and the other with anticipated product performance. The similarities are however noticeable – both requires an evaluation of product performance and involves a cognitive and affective component. The recommended way of measuring perceived risk is a summated score of all the risk dimensions measured on both the probability of loss and importance of loss facets as shown below (Mitchell, 1999).

$$\text{Perceived Risk (PR)} = \sum_{n} \text{importance of loss} + \text{probability of loss}$$

n

$n = \text{dimensions of perceived risk}$

Yet, the question arises whether a gap analysis approach to the of importance of loss (I) and probability of loss (P) would not perhaps be a less complex perceived risk measurement? Perceived risk is however product-specific (Dholakia, 1997) and the application

and measurement of perceived risk dimensions differ between products. It is therefore recommended that the inclusion of perceived risk constructs within a consumer decision-making model (Figure 2) and relatedness to disconfirmation should be handled based on individual product characteristics. It could however be sensible to view perceived risk constructs to be part of the decision-making process of products, such as wine, which has been widely described as a high perceived risk product category.

4. Consumer decision-making applied to wine

Following is a description of a more complex decision-making process inclusive of perceived risk as applied to consumers' wine decision-making. Within the discussion, the focus is not on applying and defining each influencing factor in isolation (Figure 2), but rather on portraying the interplay of factors as it influences wine decision-making. Within the discussion, previous research of wine risk perception is also highlighted.

4.1. A wine culture: motives and wine consumption occasions

Wine and culture are two commonly associated phenomena. Culture (Figure 2) per se is learned and involves the automatic transfer of knowledge about a set of beliefs and rituals, often from one generation to another (Hoyer *et al.*, 2013). Culture has a considerable influence on consumers' food and beverage decision-making and often determines which customs (Schiffman *et al.*, 2014), including the consumption of alcoholic beverages, are approved within a society. Based on wine drinking habits, and especially per capita consumption, groups of people or countries are often described as having a "wine culture" where wine is frequently seen as a symbol of sophistication (Lockshin & Corsi, 2012).

Large European wine producing countries such as Italy and France are synonymous with wine (Geraghty & Torres, 2009) and their high per capita wine consumptions (SAWIS, 2017) are indicative of established wine cultures. However, within a culture, wine consumption habits might change. There are reports that wine consumption in large European wine producing countries are declining, as consumers rather consume quality wines only for special occasions (Corduas, Cinquanta, & Ievoli, 2013). On the other hand, with globalisation, non-wine producing countries, such as Ireland (Geraghty & Torres, 2009) and China are

increasingly importing wine as their consumers have started acquiring a taste for wine (Tang, Tchetchik, & Cohen, 2015). However, wine consumption and preferences are shaped by previous exposure and learning experiences (Melo, Delahunty, & Cox, 2011) and can therefore be considered dynamic. Alike, consumers' attitudes (Figure 2) and consumption practices are reported to change as they gain experience in terms of years consuming wine (Melo, Colin, Delahunty, Forde, & Cox, 2010). Younger consumers tend to prefer sweeter style wines and show resistance towards dry wines while older consumers portray a positive attitude and rather prefer wines made in the dry style (Blackman, Saliba, & Schmidtke, 2010; Melo et al., 2011).

As wine consumption and preferences are learned behaviour (Melo et al., 2011), the motive to purchase wine is mostly due to acquired, rather than innate consumer needs. Consumers buy wine for a variety of occasions (Figure 2) such as to relax, to accompany a meal, to socialise with friends and family (Corduas et al., 2013), for health benefits (Saliba & Moran, 2010), to buy as a gift (Brunner & Siegrist, 2011; Goodman, 2009), and to portray a certain lifestyle and image (Ritchie, 2007). Therefore, different consumption occasions (Hirche & Bruwer, 2014) are often considered motives (Figure 2) to purchase wine. Consequently, the specific consumption occasion is known to influence wine decision-making (Brunner & Siegrist, 2011), as a wine chosen for special occasions or business dinners, would most likely differ from a wine chosen for at-home consumption (Bruwer et al., 2013). Irrespective of the occasion (Figure 2), understanding the driving factors behind consumer wine decision-making is imperative to match wine retail offerings according to consumer needs (Corduas *et al.*, 2013).

4.2. Wine quality cues in retail purchase decision-making

Across different countries, retail stores remain the channel where the largest amount of wine is sold. In developed wine markets, online purchases were reported to only represent 5% of wine sales, (Lockshin & Corsi, 2012), most likely due to higher perceived risk associated with online purchases (Cho, Bonn, & Kang, 2014). However, even in a typical supermarket setting, consumers are believed to experience negative emotions and cognitive difficulties when evaluating wine (Bruwer & Buller, 2012), most likely due to some degree of perceived risk (Atkin & Thach, 2012). In a review of 100 academically published articles on consumer behaviour in wine, Lockshin and Corsi (2012) revealed that the majority of research focussed on off-trade retail purchasing. Therefore, in efforts to describe and comprehend consumers' wine decision-making, much previous international research emphasis has been on retail

purchasing behaviour and the influence of demographic variables (Atkin et al., 2007; Atkin & Thach, 2012; Barber et al., 2006; Bruwer et al., 2012; Forbes, 2012; Wolf et al., 2005) personal and consumption characteristics (Barber et al., 2008; Barber & Taylor, 2013; Brunner & Siegrist, 2011; Hirche & Bruwer, 2014; Johnson & Bastian, 2007; Veale, 2008) and marketing stimuli (Costanigro et al., 2014; Famularo et al., 2010; Ginon, Ares, Issanchou, et al., 2014; Jaeger et al., 2009; Goodman 2009; Lockshin & Knott 2009; Van Herpen et al., 2014;) on wine decision-making.

In a typical retail purchase situation of wine, organoleptic assessments to evaluate wine quality such as level of acidity, colour, balance and mouthfeel are limited (Atkin & Thach, 2012; D'Alessandro & Pecotich, 2013). Sensory characteristics of wine are therefore only evaluated during the post-purchase phase (Figure 2) of consumer decision-making upon and after consumption which will leave the consumer satisfied or dissatisfied (Figure 2) (Atkin & Thach, 2012; D'Alessandro & Pecotich, 2013) Therefore, real product experience is required to evaluate and form expectations about wine (Ashton, 2014). However, two categories of quality indicators, i.e. intrinsic and extrinsic wine attributes are often recognised to influence consumers' in-store wine decision-making (Corduas et al., 2013). Extrinsic attributes refer to value added features and quality indicators such as price, labelling, medals, brand name and bottle closures (Atkin & Johnson, 2010; Sáenz-Navajas, Campo, Sutan, Ballester, & Valentin, 2013). Intrinsic attributes refer to the processes involved in the wine-making and objective sensory characteristics such as colour, clarity and tasting notes (Rahman & Reynolds, 2015).

The intrinsic attributes are most often communicated on the label and therefore creates an expectation of the sensory experience upon consumption of the wine (Corduas et al., 2013). Hence, the label becomes a significant marketing tool as it is often the only source of information that consumers use to evaluate the intrinsic attributes of wine (Atkin & Johnson, 2010; Dimara & Skuras, 2005). It has previously been described that information on product attributes, as portrayed on the label, is a significant purchase driver (van der Colff et al., 2016). Not surprising though, that the influence of packaging and labelling cues on consumers' preference and purchase decisions were investigated extensively on the international wine arena (Atkin & Johnson, 2010; Beverland, 2006; Famularo et al., 2010; Ginon et al., 2014; Guris et al., 2007; Masson et al., 2008; Moulard et al., 2015; Mueller et al., 2010; Sáenz-Navajas et al., 2013; Tang et al., 2015). Insights on information perceived as important to ultimately make a wine purchase decision, are certainly valuable in a highly competitive

product category with a complex set of attributes that requires some level of experience to evaluate (Atkin & Johnson, 2010).

4.3 Experience, knowledge and information search in wine decision-making

Experience refers to the past experience with wine and is closely related to the concepts of awareness, familiarity and/or knowledge (Dodd, Laverie & Wilcox, et al., 2005; Perrouy, d’Hauteville & Lockshin, 2006). Experience gained, actual or based on information, shape pre-purchase expectations which, on its turn influences the overall post-consumption evaluation (Schiffman et al., 2014) (Figure 2), i.e. sensory experience of wine. Alike, it has been reported that when consumers receive negative information shortly before the consumption experience, the evaluation of wine during post-consumption (Figure 2) is also negative (Siegrist & Cousin, 2009). However, when the need for wine arises, the average consumer has inadequate information and only a semi-reliable memory (Figure 2) to enable the evaluation of alternative wines (Lockshin & Knott, 2009; Mitchell, 1999).

Due to previous experience, knowledgeable consumers are more likely to have internal information stored in their memory (Engel et al., 1995; Schiffman et al., 2014) which they retrieve as soon as they recognise a need for wine (Figure 2). Experienced consumers seem be more involved in the decision-making process of wine than less experienced consumers (Famularo et al., 2010; Sáenz-Navajas et al., 2014) probably because they have the knowledge, be it subjective or objective, to evaluate quality to a greater extent than less knowledgeable consumers (Figure 2). Subjective knowledge refers to the knowledge that consumers believe they have, while objective knowledge needs to be confirmed by testing consumers’ level of wine knowledge (Vigar-Ellis et al., 2015). However, knowledge, retrieved from memory are limiting, especially in the case of wine with many different variables (Mitchell & Greatedorex, 1988) and consumers therefore continue their search for information using external sources (Figure 2) (Schiffman et al., 2014).

Searching externally in the retail setting, more experienced and knowledgeable wine consumers often rely on technical information such as terroir variables and aging potential during the purchase decision-making process (Parr et al., 2011). Knowledgeable consumers and experts tend to buy more wine (Brunner & Siegrist, 2011; Johnson & Bastian, 2007) and are more likely to experiment with unfamiliar wines and less likely to be brand loyal (Vigar-Ellis et al., 2015). On the other hand, less knowledgeable consumers sometimes recall the “smell and taste” and “enjoyment” (Parr et al., 2011) of a specific wine due to a previous

consumption occasion, yet, they experience a great deal of difficulty to evaluate wine quality (D'Alessandro & Pecotich, 2013). Therefore, less experienced consumers tend to rely on more abstract and less technical wine marketing stimuli such as brand name (Vigar-Ellis et al., 2015) and gauge quality based on price (Barber et al., 2008).

It is furthermore known that less experienced consumers tend to perceive higher amounts of risk, probably due to the large number of available wine options to choose from, highly technical back label information, and wine's relatedness to occasion-specific consumption (Bruwer et al., 2013; Lockshin & Corsi, 2012; Mitchell & Greatorex, 1988; Spawton, 1991). According to Spawton (1991) it is actually only a small number of experienced wine connoisseurs that do not perceive risk, i.e. feelings of uncertainty during a typical purchase situation. Perceived risk has therefore become synonymous with wine decision-making.

4.4. Consumer risk perception in wine decision-making

Gluckman (1986) was the first to acknowledge risk perception being part of wine decision-making, highlighting the level of uncertainty involved in this category. In the following sections, the core themes of product-specific risk perception inclusive of previous research on wine risk perception are addressed. In support of the product focus, the product-specific definition of risk perception by Dowling (1999) can be applied and considered relevant in the context of wine: "the uncertainty of the possible adverse consequences which a person thinks will attach to buying or using a product".

4.4.1. Product-specific risk drivers

Bettman (1973) proposed that perceived risk is greater when:

- little information about a product category is available;
- the consumer lacks experience with product alternatives within a category;
- the product is new;
- the consumer lacks self-confidence to evaluate product alternatives;
- there are inconsistencies in quality between product alternatives;
- the perceived price is high;
- the purchase is considered important to the consumer.

When evaluating the risk drivers in the context of consumer decision-making, it relates to a combination of internal (psychological) and external influences on consumers' decision-making (Figure 2). The external influences involve product-specific characteristics such as price and quality. However, in previous wine literature (Mitchell & Greatorex, 1988), generic product/product category risk drivers (Bettman, 1973), i.e. conditions where perceived risk tends to be higher, were only acknowledged in theory. Furthermore, there seems to be a void in terms of measuring the relative effect of the generic product category/product risk drivers (Bettman, 1973) on perceived risk in wine retail purchases. Perhaps, all previous researchers assumed that, due to the wine category being associated with higher levels of risk in general (Spawton, 1991), determining the risk drivers could be of less value than identifying risk dimensions and strategies to effectively reduce perceived risk. In wine literature, two additional risk drivers of occasions (Bruwer et al., 2013) and risk affinity/risk tolerance (wine risk-taking personality) (Lacey, Bruwer, & Li, 2009) have been described. Therefore, different consumption occasions (external influence) as well as consumers' likelihood to experiment with wines due to a certain level of risk tolerance/affinity for risk (psychological factor) are associated with perceived risk in wine decision-making.

4.4.2. Perceived risk dimensions during wine decision-making

A number of researchers investigated wine risk perception in developed countries according to different risk dimensions in both the retail and restaurant context (Table 1). Mitchell and Greatorex (1989) identified four perceived risk dimensions relevant to decision-making of wine by UK consumers. Spawton (1991) responded with a very similar three-dimension classification while Schiffman et al. (2014) report on six risk types (Figure 2), more recently used to study Australian and French consumers' wine risk perception (Bories et al., 2014; Bruwer et al., 2013) (Table 1). Some researchers furthermore reported on a hierarchy of the different risk dimensions, where either financial or functional risk seems to be the most important dimensions in consumers' wine decision-making, irrespective of whether the wine was purchased in-store or in a restaurant (Bories et al., 2014; Bruwer et al., 2013; Bruwer & Rawbone-Viljoen, 2013; Lacey et al., 2009; Mitchell & Greatorex, 1988). It has however been reported that consumers tend to perceive lower overall risk in restaurant environments, most likely because trustworthy restaurant staff and/or sommeliers are available to make

recommendations (Lacey et al., 2009). Also, within the restaurant environment, there are far less alternatives to choose from than in a typical retail store environment.

Table 1. Dimensions of perceived risk applied in previous wine risk perception research

Mitchell and Grotorex (1989)	Spawton (1991)	Bories et al. (2014); Bruwer et al. (2013); Schiffman et al. (2014).
Functional (taste and suitability for a specific meal or occasion); Social (wine approved by family and friends); Financial (price) and Physical (hangover, reaction to the wine because it was sour or corked).	Functional (taste, wrong wine for occasion or to accompany a meal); Psychological (damage to the buyer's self-esteem) and Economic (perceived value to the product relative to the price being paid).	Functional; Physical; Financial; Social; Psychological; Time (time wasted buying wine).

According to a previously recommended P+I risk measurement approach (Mitchell, 1999), total perceived risk for wine is regarded as the sum of all risks on the different dimensions. However, after evaluating previous research, different approaches to risk perception measurement were found. Some researchers only measured the risk dimensions in terms of importance of loss (Mitchell & Grotorex, 1988) and others used a direct measurement approach where the distinction between the two facets of importance of loss and probability of loss on the different risk dimensions are not clear (Bruwer et al., 2013; Lacey et al., 2009). Only Bruwer and Rawbone-Viljoen (2013) followed the recommended approach of measuring perceived risk (Mitchell, 1999) in terms of the sum of all dimensions on both the probability of loss and importance of loss facets. Furthermore, the majority of previous researchers followed a quantitative approach with the aim to segment and describe wine consumers according to significant differences in perceived risk (Bruwer et al., 2013; Bruwer & Rawbone-Viljoen, 2013; Lacey et al., 2009; Mitchell & Grotorex, 1988). Mitchell and Grotorex (1988) used social class (Figure 2) as segmentation base and reported on significant differences in risk perception levels amongst consumers of two distinct social classes. Therefore, similar to how individual and external factors (Figure 2) influence consumer decision-making, different consumers tend to perceive varying amounts and types of risk due to one or a combination of these influences (Aqueveque, 2006; Johnson & Bruwer, 2004; Lacey et al., 2009; McCarthy & Henson, 2005; Mitchell & Grotorex, 1988). Irrespective, when risk is perceived by consumers,

they engage in efforts to reduce their uncertainty to ultimately enable a purchase decision (Figure 2).

4.4.3. Risk-reducing strategies (RRS) in wine decision-making

Risk-reducing strategies (RRS) refer to decision heuristics, i.e. mental shortcuts that consumers use to reduce their uncertainty in the wine decision-making process (Figure 2) (Spawton, 1991). When evaluating risk-reducing strategies within the consumer decision-making model, it involves a combination of information search and evaluation of alternatives to reach a tolerable level of perceived risk (Figure 2). According to Bruwer et al. (2013), the generic RRS as listed by Mitchell and Greatedorex (1989) and Schiffman et al. (2014) are commonly accepted as the six types of RRS used by wine consumers during the purchase process (Table 2). However, upon careful evaluation, the RRS of “information search”, is often not explored to its fullest potential when a generic approach such as in Mitchell and Greatedorex (1989) and Schiffman *et al.* (2014) is followed.

Table 2. Risk-reducing strategies (RRS) in wine decision-making

Mitchell and Greatedorex (1989) Schiffman et al. (2014)	Spawton (1991)	Atkin and Thach (2012)
Search for information;	Wine appreciation education;	Sources:
Brand loyalty;	Learn from others;	Store personnel
Reliance on store image;	Retail assistants;	Newspaper
Well-known brands;	Known brands;	Wine steward
Price and	Pricing and	Bottle label
Reassurance (e.g. tastings)	Packaging & labelling	Wine magazine
		Friends or family
		Shelf talker
		Label information:
		Brand name
		Vintage
		Country of origin
		Region
		Alcohol content
		Label imagery
		Medals won
		State
		Appellation
		Organic

Atkin and Thach (2012) capitalised on the depth and investigated information search as RRS, distinguishing between various information sources as well as the importance of quality cues on the wine label (Table 2). Instead of just listing “information search” as a RRS, detailed options were provided to consumers to determine exactly where they obtain information and which label information is most important to effectively reduce their risks. Concerning the RRS of packaging and labelling (Spawton, 1991), Bruwer and Nam (2010), previously suggested that smaller packaging sizes across various wine purchasing channels should be made available to wine consumers. Likewise, Bruwer et al. (2017) recently described smaller serving sizes as an important RRS when consumers buy and consume wine. In their study, consumers were described as more likely to explore with unfamiliar and expensive wines when a smaller quantity at a lower price per transaction is available (Bruwer et al., 2017).

The more specific approaches to RRS (Atkin & Thach, 2012; Bruwer et al., 2017) also seems to portray more variance in terms of different consumer groups’ use and preference of RRS than in studies where only the generic RRS were investigated (Bruwer et al., 2013; Mitchell & Grottel, 1989). Atkin and Thach (2012) report that younger consumers use alcohol level, label graphics and medal stickers while older consumers rather use country of origin, vintage, region and state as risk-reducers (Atkin & Thach, 2012). Bruwer et al. (2017) concluded that females and younger wine consumers up to the age of 45 years are more likely to use smaller serving sizes as RRS than older wine consumers. Pertinent differences in consumers’ use of RRS are most sought-after as the value of these RRS insights are widely recognised as critical for strategic marketing purposes (Atkin & Thach, 2012; Bruwer et al., 2013; Mitchell & Grottel, 1989; Spawton, 1991).

Bruwer et al. (2013) explain that once producers and retail managers know which RRS different consumer segments use, these RRS can be made available, customised according to different consumers’ preferred RRS. In earlier research, Mitchell (1999) explained that those RRS consumers don’t find useful should actually be withdrawn which could be appropriate, especially in a complex product category such as wine. It is important to mention that consumers also use RRS outside the retail environment, such as information from wine magazines or social media (Atkin & Thach, 2012) (Table 2), which is then retrieved from consumers’ memory (Figure 2) once inside the retail environment. Once consumers gain the information needed from their preferred RRS, they reduce their uncertainty and often continue to purchase a product (Figure 2) (Mitchell & Grottel, 1989). Therefore, it is essential for producers and marketers to know which specific RRS consumers prefer. Johnson and Bruwer

(2004) even consider those retailers, that are aware of the most significant RRS used by different consumer segments, to have a competitive advantage.

5. Conclusion and future research directions

5.1. Risk perception theory

After a review of risk perception theory as well as applied risk perception studies, the conceptual and measurement complexities remain apparent. Although it has previously been recommended that risk perception should be viewed as part of a conventional decision-making model (Conchar et al., 2004), little evidence thereof could be found in theory. Therefore, this study included and proposed perceived risk constructs in a conventional model of decision-making, consequently drawing on similarities between risk perception and the disconfirmation paradigm (Oliver, 1980). It is suggested that both risk perception and satisfaction/dissatisfaction formation, according to the disconfirmation paradigm, involve an evaluation of expectations and perceived performance. In perceived risk however, the perceived performance is most likely rather anticipated performance failure, which result in the negative emotions of uncertainty. The reported similarities between risk perception and the disconfirmation paradigm enlightened the cognitive and affective processes involved in consumer risk perception. It is recommended that future researchers quantitatively test whether a gap analysis approach, similar to satisfaction scales (expectations versus performance), yield similar results than the current recommended importance of loss + probability of loss approach to measure risk perception. The study of risk perception and specifically RRS has been described as unparalleled as it provides practical direction to marketers about resource allocation (Johnson & Bruwer, 2004; Mitchell & Greatorex, 1988). Therefore, efforts should be ongoing to demystify the conceptual and measurement complexities, especially in high risk product categories such as wine.

5.2. Wine risk perception

Drawing on the concepts of wine risk perception, it is evident that three main themes emerged: risk drivers, risk dimensions and risk-reducing strategies (RRS). Due to the marketing significance of risk perception, it seems as if the majority of researchers used a segmentation based approach to ultimately recommend strategies to effectively reduce

consumer risks. However, it is the opinion of the researchers that a generic approach to RRS (Johnson & Bruwer, 2004) seems to be less effective in terms of recommending strategies than a more specific approach, also considering a range of quality cues as risk reducers (Atkin & Thach, 2012). In terms of the risk dimensions, there seems to be a hierarchy with functional and financial risks the most severe for wine consumers across different countries and contexts. However, there is a lack of consensus on the risk dimensions relevant to wine decision-making as time risk and/or psychological risk dimensions were excluded in a number of previous studies (Bruwer & Rawbone-Viljoen, 2013; Lacey et al., 2009; Mitchell & Greatorrex, 1988). Also, there seems to be a lack of evidence considering the conditions that are driving perceived risk as suggested by Bettman (1973), perhaps because all previous studies applied risk perception to the generic wine category, only in different contexts.

Considering the recognised risk drivers of quality variations between brands, new products, lacking experience and self-confidence to evaluate brands within a category (Bettman, 1973), one might expect that perceived risk could differ between regions of origin and/or different, perhaps lesser known wine varieties. Although risk perception is agreed to be product-specific (Dowling, 1999), it has surprisingly not yet been applied to a region of origin nor different varieties. Therefore, due to the known correlation between perceived risk and resistance to purchase (Ram & Sheth, 1989; Tian-Que, 2012), a study of perceived risk might be fruitful for marketing strategy development in the case of slow selling wine varieties and/or regions of origin. Lastly, it is reported that perceived risk differ between consumers based on demographic characteristics (Atkin & Thach, 2012; Mitchell & Greatorrex, 1988). However, all previous consumer risk perception wine research was conducted in developed countries, perhaps with well-established and homogeneous wine markets. It therefore seems sensible to encourage investigations of perceived risk amongst developing wine markets such as China which holds large potential in terms of consumer buying power.

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CHAPTER 4

RESEARCH DESIGN AND METHODOLOGY

4.1. INTRODUCTION TO SOCIAL RESEARCH AND ITS RELEVANCY IN WINE STUDIES

Traditionally, the study of wine has been rooted within natural sciences. However, due to the inherent transdisciplinary nature of wine science, collective efforts and shared methodologies from agriculturists, environmentalists, economic- and social scientists are encouraged to optimise innovation throughout the wine value chain (McIntyre, 2017). Recently, the significance of social research in wine has been recognised as it provides insight to the wine industry on how to anticipate and respond to changes, such as changing trends and consumption practices (Ankeny & Given, 2018; McIntyre, 2017). In this study, social research was conducted aiming to investigate consumers' wine risk perception and recommend strategies to reduce consumers' seeming uncertainty about Chenin blanc.

Social research is a mindful and deliberate process, aiming to study and draw conclusions about collective, rather than isolated, human behaviour (Babbie, 2010:13). The social research process comprises a number of steps before conclusions can be drawn which typically involves 1) defining the research problem and development of research objectives, 2) collecting secondary data, 3) design and execution of primary research, 4) analysis of data and 5) reporting of findings with recommendations and conclusions (Bryman, 2016:13). In the previous chapters, the research problem and secondary data (literature review) of this study have been presented. Therefore, the design and execution of the primary research stage are presented in this chapter.

4.2. BACKGROUND TO SOCIAL RESEARCH DESIGNS

A research design can be regarded as an overarching research plan based on decisions to ascertain that the objectives of the study can be reached (Babbie & Mouton, 2001:74). Elements of a research design typically include the purpose of the research, ideologies of the subject, the research approach (quantitative/qualitative/mixed methods) and the methods involved to collect and analyse the data (Babbie, 2010; Creswell, 2014). In this section, the purpose of and an overview of different approaches to social research are briefly discussed,

while the ideologies related to consumer risk perception and specific methods as applied are discussed later.

4.2.1. The purpose of social research

Social research is conducted with the purpose to explore and/or describe and/or explain certain phenomena and is therefore broadly categorised into exploratory, descriptive and causal research (Mooi & Sarstedt, 2011:13). Following is a brief overview with distinct characteristics of exploratory, descriptive and causal research.

- **Exploratory research**, often associated with qualitative data, is undertaken to provide an understanding of an unfamiliar topic where the researcher examines an under-researched topic or when the research topic per se is new. Results of exploratory research designs often provide a more holistic understanding of the research questions rather than definitive and detailed answers and are not generalisable. Exploratory research is, however, valuable to provide a better understanding of the research problem and to consequently give direction into the demarcation of the constructs and development of hypotheses to accurately address the research problem (Babbie, 2010:92; Mooi & Sarstedt, 2011:13).
- **Descriptive research** aims to accurately describe population characteristics, occurrences, relationships and situations. Contrary to exploratory research, descriptive research often has specific *a priori* research objectives and/or hypothesis to be answered in detail. Descriptive research is generally used to answer “what”, “where”, “when” and “how” research questions and is associated with both quantitative and qualitative research methods. Therefore, the descriptive data produced can range from a narrative form to complex statistical analysis (Babbie, 2010:93; Babbie & Mouton, 2001:80).
- **Causal research**, also known as explanatory research, aims to determine cause-effect relationships where the researcher desires an explanation of why something occurs. In causal research, empirical correlation is often used to test whether one independent variable causes or influences one dependent variable. Causal research is therefore largely associated with experiments and quantitative data where the researcher is able to control and manipulate variables (Babbie, 2010:94).

Depending on the research problem and aims, a research project might require a combination of one or more of the aforementioned (Babbie, 2010:92).

4.2.2. A review of quantitative, qualitative and mixed methods research approaches in social research

The research approach, as part of the research design, involves the classification of the overarching methods according to the type of information required from the research effort. Consequently, a choice between a quantitative or qualitative approach, or alternatively, a combination of the two, known as a mixed methods approach has to be made (Creswell, 2014). Each of these research approaches is briefly discussed next.

4.2.2.1. Quantitative research

Quantitative research is embedded in post-positivist ideology which implies the objective existence of objects. Therefore, the quantitative researcher is a detached observer, taking a realist stance. Quantitative research is conducted to test hypotheses by describing relationships between variables or to search for cause and effect (Creswell, 2014:155). Quantitative studies are therefore either categorised as descriptive and non-experimental, e.g. a survey design or experimental (causal). In both non-experimental and experimental designs, results are drawn from statistical analysis, reported in numeric format and is often generalised to a larger population (Ivankova, Creswell & Plano Clark, 2007:257).

Although commonly used in wine science, experimental designs are used less often in social research. Experimental designs often require a controlled environment such as a laboratory to test cause-and-effect between variables (Mooi & Sarstedt, 2011:17) which is not appropriate to study patterns of human behaviour. Survey designs are therefore more popular amongst social and consumer researchers to investigate human behavioural patterns and product shortcomings. In a survey design, the quantitative researcher collects numeric data from a large sample using specific and pre-determined questions, for example closed-ended dichotomous or scale items. Based on the numeric results, hypotheses are accepted or rejected and conclusions and/or recommendations are made (Creswell, 2014; Zikmund & Babin, 2013:152-153).

4.2.2.2. Qualitative research

The aim of qualitative research is to investigate and understand a particular occurrence, rather than to generalise behaviour to a population. Therefore, in qualitative research, the emphasis is on creating new meaning using an inductive approach rather than starting with already established hypotheses (Babbie, 2010:296; Ivankova *et al.*, 2007:15). Rich textual and/or

image data are, therefore, collected from a small number of participants, often in a natural setting. Consequently, qualitative data are described according to categories and concepts used by the participants themselves (Creswell, 2014:184).

Contrary to quantitative research, the qualitative researcher is regarded as central in the process with the responsibility of providing accurate descriptions (Creswell, 2014:185). Being present as data are collected, one of the qualitative researcher's most important tasks is to attempt to view the world from an emic perspective. An emic perspective implies that the qualitative researcher should aim to become more than just an observer, but to truly understand participants' behaviour from their perspectives. Consequently, the qualitative researcher uses rich textual descriptions to ultimately build theory and hypotheses. Qualitative research, therefore, involves an in-depth approach to analyse and interpret consumers' behaviour, not appropriate to be expressed by numbers (Babbie, 2010).

There are four different, well-known qualitative research designs, namely narrative, grounded theory, ethnography and phenomenology. A narrative design involves story-telling where the researcher, for example, attempts to retell life histories of one or a few individuals. This design is popular in the humanities (Harding, 2013:132) and views from the participant and researcher often merge into a combined narrative (Creswell, 2014:14). In grounded theory the aim is to create a theory from studying human behaviour using a pure inductive approach. Grounded theory design often requires multiple phases and different techniques of qualitative data collection to ensure that the theory created is indeed grounded in the views of participants (Babbie, 2010:307; Creswell, 2014:14). Ethnography report on collective behaviour within a shared culture as studied in a natural setting. Therefore, in ethnography, detailed descriptions are provided about real-life systems, beliefs, and patterns of behaviour of a specific culture (Creswell, 2014:14). Lastly, phenomenological research aims to provide an accurate description of a number of individuals' retrospective experiences of the same phenomena. Therefore, the phenomenologist gathers and interprets the real-life experiences of participants, usually by means of conducting interviews (Babbie & Mouton, 2001:28; Creswell, 2014:14).

4.2.2.3. Mixed methods research

Mixed methods research stems from the argument that individually, quantitative as well as qualitative research have limitations, while a convergence of the two by means of integration could be more powerful (Creswell, 2014:15). In mixed methods research, a combination of qualitative and/or quantitative methods is employed with the main envisaged advantage of enhancing validity and verifying results. A mixed methods design is appropriate where a single

method is not sufficient to answer the research questions or describe the phenomena under investigation (Morse & Niehaus, 2009). Creswell (2014:15-16) recognises and describes three primary mixed method designs as follows:

- A **convergent parallel mixed methods** design collects and combines qualitative and quantitative data simultaneously. The point of integration in this convergent parallel design is often only during discussion of results where findings are compared and interpreted.
- An **explanatory sequential mixed methods** design involves initial quantitative data collection where findings are then explained using results from a sequential qualitative phase. In this design, qualitative data, therefore, add depth to the interpretation of numerical findings.
- An **exploratory sequential mixed methods** design involves an initial qualitative phase, followed by a quantitative phase. The qualitative phase is exploratory and data are typically used to inform and develop a measurement instrument, such as a survey to be used in the sequential quantitative phase. When this method is employed, the qualitative data enhance the validity of the measurement instrument, as a better understanding of the variables and items to include in the survey, are first obtained.

Guest (2012) reviewed mixed methods typologies, and concluded that six common dimensions can be used to differentiate and describe mixed methods research:

1. **The purpose of the research** relates to the researcher' primary aim, i.e. to explore and/or describe and/or explain. The primary aim directs the timing, theoretical orientation, interface and relative importance of the different methods (Plano Clark & Badiie, 2010:278) employed as outlined below.
2. **Timing of the interface** between data sets refers to the order in which the two methods are applied and can either be concurrent or sequential. In concurrent mixed methods research designs, data collection using two methods occur simultaneously and is indicated with a "+" sign, for example, "QUAL + quan". In sequential mixed methods research, data collection using two methods do not occur simultaneously, but rather in series and is indicated with an "→" sign, for example, "QUAN → qual" (Morse, 2010:341).
3. **Point(s) of interface and/or degree of integration.** In the literature, much emphasis is placed on the point of interface indicating the position where the two methods intersect. It can either be fully integrated by merging the data in the results section, or partially integrated by connecting the data in the analysis section (Morse, 2010:348). Depending on the purpose, the point and degree of integration differ between the mixed methods designs, as outlined below.

4. **Purpose of the interface** between the data sets could be to inform, explain or triangulate. With the purpose to inform, a supplementary exploratory qualitative phase is, for example, included to firstly explore a topic to inform a survey (questionnaire) used in the sequential and core quantitative phase. When the purpose of the research is explanatory, a supplementary qualitative phase is often included to explain the results obtained from the main and preceding quantitative data collection phase. Triangulation in mixed methods research refers to concurrent designs where two methods are being used simultaneously with the purpose of comparing, combining and validating results of the two different data sets (Creswell, 2014:230; Morse, 2010:348).
5. **Theoretical orientation** of the research project as a whole will provide direction towards either a quantitative or qualitative dominant mixed methods design. When the theoretical orientation is primarily inductive, the core component would typically be qualitative, while on the contrary, when the theoretical orientation is primarily deductive, the core component would be quantitative (Morse, 2010:348).
6. **Relative importance** of qualitative data and quantitative data refers to the weighting of the different components. There are always a core component and a supplementary component in mixed methods research. The core component can be regarded as the primary method while the supplementary component is only complementary in reaching the aims and objectives of a study. The core component is often indicated using capital letters, for example, "QUAN" versus the supplementary component indicated using sentence case letters, for example, "qual" (Morse, 2010:348).

When conducting mixed methods research, the core principles of each of the methods should be respected. Therefore, sufficient rigour should be maintained throughout by applying sampling and data collection procedures as well as data analysis appropriate to each method, as if executed in isolation (Creswell, 2014). This then concludes the section on the background of social research designs. Following is a motivation and description of the research design, population and sampling technique as applied in this study.

4.3. RESEARCH DESIGN AND BACKGROUND TO THE POPULATION AND SAMPLING TECHNIQUE USED IN THIS STUDY

As mentioned earlier, the choice of research design and consequent methods are dependent on the research aims (Babbie & Mouton, 2001:74). Therefore, in the next section, the research aims are framed within the ideology of consumer risk perception, which motivated the choice

of an appropriate research design. Subsequently, background to the study population and sampling techniques appropriate for this study are discussed.

4.3.1. Research design based on the ideology of consumer risk perception and aim of this study

Mitchell (1999:165) reports on the two schools of thought based on the ideologies of relativism versus realism to explain the inherently subjective nature and measurement of perceived risk. According to the ideology of realism, objects are independent and therefore exist absolute in the world despite the absence of human point of views (Babbie, 2010:44; Cambridge dictionaries online, 2016). However, objective risk is practically immeasurable in the context of consumer behaviour. In consumer behaviour theory, “risk” refers to subjective risk as perceived by individuals and is recognised as a significant factor, influencing consumer decision-making (Schiffman, Kanuk, Brewer, Crous, Du Preez *et al.*, 2014). Therefore, when human behaviour is studied, the existence of a phenomenon, such as risk, is dependent on the perceiver (Babbie, 2010:33). It is, however, common practice of relativists to use data collection instruments that branches from realism to measure subjective risk as perceived by consumers (Mitchell, 1999:166). Alike, the majority of previous studies on consumers’ wine risk perception followed a deductive approach using quantitative surveys to gather responses from a large number of consumers (Atkin & Thach, 2012; Bruwer, Fong & Saliba, 2013; Cho, Bonn & Kang, 2014; Johnson & Bruwer, 2004; Lacey, Bruwer, & Li, 2009; Mitchell & Grotorex, 1988).

A quantitative approach allows for the use of mathematical models to calculate total perceived risk and to segment consumers into groups using descriptive and inferential statistics. Based on statistically significant differences between the groups, recommendations can furthermore be made to reduce consumer risk through marketing initiatives targeted at the different groups (Bruwer *et al.*, 2013; Mitchell & Grotorex, 1989). Similar to previous studies, and considering the aim of this study, it was judged to also gather responses from a large number of wine consumers using a deductive approach. As already stated, risk is subjective to the perceiver, hence diverse responses to questions about Chenin blanc perceived risks and risk-reducing strategies were anticipated, justifying the use of a large sample size. A quantitative-dominant design was therefore judged to be appropriate in this study. However, prior to this study, the Chenin blanc perceived risks in the context of white wine decision-making were completely unknown. Also none of the previous studies on consumers’ wine risk perception were region- or varietal-specific, but applied to the wine category in general, only in different contexts of restaurants (Bruwer & Rawbone-Viljoen 2013; Lacey *et al.*, 2009), online (Cho *et al.*, 2014),

point-of-purchase (Bories, Pichon, Laborde & Pichon, 2014), occasions (Bruwer *et al.*, 2013) and comparing perceived risk behaviour between consumer groups (Atkin & Thach, 2012; Johnson & Bruwer, 2004; Mitchell & Greatedorex, 1988).

Although there are well-known generic dimensions/types of perceived risk in wine (Bruwer *et al.*, 2013; Mitchell & Greatedorex, 1988), this study was the first of its kind following a varietal-specific approach to investigate consumers' wine risk perception. Outside the scope of wine, McCarthy and Henson (2005) investigated Irish consumers' risk perception and use of risk-reducing strategies in the choice of beef. They used an exploratory sequential mixed methods approach where qualitative data were used to adapt a questionnaire used in a sequential, core quantitative phase. The qualitative data were particularly valuable as it also uncovered the beef-specific, rather than generic, risk drivers, i.e. the conditions under which heightened levels of risk were perceived when beef was purchased. Consequently, the beef-specific risk drivers were included in the questionnaire and used to describe and discriminate between different perceived risk segments during interpretation of the quantitative results. The use of an exploratory sequential mixed methods approach furthermore allowed for the recommendation of strategies, focussed to specifically reduce risks associated with beef. Therefore, an exploratory mixed methods approach has proven to be effective in a previous product-specific risk perception study and this study applied a similar approach to investigate wine varietal-specific perceived risk. Thus, it was judged that a qualitative approach was necessary to first explore and obtain an understanding of consumers' perceived risks of Chenin blanc wine. Qualitative data were furthermore needed to successfully adapt a perceived risk questionnaire to be Chenin blanc-specific and appropriate to use in the core, sequential quantitative phase.

To conclude, investigating South African consumers' risk perception of Chenin blanc was a first and a new phenomenon was therefore explored. However, this study also undertook structured descriptive research that aimed to describe Chenin blanc risk perceivers according to significant differences. The purpose of this study can, therefore, best be described as both **exploratory and descriptive**. To answer the exploratory and descriptive objectives, an **exploratory sequential mixed methods approach (qual→QUAN)** was judged to be the most appropriate as motivated above. Being quantitative-dominant, the mode of enquiry can be regarded as primarily **deductive** using the existing theory of consumer risk perception as theoretical base throughout this study. All methods employed within the exploratory sequential mixed methods approach is summarised and depicted in Figure 4.1.

4.3.2. Background to the study population and sampling technique

4.3.2.1. Population of this study

A population refers to the total group of individuals or units under investigation about whom judgements or conclusions are made (Mooi & Sarstedt, 2011:37). It is however usually almost impossible to study a whole population due to the size and dispersion thereof (Babbie & Mouton, 2001:164) as in the case of the South African wine drinking population. Also, due to few previous enquiries in the South African context of wine, little is known about the local population in terms of wine-related behaviour. Considering demographic characteristics, the latest available statistics estimated that the population of South African consumers of wine, in all packaging formats, is 4,9 million consumers or 14% of the total adult population (The Moss Group, 2015). These wine drinking consumers mostly reside in the four provinces of Gauteng (34%), KwaZulu Natal (14%), Western Cape (11%) and Eastern Cape (10%) (The Moss Group, 2015). Previously, demographic characteristics of South African consumers of bottled wine have been published based on data drawn from a sample of 24 824 consumers of alcoholic beverages (Analytix, 2013). In South Africa, bottled wine is consumed by more females (56%) than males (44%). In terms of age, almost 70% of bottled wine consumers fall into the range of 25-59 years while 60% are educated to matric (grade 12) or higher. Bottled wine is furthermore primarily consumed by individuals in the middle-high and high Living Standards Measure (LSM) groups of 6-10 (Analytix, 2013), probably because wine can be considered a luxury product rather than a necessity (Piqueras-Fiszman & Spence, 2012:45). LSM per se is a segmentation tool (South African Audience Research Foundation, 2014) used to profile the greater South African population based on wealth using ownership of goods and access to services as descriptors where group 1, the lowest, represents the rural poor and group 10, the highest, the affluent (Schiffman *et al.*, 2014).

In South Africa, wine has traditionally been associated with affluence and enjoyed primarily by the white minority. However, in recent years there has been a growing interest and consumption of wine by black, urban consumers (Kew, 2015) who are, in terms of the general South African population, the overwhelming majority (STATS SA, 2018). The Soweto wine festival has for example been established in 2005 and has ever since shown significant growth in terms of attendance from urban black communities in Gauteng Province (Kew, 2015; Soweto Wine Festival, 2017). In terms of race, it can, therefore, be deduced that the South African wine drinking population is diverse and efforts should be made to represent the different races.

In this study, the choice of population was an important strategic decision. A somewhat logical assumption was that the population should be consumers of white wine. However, when

strategies to promote Chenin blanc are developed, based on a population of exclusive white wine drinkers, it might cause drinkers of other white varieties such as Sauvignon blanc to simply convert to Chenin blanc while the producers of these different varieties are often the same. In marketing literature, this phenomenon is referred to as cannibalisation where two similar products are not well differentiated and cut into the sales of one another, which should be avoided (Johansson & Carlson, 2015:204). Also, from an ethical point of view, the focus should not necessarily be on increasing per capita consumption but rather to attract new wine drinkers to the Chenin blanc category. The preferred population for this study, therefore, would have been all South Africans of legal drinking age that buy and consume alcoholic beverages. However, due to the time and financial constraints of this study, sampling from such a large population, while focussing on a specific wine variety was considered over optimistic in a country where a wine drinking culture is yet to be established (Holtzkampf, 2015). Therefore, a more realistic population for this study was all South African consumers of legal drinking age that buy white wine at least occasionally. Wine industry professionals were explicitly excluded from this population as consumer and industry perspectives on risk are known to be different (Gaskell, Allum, Wagner, Kronberger, Torgersen *et al.*, 2004; Hagemann & Scholderer, 2009).

4.3.2.2. Sampling techniques in this study

Sampling refers to the process through which sampling units (individuals) are selected from the population (Mooi & Sarstedt, 2011:37). The two main sampling methods are probability and non-probability sampling. In probability sampling, each individual within the population has an equal chance to be selected and results can be generalised to the population. On the contrary, the chance of being selected from the population using a non-probability method is unknown and selection is based on the knowledge and approach of the researcher. The disadvantage of non-probability sampling is that results cannot be generalised to the population (Zikmund & Babin, 2013:322). Efforts from the researcher can, however, be made to ensure that the sample share characteristics of the population (Mooi & Sarstedt, 2011:37). A sampling frame, i.e. a complete list of South African wine drinkers is not available, which made access to the population and probability sampling problematic. Therefore, non-probability sampling methods were used which is a regularly preferred method in consumer risk perception research (Aqueveque, 2006; Beneke, Green, Lok & Mallet, 2012; Bruwer & Rawbone-Viljoen, 2013; Ibrahim, Suki & Harun, 2014). Sampling procedures will be discussed as applied in each phase.

4.4. QUALITATIVE METHODS APPLIED IN THIS STUDY

As the research topic was under-explored in the academic domain, the aim of the initial qualitative phase was twofold: 1) to explore consumers' perceived risk of Chenin blanc within the South African white wine category and 2) to gather insight to refine hypotheses and inform a questionnaire to be used in a sequential quantitative survey investigating the same aforementioned topics. Therefore, in this qualitative phase a phenomenological approach (Creswell, 2014:14) was followed as the researcher aimed to provide an accurate description of a number of individuals' retrospective experiences of Chenin blanc wine. In the following sections, data collection and analysis of the qualitative phase, i.e. step one and two of the research process (Figure 4.1) are discussed.

4.4.1. Sampling procedure and sample size in the qualitative phase

Participants were recruited using **non-probability criterion sampling** (Collins, 2010:359) and individuals were chosen based on the criteria of a sufficient level of experience buying and consuming white wine. As wine drinking habits are learned over time (Melo, Delanhunty & Cox, 2011), it was judged that these more experienced individuals would have been able to provide rich descriptions about their previous white wine buying and consumption behaviour. Thus, based on previous experience of different white wines, there was a higher probability that more experienced wine drinkers have established perceptions about different white wine varietals. Potential participants, no younger than 28 years, were recruited based on referral within a network of acquainted wine drinkers.

In South Africa, the consumption of alcohol is legal from 18 years (DTI, 2016) and participants, therefore, had at least 10 years of exposure to and/or experience with alcoholic beverages. Potential participants were furthermore screened according to inclusion criteria of reported experience purchasing and consuming different South African white wine varietals. The sample consisted of male and female, non-expert consumers of white wine aged between 28 and 60 years. Wine industry experts and inexperienced wine drinkers younger than 28 were excluded from the sample.

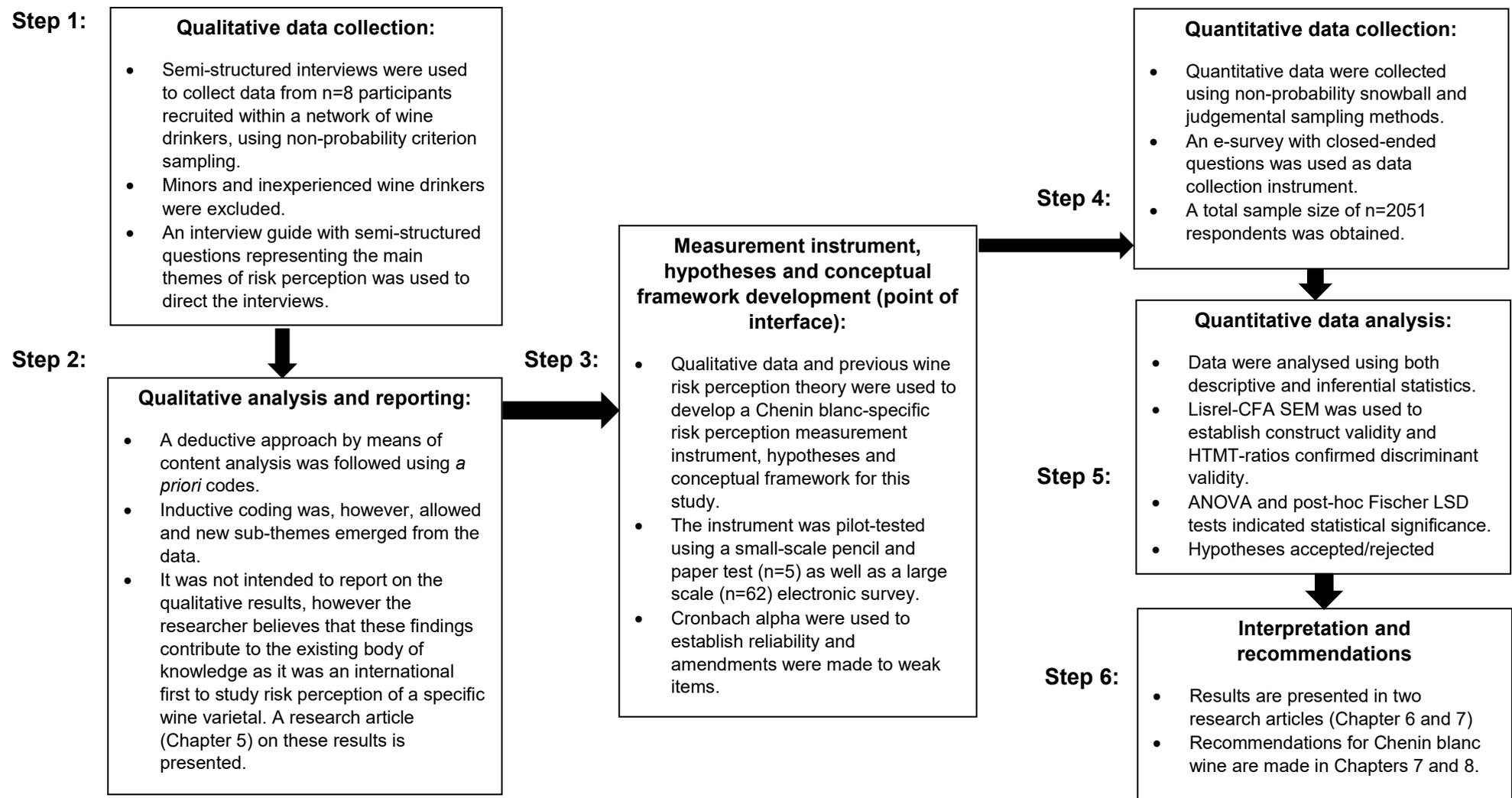


Figure 4.1. Flowchart of the procedures in the exploratory sequential mixed methods approach used in this study (adapted from Creswell, 2014:220)

Due to the rich descriptive and time-consuming nature of qualitative data collection, sample sizes are small (Harding, 2013:8). Although subjective, point of saturation is commonly used as indicator to decide when data is sufficient. Point of saturation refers to that stage during qualitative data collection when themes and sub-themes are repeated with little or no new information emerging after more cases have been added (Harding, 2013:74). The point of saturation is often also dependent on the heterogeneity of the sample as well as the type of interview (Collins, 2010:361). When an inductive and unstructured interviewing approach is followed, and when interviewee responses are diverse, a larger sample size would typically be required as it might take longer to reach the point of saturation. An absolute minimum sample size of six participants is recommended when using interviews as data collection tool (Collins, 2010:362).

Although the qualitative phase is supplemental in this study, it nonetheless adhered to the sampling principles of qualitative research per se. In this study, point of saturation was reached after six interviews. This somewhat early point of saturation could have been expected due to the semi-structured interviewing approach followed, while the sample was also homogeneous, i.e. all participants had experience with purchasing and consuming different white wine varieties. However, to maintain rigour, the researcher conducted two more interviews with a total sample size of eight ($n=8$), exceeding the prescribed minimum of six. After reaching point of saturation and conducting an additional two interviews, the researcher had certainty (Morse, 2010:347) that the qualitative data gathered would be sufficient to inform the quantitative survey to be used in the sequential phase.

It is good research practice to continue collecting data until a point of saturation. However, the concept of data saturation and sample sizes in qualitative research are debated and vague. Guest, Bunce and Johnson (2006:60) reviewed 24 research methodology textbooks and reported little evidence on guidelines for qualitative sample sizes and saturation. One can furthermore argue that a true point of saturation is unattainable as the “next participant” might provide different answers than all the previous participants. Moreover, Guest *et al.* (2006) aimed to make recommendations for interview sample sizes and collected data from a pre-determined sample of 36 participants using in-depth interviews. In their study, saturation was reached after 12 interviews, yet metathemes were identified after only six interviews. For a homogeneous sample, Guest *et al.* (2006) concluded that six to twelve interviews should be sufficient, while more than 12 interviews would most likely be required when the sample is heterogeneous. The findings from Guest *et al.* (2006) provide evidence that a qualitative sample size of six to eight participants, as in the case of this study with a homogenous sample

in terms of wine drinking experience, also using a semi-structured interview schedule, can be sufficient.

4.4.2. Qualitative data collection using face to face semi-structured interviews

Personal interviews or focus groups can be used to collect qualitative data and requires active participation from individuals. With focus groups, debates amongst six to twelve group members are encouraged and the interaction between the individuals assists in the generation of data (Creswell, 2014:190). Focus groups do, however, require an experienced facilitator to guide the discussion and to react on both verbal and non-verbal cues (Harding, 2013:45). In terms of this study, the researcher had no experience facilitating focus groups and, therefore, personal interviews were rather chosen as preferred method of data collection, which is recommended for inexperienced qualitative researchers (Harding, 2013:31). Also, as it is known that wine is a complex product category (Parr, Mouret, Blackmore, Plequest-Hunt & Urdapilleta, 2011), which often elicits consumer uncertainty (Bruwer *et al.*, 2013), questions about wine might be intimidating. It was therefore judged that potential participants might be more comfortable to share perceptions about wine in private and not amongst a group of people.

Due to the researcher being inexperienced collecting qualitative data, a week-long course on *Methodological Facets of Interviewing and Qualitative Data Analysis* was attended at the African Doctoral Academy, Stellenbosch University, in January 2017. During this course, the researcher gained knowledge and experience in the design and execution of interview-based research under the instruction and guidance of world-renowned social researcher, Professor Max Bergman from the University of Basel, Switzerland. Mock interviews using unrelated themes were practised and analysed which gave the researcher sufficient confidence to progress with the qualitative data collection.

After ethical clearance was obtained from the REC: Humanities (SU-HSD-003952), face to face interviews took place over a period of three months at times and places convenient and mutually agreed upon by the researcher and participants. Prior to the interviews, participants provided verbal and written consent being fully informed about the purpose and procedure of the interview (see Addendum A). Rapport was set where interviewees were made comfortable by clarifying the roles of the researcher and participants. The researcher, in the role of active and interpretative listener, introduced participants to the conversation-like interview approach, where participants were encouraged to answer questions in a relaxed manner (Harding, 2013). Interviews were voice recorded and took 40 minutes on average to complete.

Considering the deductive approach of this study and aim of the qualitative phase, a semi-structured interview style was used with the three main themes of risk perception as theoretical base. Consequently, a semi-structured interview guide with open-ended questions representing each of the three main themes (risk drivers, risk types and risk reducers) was used to direct the interviews. The questions were carefully designed to enable a thorough understanding of consumers' Chenin blanc-specific risks, while allowing participants to gather their thoughts about consuming and buying white wine, moving from general to more specific. The preliminary interview guide was pilot tested on two participants to ensure that the researcher and participants were comfortable conducting the interviews and also to assess whether the questions were sufficient to answer the objectives (Magnusson & Marecek, 2015:70). The interview guide was judged to be adequate and only a few minor revisions to wording were made. Therefore, data generated from the pilot interviews were also included in the findings.

The final interview guide consisted of four parts moving from 1) informal and unstructured questions to structured questions about 2) the white wine category, risk reducers and risk types (importance of loss), 3) varietal risk, Chenin blanc risk drivers, risk types (probability of loss) and 4) recommendations to improve Chenin blanc sales. Examples of questions are depicted in Table 4.1. Refer to addendum A for an example of a complete interview transcript.

Table 4.1. Question examples from the semi-structured interview guide

Part	Question examples	Constructs/themes
Part 1	<ul style="list-style-type: none"> Tell me about the occasions when you enjoy a glass of white wine 	Introductory, informal
Part 2	<ul style="list-style-type: none"> Tell me about yourself shopping for white wine. What makes you choose one bottle over the other? Where do you get your information about white wine? Tell me when are you satisfied with a white wine. What makes it a good choice? When the wine you bought is not a good choice or not living up to your expectations; can you describe such a wine? 	White wine category: risk reducers and risk types (importance)
Part 3	<ul style="list-style-type: none"> If you invite new friends or maybe colleagues, which white wine varietal would you serve? Why? Which white wine varietal is the riskiest to serve? 	Varietal risk, Chenin blanc risk drivers, Chenin blanc risk types (probability of loss)

	<ul style="list-style-type: none"> • What is your friends' liking or perception of Chenin blanc? • How much time does it take to choose a bottle of Chenin? • Your confidence to buy a bottle of Chenin for a friend or to take to a "braai" or dinner party? • What's your perception of the quality of Chenin blanc? • Can you perhaps comment on the availability of Chenin blanc? 	
Part 4	<ul style="list-style-type: none"> • Any recommendations to improve the sales of Chenin blanc? 	Recommendations to improve Chenin blanc sales

The use of probes is essential to ensure the effectivity of semi-structured interviews. Probing refers to a number of additional questions when the researcher requires the participant to elaborate and/or clarify an answer or statement (Harding, 2013:46). Throughout the interviews, the researcher continuously made use of probes to ensure an adequate understanding and interpretation of participants' verbal expressions. In the following excerpts, probing examples from two interviews are provided in verbatim.

Excerpt 1:

Interviewer question: "What is your friends' liking or perception of Chenin blanc?"

Participant answer: "Next to nothing."

Probe: "Why do you think that?"

Participant answer: "I think in the bigger scheme of things, where I live, there is less information about white wines to start off with and okay then even less information about white wine cultivars (varietals) that is not that well-known. So, it's a combination of things."

Excerpt 2:

Probe: "From your side, any last comments on Chenin blanc? Maybe just to summarise."

Participant answer: "I don't think I know enough about Chenin to not like it, but for some reason I don't. And then I tend to go towards the more familiar names. And familiar white wine lingo that I've heard before and stick with that."

Probe: "And familiarity would mean?"

Participant answer: "Would mean like big wine estates or Sauvignon blanc. Any Sauvignon blanc from the big wine estates."

Probe: “And one last glance about why it is unfamiliar?”

Participant answer: “I think its unfamiliar because I didn’t grow up knowing about the Chenin blanc. And I think the big wine estates don’t advertise they make a Chenin blanc that is particularly nice or that they have this amazing Chenin blanc. It’s just wine in general, and the Chenin blanc is always one of the last things that they would mention when you want to do a tasting.”

From these examples, it is clear that the researcher made an effort to gain a comprehensive understanding of participants’ perception and uncertainties about Chenin blanc. It was found that probing specifically unlocked the reasons behind the uncertainty – i.e. Chenin blanc risk drivers. From the two excerpts, a lack of information, a lack of knowledge, unfamiliarity as well as ineffective marketing emerged as possible Chenin blanc risk drivers. After no new information emerged and themes were repeated, the interviews were discontinued and data analysis commenced.

4.4.3. Qualitative data analysis

Qualitative data analysis involves a systematic approach to ultimately find meaning in text data (Magnusson & Marecek, 2015:83). Therefore, interview data were analysed systematically, and according to the steps prescribed by Creswell (2014:197). After each interview, the voice data were firstly transcribed in verbatim. After all the interviews were transcribed, it was read through to gain a sense of participants’ general perceptions about white wine and Chenin blanc specifically. After notes on general findings were made, each individual transcript was coded. Coding refers to the process in qualitative data analysis where data is organised according to themes or categories (Babbie, 2010:338) and is considered the most significant step in qualitative data analysis (Boeije, 2010:94). Based on the themes, coding, therefore, adds context and meaning, preparing the data for interpretation, which is the final phase of qualitative data analysis (Creswell, 2014:199). The approach to coding is dependent on the overarching research approach, objectives of the study and type of interview (Harding, 2013:128).

Considering the deductive research approach, semi-structured interview style and objective to inform a questionnaire, *a priori* themes and sub-themes (Vogt, Vogt, Gardner & Haefele, 2014), based on risk perception theory, were appropriate to use in this study. Therefore, a primarily deductive coding approach was followed, opposed to an inductive approach which would have been suitable in the case of unstructured interviews with the purpose to create new theory (Harding, 2013:15). A complete list of all *a priori* themes and sub-themes is

provided in Table 4.2. A more inductive, open coding approach was only used in the case of theme five – recommendations to improve Chenin blanc sales (Table 4.2). For this theme, all recommendations were carefully examined and sub-themes were created based on repetition of ideas from participants as discussed in Chapter 5.

When a framework with predetermined themes and sub-themes is used to code raw data, this method is referred to as content analysis (Babbie, 2010:333). Therefore, **content analysis** was applied where sentences and/or paragraphs (also referred to as quotes) in each interview transcript were coded and then systematically organised according to the *a priori* themes and sub-themes (Bergman, 2010; Harding, 2013:4) (Table 4.3). However, some new themes, outside of the initial *a priori* framework surprisingly emerged from the data. There were, for example, repetitive mention of Sauvignon blanc by all participants throughout the interviews. Therefore, Sauvignon blanc was assigned a code and included as a new conceptual theme – a significant finding in itself. **Discourse analysis** was subsequently applied to identify how and in which context to include Sauvignon blanc in this study about Chenin blanc risk perception.

Table 4.2. List of themes and sub-themes used as coding framework

Themes	Sub-themes
1. Risk drivers (Bettman, 1973; Bruwer <i>et al.</i> , 2013)	1.1 A lack of information 1.2 A lack of experience 1.3 Chenin blanc is new/unfamiliar 1.4 A lack of self-confidence to evaluate Chenin blanc 1.5 Perceived variations in quality between varietals 1.6 Wine risk-taking personality 1.7 When the purchase is important to the consumer 1.8 Occasions
2. Risk dimensions (white wine importance) (Schiffman <i>et al.</i> , 2014)	2.1 Functional 2.2. Physical 2.3. Financial 2.4. Social 2.5. Psychological 2.6. Time

3. Risk dimensions (Chenin blanc probability of loss) (Schiffman <i>et al.</i> , 2014)	3.1 Functional 3.2. Physical 3.3. Financial 3.4. Social 3.5. Psychological 3.6. Time
4. Risk-reducing strategies in the white wine category (Atkin & Thach, 2012; Schiffman <i>et al.</i> , 2014)	4.1 Seek information 4.2 Stay brand loyal 4.3 Buy based on price 4.4 Buy well-known brands 4.5 Seek reassurance 4.6 Rely on store image
5. Recommendations to improve Chenin blanc sales	No <i>a priori</i> sub-themes

This aforementioned approach to analysis concerns the language used to describe a certain phenomenon (Harding, 2013:138). In this study, Sauvignon blanc has, for example, been pertinently described as a “safe choice”, “a crowd pleaser”, and “everybody I know loves Sauvignon blanc”, while being “consistent” in terms of delivering according to expectations. It was judged to fit the definition of a risk reducer (Schiffman *et al.*, 2014:155) and Sauvignon blanc was therefore conceptualised as a sub-theme within the theme of risk-reducing strategies. Below is an example of the risk-reducing strategies theme with one *a priori* sub-theme and one new sub-theme, both with supportive quotes (Table 4.3) which is indicative of the approach to analysis followed in this study.

Table 4.3. Example of qualitative analysis as applied in this study

THEME	Sub-theme	Supportive quotes
1. RISK-REDUCING STRATEGIES (<i>a priori</i>)	1.1 Buy based on price (<i>a priori</i>)	“I will go for more expensive wines.”
	1.2 Sauvignon blanc (new)	“I would look at the whites and first of all go to the Sauvignon blancs.”

After all codes had been assigned, data were interpreted and described. True to the research design of this study, qualitative findings were interpreted and presented within the existing theoretical framework of risk perception. During the interpretation, Chenin blanc was

constantly compared to the white wine category and especially Sauvignon blanc. Therefore, based on differences and similarities, risk perception, as relevant to Chenin blanc was interpreted. For example, to identify Chenin blanc perceived risks to be included in the questionnaire, each risk dimension was compared to the importance of the same dimension within the white wine category. Finally, the data was prepared to be used in the development of the questionnaire. Although it was not intended to report on the qualitative findings in narrative form, findings were judged to be significant, adding knowledge to the existing literature of wine risk perception. The qualitative findings were therefore reported and presented in a research article (Chapter 5).

4.4.4. Validity of qualitative findings

In qualitative research, validity refers to whether the findings accurately reflect the data (Creswell, 2014:201). Due to the subjective nature of qualitative research, measures to ensure the accuracy of data is recommended (Harding, 2013). In this study, a standardised *a priori* coding framework was consistently used throughout interviews. However, effort was made to include findings that did not fit the initial *a priori* coding framework, therefore respecting the data to “speak for itself”. Including new and surprising themes enhances the validity of qualitative findings. Also, during the interviews, the researcher intentionally made use of probes to ensure whether participants were understood correctly, thereby making an effort to collect and report the findings as accurate as possible. At the end of the interviews, participants themselves were also asked to summarise their perceptions and uncertainties about Chenin blanc and to clarify on any inconsistencies (Harding, 2013:171) during the interviews. Creswell (2014:202) furthermore recommends providing an in-depth descriptive research report on qualitative findings. In this study, the purpose of the qualitative findings was primarily to inform and develop a measurement instrument. However, a complete and detailed report of findings was compiled (Chapter 5), which in itself enabled a richer understanding of participants’ perspectives on Chenin blanc within the South African white wine category. The research findings were also critically reviewed and approved by both supervisors who were not part of the data collection process. This scrutiny and interpretation beyond the primary researcher furthermore add validity to the qualitative findings (Creswell, 2014:202).

4.5. DEVELOPMENT OF MEASUREMENT INSTRUMENT, HYPOTHESES AND CONCEPTUAL FRAMEWORK

With the exploratory sequential mixed methods design as followed in this study, the point of interface, i.e. where the two methods “meet”, often lies in the development of the measurement instrument and hypotheses (Creswell, 2014:226) (Figure 4.1.). Therefore, in this study, the qualitative data generated from the interviews were used to build on existing theory of wine risk perception and informed the measurement instrument, hypotheses as well as the conceptual framework (Figure 4.2.).

4.5.1. Measurement instrument

The development of the varietal-specific perceived risk measurement instrument is, to the knowledge of the researcher, an international first. Therefore, details on the methodology, questionnaire items, the pilot test and quantitative analysis to assess and enhance the reliability and validity of the questionnaire, is presented as a separate article (see Chapter 6). Throughout the development of the measurement instrument, the focus remained on the novel contribution of this study – investigating wine risk perception on varietal level. Thus, white wine was identified as the category, with Chenin blanc the varietal studied within the paradigm of consumer risk perception. After the *a priori* structuring of variables based on theory and the qualitative data, the instrument consisted of six construct scales handled separately in the reliability and validity testing (Table 4.4). As per the recommendation in Chapter 6, ten items below the reliability thresholds were removed from the analysis and excluded from the data as presented in Chapter 7. Final questionnaire variables are presented in Table 4.4. See Addendum B for the complete questionnaire as used in this study.

Table 4.4. Final measurement instrument variables

Variables	Number of items used
DEMOGRAPHIC CHARACTERISTICS	
Age	1
Gender	1
Education	1
Home language	1
Province	1
Household size (adults)	1
Ethnicity	1
GENERAL WINE CONSUMPTION/PURCHASING PRACTICES	

Frequency of consumption	1
Retail purchase channel	1
Wine style	1
Wine type	1
White wine experience	1
Expenditure on white wine	1
RISK DRIVERS	
White wine risk drivers scale	
Importance of white wine decision	4
Lack of information	3
Risk personality	2
Lack of self-confidence	3
Chenin blanc risk drivers scale	
Quality variations	1
Occasion	1
Lack of experience	
<i>Purchase frequency</i>	1
<i>Subjective knowledge</i>	1
Lack of information	3
Lack of availability	3
Risk personality	2
Lack of self-confidence	3
RISK PERCEPTION	
Overall perceived risk scale	
White wine subjective risk	3
Chenin blanc subjective risk	2
White wine importance of loss scale	
Functional risk	4
Financial risk	3
Physical risk	3
Social risk	4
Psychological risk	3
Time risk	2
Chenin blanc probability of loss scale	
Functional risk	4
Financial risk	3
Physical risk	3
Social risk	4
Psychological risk	3
Time risk	2
RISK-REDUCING STRATEGIES	
White wine category risk-reducing strategies	15
Chenin blanc risk-reducing strategies scale	

Store promotions	5
Recommendation from friends'/ opinion leaders	4
Information seeking: differentiation through packaging and labelling	5
Information seeking: Social media	3
Information seeking: Traditional media	2
Promotions/tastings outside store	5
Matching food	2

4.5.2. Hypotheses

A hypothesis refers to a predictive and testable statement as proposed by the researcher. Thus, based on a general theory or observation, a certain outcome is expected and either accepted or rejected after it has been tested (Babbie, 2010:46). Based on theory and qualitative results of this study, the hypotheses and measurement instrument were developed simultaneously. The hypotheses are presented according to the three main themes of risk perception and objectives of this study.

- Risk drivers

Objective: *To describe consumers' perceptions of Chenin blanc within the South African white wine category according to risk driver variables*

Qualitative interviews confirmed all risk drivers identified from theory to be applicable in the case of Chenin blanc (see Chapter 6). Consistent with national sales data (SAWIS, 2017), participants also mentioned a preference for red wine, therefore indicating that the white wine category per se, is less familiar, having less experience with white wine in general. Furthermore, interview participants' own comparison of Chenin blanc to other white wine varieties provided context and insight to the apparent purchase barrier. The most frequently purchased varieties in the 750 ml bottle category, Sauvignon blanc, Chardonnay and "White blends" (SAWIS, 2017) were included to compare with Chenin blanc according to risk driver variables. Therefore, the following set of hypotheses were proposed to describe consumers' perceptions of Chenin blanc within the white wine category and compared to other varieties:

H1. There are significant differences between Chenin blanc and the white wine category in terms of:

H1.1. availability

H2.2. lack of self-confidence

H2.3. risk-taking behaviour and

H2.4. perceived amount of information available

H2. There are significant differences between Chenin blanc and other white wine varieties in terms of:

H2.1 quality

H2.2 consumers' experience and

H2.3 goodness-of-fit for occasions

- Perceived risk

Objective: To explore and describe the most severe Chenin blanc risk dimensions

From the qualitative results of this study, participants unequivocally reported that functional risk (taste of white wine) is the most important dimension when purchasing white wine. In previous studies, however, financial or functional risk was considered the most important (Bories *et al.*, 2014; Bruwer *et al.*, 2013; Bruwer & Rawbone-Viljoen, 2013; Lacey *et al.*, 2009; Mitchell & Greatorrex, 1988). Identifying the major risks, as perceived by consumers is valuable as it will provide pertinent direction to accurately address the major risks through risk-reducing strategies (Mitchell & Greatorrex, 1988). Therefore, the following hypotheses were proposed to explore and describe Chenin blanc perceived risk dimensions:

H3. Functional risk is a significantly more severe Chenin blanc perceived risk than financial risk

H4. Financial risk is a significantly more severe Chenin blanc perceived risk than functional risk

Objective: To explore and describe differences in Chenin blanc perceived risk across age and ethnic groups

Segmentation is valuable as it clusters diverse consumers into more homogeneous groups essential for strategic marketing purposes (Mooi & Sarstedt, 2011:237). Previously, demographic differences in perceived risk behaviour have been described (Atkin & Thach, 2012; McCarthy & Henson, 2005; Mitchell & Greatorrex, 1988). It is furthermore known that

younger and less experienced consumers tend to perceive higher levels of risk (Atkin & Thach, 2012). Due to wine traditionally being associated with white, affluent minority groups (Ndanga, Louw, & Van Rooyen, 2010), with new interest from the black South African middle class (Holtzkampf, 2015), it was decided to describe differences in Chenin blanc perceived risk according to age and ethnicity in this study. The following hypotheses were therefore proposed:

H5. There are significant differences between age groups' Chenin blanc perceived risk

H6. There are significant differences between age groups according to Chenin blanc perceived risk dimensions

H7. There are significant differences between ethnic groups according to Chenin blanc perceived risk

H8. There are significant differences between ethnic groups according to Chenin blanc perceived risk dimensions

- Risk-reducing strategies

Objective: *To explore and describe the use of a wine varietal as RRS*

Sauvignon blanc emerged as a repetitive theme and was conceptualised as a possible risk-reducing strategy. Interpretation of qualitative results after discourse analysis was suggestive of brand loyalty towards Sauvignon blanc. From theory it is known that less experienced and younger wine drinkers tend to rather remain brand loyal, while more experienced wine drinkers use other, more complex sources of information (Parr *et al.*, 2011; Vigar-Ellis, Pitt & Caruana, 2015). Although there have been previous reports that consumers might attach brand value to wine varietals (Gluckman, 1986), a specific wine varietal used as RRS has not been described.

Reassurance through tastings has previously been described as a significantly more important RRS than the price of wine across socio-economic classes (Mitchell & Greatorex, 1989). Also, from the qualitative findings of this study, participants reported that the price becomes less important if they like the taste of a wine. However, previously, it has been reported that the brand name is the most important RRS used by wine consumers across different age groups (Atkin & Thach, 2012). Therefore, the following hypotheses were proposed to test the existence and use of Sauvignon blanc as risk-reducing strategy:

H9. Sauvignon blanc is a significantly more important RRS than well-known brands

H10. Sauvignon blanc is a significantly more important RRS than price

Objective: To recommend strategies to reduce Chenin blanc perceived risks

Pertinent differences in consumers' use of RRS are most sought-after as the value of these RRS insights are widely recognised as critical for strategic marketing purposes (Atkin & Thach, 2012; Bruwer *et al.*, 2013; Mitchell & Greatedorex, 1989; Spawton, 1991). Once consumers gain the information needed from their preferred RRS, they reduce their uncertainty and often continue to purchase a product (Mitchell and Greatedorex, 1989). The following hypotheses were proposed to identify the most important Chenin blanc RRS.

H11. There are significant differences between the importance of Chenin blanc RRS

4.5.3. Conceptual framework of this study

A conceptual framework (Figure 4.2) for this study, consisting of the variables as included in the measurement instrument is provided. From this framework, it can be seen that risk drivers, risk dimensions as well as risk-reducing strategies have been applied to both the white wine category and Chenin blanc. As with the measurement instrument and hypotheses, the constructs included were based on theory and supplemented by the qualitative data. The risk drivers were adapted from Bettman, (1973); Bruwer *et al.* (2013); Bruwer and Rawbone-Viljoen (2013) and Vigar-Ellis *et al.* (2015). The risk perception model and dimensions (I+P) were adapted from Bruwer *et al.* (2013); Mitchell (1999) and Schiffman *et al.* (2014).

The 15 RRS for the white wine category have been identified from the interview data, of which 14 has been previously described in wine literature (Atkin & Thach 2012; Goodman, 2009; Johnson & Bruwer, 2004). Recommendations for Chenin blanc (RRS) are based on interview data and were applied similarly to previous RRS identified in wine literature (Atkin & Thach, 2012; Spawton, 1991). Lastly, demographic characteristics have been added, as it was aimed to describe risk perceivers according to age and ethnicity (Bruwer *et al.*, 2013; McCarthy & Henson, 2005).

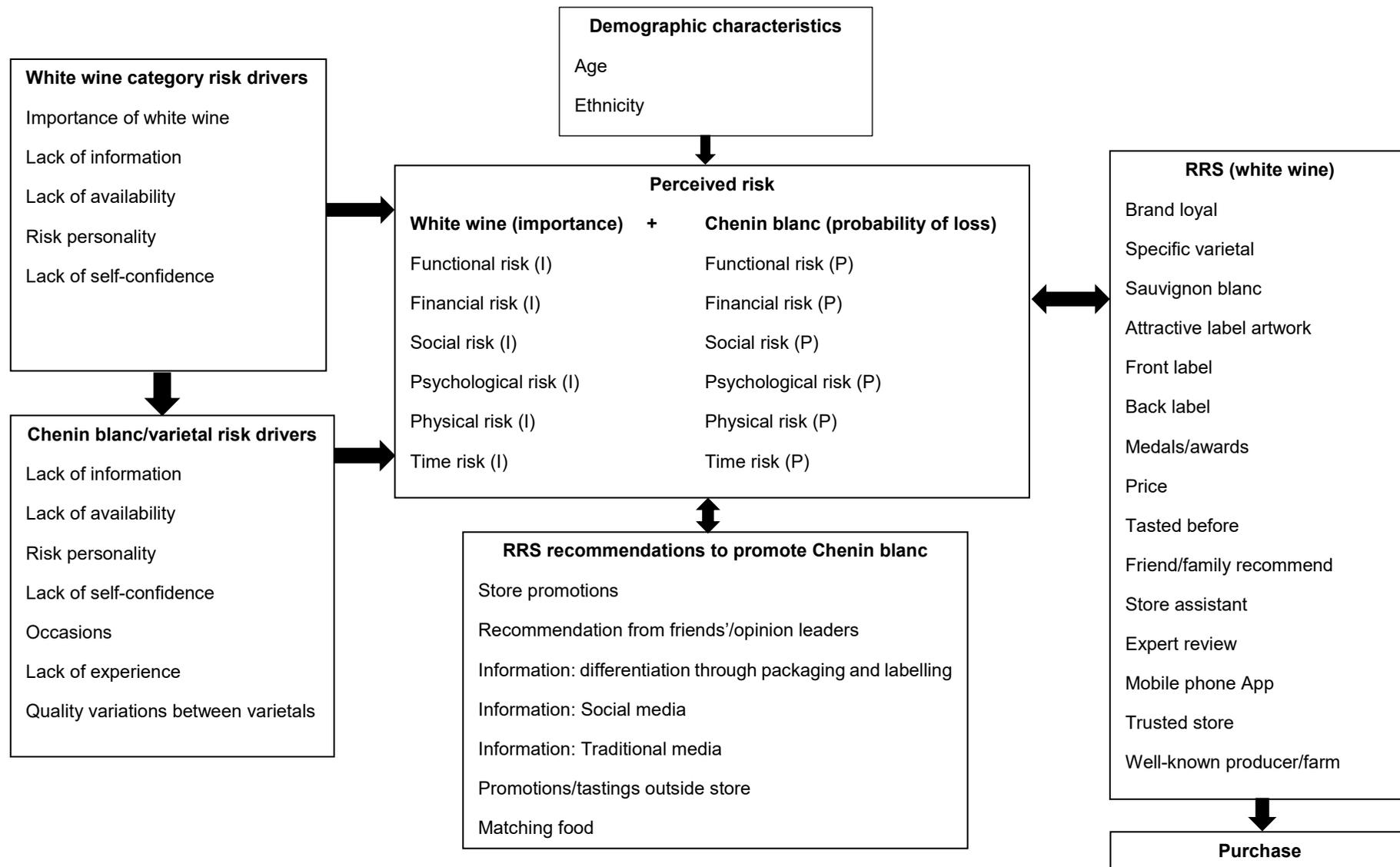


Figure 4.2. Conceptual framework for this study

4.6. QUANTITATIVE METHODS APPLIED

As part of the exploratory mixed methods research design followed in this study, the quantitative phase can be considered the core component (Creswell, 2014) (Figure 4.1). In social research, a survey design is appropriate and a popular method used to collect primary quantitative data from a large population as in the case of this study (Babbie, 2010). In this study, the aim of the quantitative phase was to describe Chenin blanc perceived risk according to risk drivers, risk dimensions and risk-reducing strategies. In the following sections, the sampling procedures, data collection, sample size and data analysis are discussed.

4.6.1. Sampling procedure in the quantitative phase

Non-probability snowball sampling is an appropriate convenience sampling technique when a population is challenging to access (Mooi & Sarstedt, 2011) as in the case of this study where a directory of South African wine drinkers was unavailable. However, due to the known disadvantages of snowball sampling, specifically related to the doubtful representativeness (Babbie & Mouton, 2001), it was not the preferred sampling method to be used in this study. Upon planning the sampling procedure and data collection for this study, two large South African retailers were approached and requested that their in-house customer directory be used to distribute the survey. One retailer categorically declined the request. After initial positive feedback from the other retailer's head office, a formal request was sent to ask permission to access their customer database providing the research insights were made available, exclusive to the use of the company. However, after numerous follow-ups, the retailer did not respond and an alternative sampling procedure was considered. Consequently, a large corporate bank with branches across South Africa was approached where it was requested that the survey be distributed amongst employees. Once again, initial discussions were promising, yet after waiting months, repeatedly being reassured that feedback would be provided shortly, the request was denied.

From previous personal experiences, retailers do not regularly permit intercepting customers in-store. Also considering the length of the measurement instrument and time-pressed status of shoppers, it was judged that drawing sampling units from a population of in-store customers, was not appropriate in the case of this study. Therefore, numerous large food and wine event organisers such as the Good Food and Wine show, Wacky Wine Festival, Soweto Wine Festival and Tembisa Wine Festival were contacted and asked to help with access to wine consumers. All attempts were unsuccessful. Lastly, to collect the data from a population of wine consumers, quotations from three different market research companies were obtained,

which at the time, exceeded the budget for this study. Therefore, due to the time and budget constraints as well as the difficulty to access the population of wine drinkers, snowball sampling was used in this study.

Snowball sampling refers to a sampling technique where each individual respondent is requested to suggest and recruit additional respondents (Mooi & Sarstedt, 2011). As wine is often shared socially at various occasions (Hirche & Bruwer, 2014), it was judged that by using snowball sampling, access to a network of wine drinkers would be gained. Therefore, using snowball sampling, individual wine drinkers within the researcher's own network were requested to complete the survey and thereafter to help distribute the questionnaire to other wine drinkers which, on their turn were also requested to distribute the questionnaire. A link to the e-survey was posted on social media pages as well as distributed via email, and potential respondents were asked to complete the questionnaire and share the link to other consumers of white wine. This snowball sampling technique, as described, were used in both the pilot test and main data collection. However, after using snowball sampling for the main data collection, demographic data were analysed which revealed homogeneity and reflected the demographic characteristics of the researcher: female, Caucasian, Afrikaans speaking and aged between 30-40 (Table 4.5). This reflection of researcher demographic characteristics could have been expected due to the known disadvantage of snowball sampling, not being representative of the population (Babbie, 2010). Although numerous efforts have been exerted to access other ethnic groups, few responses were gathered. However, with more South African women consuming wine than men and wine traditionally being associated with white affluent groups, the researcher argues that the sample from the snowball technique, is not a complete misrepresentation of the South African wine market.

Nevertheless, it was decided to aim for a more heterogeneous sample with better representativeness of the bottled wine drinking population as described previously (see 4.3.2.1). Consequently, a professional South African market research company with a large consumer database, representative of South African internet users, assisted with data collection. Based on the judgement of the company, their consumer panel would have provided an appropriate sampling frame to draw a more heterogeneous sample than the sample drawn by the researcher. However, the sample drawn by the research company were skewed in terms of age (mean age = 50.3 years) and it was decided to use the data collected from both sampling techniques.

In general, the total combined sample showed good representation to the South African population of bottled wine drinkers in terms of gender, province of residence and age (see 4.3.2.1). Sample characteristics after data collection using snowball sampling and the total,

combined sample characteristics after both sampling techniques are shown in Table 4.5. The combined sample proved to be more heterogeneous than the sample drawn with the snowball technique (Table 4.5). The sample characteristics were assessed by a consultant statistician who agreed that the sample showed adequate heterogeneity to enable statistical comparisons in terms of demographic characteristics.

Table 4.5. Demographic characteristics of the sample

Demographic variable	Snowball sampling (%)	Total combined sample (%)
<i>Gender</i>		
Female	70	56
Male	30	44
<i>Highest level of education</i>		
Post-graduate qualification	59	48
Undergraduate degree or diploma	32	36
High school completed or below	9	15
<i>Home language</i>		
Afrikaans	75	46
English	22	40
African languages	3	13
Other	1	1
<i>Province of residence</i>		
Gauteng	39	45
Western Cape	36	30
KwaZulu Natal	4	9
North-West	9	5
Eastern Cape	2	3
Free State	5	3
Mpumalanga	3	2
Limpopo	1	2
Northern Cape	1	1
<i>Ethnicity</i>		
Caucasian	93	75
Black African	3	14
Coloured	3	7
Indian/Asian	1	3
Other	1	1
Age	mean=38.36 SD=12.84	mean=46.5 SD=15
Adults in household	mean=2.12 SD=0.98	mean=2.28 SD=1.11

4.6.2. Data collection procedure, inclusion criteria and sample size in the quantitative phase

Prior to the main data collection, the questionnaire was pilot tested using a small scale pencil-and-paper pilot test (n=5) and a large scale (n=62) electronic pilot test. For both the large scale pilot test and main data collection, potential respondents were included based on the following criteria: (1) South African citizens of (2) legal drinking age (18+) which had to (3) at least be aware of Chenin blanc and (4) buy white wine at least occasionally. It was judged that

a certain level of awareness would be required to answer questions about Chenin blanc, however, wine industry experts/employees were excluded. Details of the pilot test are described in Chapter 6.

For the main data collection, a screening question was added that excluded respondents whom previously completed the survey and/or took part in the pilot test. Quantitative data were collected using an online survey over a period of seven months. Internet-based data collection is popular amongst consumer and market researchers as it holds many advantages such as less interviewer bias and it provides access to usually hard-to-reach populations via email or social networking (Zikmund & Babin, 2013:178). Other advantages include the elimination of costs and efforts to print, distribute, code and capture the data and the occurrence of missing data are minimalised (Zikmund & Babin, 2013:178). Therefore, for the purpose of this study, where details of the South African wine drinking population were unknown, an online survey approach was judged the most appropriate as well as cost- and time effective. All respondents participated voluntarily, provided informed consent and were briefed on instructions for completion prior to the start of the survey. Details about the procedures were provided in a cover letter after the link to the survey was opened (see Addendum B for the survey cover letter).

For the snowball sampling, the Stellenbosch University SunSurveys platform hosted the e-survey. The link with an invitation to the survey was sent out via email and publically shared on social networks of Facebook, Twitter and LinkedIn. Participation was encouraged by an incentive of a lucky draw where seven respondents stood an equal chance of winning wine to the value of R1000. Over a period of 6 months, 832 completed responses were gathered from the snowball sampling technique at a response rate of 15.6%. Based on the inclusion/exclusion criteria, a total of 631 usable questionnaires were retrieved from the snowball sampling method.

For the judgemental sampling method, Consulta, a large market research company hosted the online survey for a total period of one month. Invitations with the link to the survey were sent out to a very large number of potential respondents, representative of the South African internet-user population. After two weeks, a reminder was sent out, and 1722 completed responses were gathered at a response rate of 1.2%. Based on the inclusion/exclusion criteria, a total of 1420 usable questionnaires were retrieved. Therefore, a total sample size of 2051 was established for this study at a combined response rate of 8.4%. There was a drop-out rate of 8% with 1887 answering the last question of the survey. With e-surveys, a drop-out can be expected as respondents might have become fatigued or ran out of time to complete all the questions.

4.6.3. Quantitative data analysis

After main data collection, the two data sets from the different electronic platforms were exported and merged on Excel. Data were imported and subsequently analysed by a consultant statistician using Statistica (version 13.4.0.14). Descriptive statistics such as means and frequencies were calculated to describe sample characteristics (see Addendum B). Cronbach alpha coefficients were calculated to test internal reliability of the questionnaire. Confirmatory Factor Analysis (CFA), LISREL Structural equation modelling (SEM) were used to assess construct validity of the questionnaire and to describe estimated Phi-correlations between latent variables. Smart-PLS were used to assess convergent validity using Average Variance Extracted (AVE) as indicator and to calculate Heterotrait-Monotrait (HTMT) ratios, assessing discriminant validity. Analysis of Variance (ANOVA) was used to indicate statistical significance between group means, while post-hoc Fischer Least Significance Difference (LSD) indicated statistically significant differences within group means at 95% confidence intervals. Due to the practical/marketing implications of risk-reducing strategies, effect sizes using Cohen's *d*-value and Hedges' *g*-value were calculated to indicate practical significance. Medium ($d/g \geq 0.5$) and large ($d/g \geq 0.8$) effect sizes were reported (Cohen, 1988).

4.6.4 Summary of validity and reliability measures

The validity and reliability of the measurement instrument are addressed comprehensively in Chapter 6 and a summary of measures (Table 4.6) taken to enhance validity and reliability will be provided in this section. Validity refers to the extent to which an instrument measures what it intends to measure (Hair, Black, Babin, & Anderson, 2010:7). Therefore, in this study validity indicates how successful the survey questionnaire was able to measure consumers' perceived risk in the context of wine decision-making. Various types of validity exist, namely face, content, construct, discriminant and convergent validity.

Face validity, considered the minimum requirement, refers to the appearance of the questionnaire, i.e. that variables and items seem sensible (Mooi & Sarstedt, 2011:36). Content validity refers to how well the instrument covers the concepts of the research theme under investigation (Mooi & Sarstedt, 2011:36). Construct validity involves the representation of each construct by a number of items. For example, there are known dimensions/types of perceived risk, and each of these types is usually represented by three to four items/statements. The combined responses of the individual statements then represent a construct as a whole. The goodness-of-fit of these individual items to measure the construct need to be examined by statistical techniques (Hair *et al.*, 2010:693). Discriminant validity refers to the uniqueness of

constructs, therefore, each construct needs to be distinct from others (Hair *et al.*, 2010:689). Convergent validity relates to the items within the same construct which should share a high amount of variance (Hair *et al.*, 2010:689).

Reliability refers to whether the same results will be obtained when the study is repeated. Reliability, therefore, involves the data collection procedure and measuring instrument which should yield similar results when replicated amongst the same population (Zikmund & Babin, 2013:257). Internal reliability refers to the inter-relatedness of individual questionnaire items which should be high, therefore indicative of internal consistency (Mooi & Sarstedt, 2011:37). Researcher reliability often becomes threatened when fieldworker bias might be present in interviewer-administered questionnaires (Maree & Pietersen, 2007:158). As the survey questionnaire was self-administered, the possibility of fieldworker interference and bias was eliminated. All measures used in this study to enhance the validity and reliability, are indicated in Table 4.6. In general, the questionnaire proved to have acceptable internal reliability and validity (see Chapter 6, Chapter 7 and addendum B).

In Chapter 6, 10 items were identified below the reliability and validity thresholds and removed prior to any further analysis. Therefore, the results presented in Chapter 7 excluded the 10 items which were threatening to the instrument's validity and reliability. After the removal of the items, a third-round reliability analysis and second-round confirmatory factor analysis were conducted. Chapter 7 reports on the goodness-of-fit indices and reliability analysis after the removal of the 10 problematic items, while in addendum B, the second-round confirmatory factor analysis of the various scales are displayed.

After removal of the selected items based on the reliability analysis, Cronbach alpha values generally improved. A minority of Cronbach alpha scores, which are acceptable in exploratory studies ($\alpha < 0.6 \leq 0.65$), however not ideal in validated instruments, were also retained. Considering that this study was a pioneering effort following an exploratory sequential mixed methods approach to measure wine risk perception, it was judged acceptable to selectively retain items with Cronbach alpha values between 0.6 and 0.65. This is however a limitation to this study and re-testing and/or removal of items is recommended in future studies.

The two scales of white wine risk drivers and white wine importance, with low Cronbach alpha scores for risk-taking behaviour ($\alpha = 0.49$) and time risk ($\alpha = 0.50$), remained below the acceptable threshold. However, for the purpose of this study, the items representing these aforementioned constructs were included in Chapter 7 as it was pertinently aimed to compare Chenin blanc variables to the white wine category and therefore corresponding variables in

each of the categories were required. Following the P+I approach to measure perceived risk, time was, for example, identified as a relevant perceived risk in the qualitative data, while this risk dimension has previously been excluded in other risk perception studies. As the Cronbach alpha value for the corresponding probability of loss time risk dimension was acceptable (0.78), it was decided to retain the time risk dimension on the importance of loss scale.

For the Chenin blanc risk driver, probability of loss and RRS scales, as well as the white wine importance of loss and overall perceived risk scales, all factor loadings were above the 0.5 threshold (Addendum B). Only in the case of the white wine risk driver scale, two items had factor loadings below the 0.5 threshold. The removal of the item with a factor loading of 0.33 would have resulted in a lower than acceptable Cronbach alpha value ($\alpha < 0.6$) for the self-confidence construct. Therefore, after careful consideration, the item was not removed. In a previous risk perception study (Pappas, 2016), item loadings between 0.45-0.50 were considered fair. Therefore, the item with a loading of 0.45 on the “importance of decision” construct, with a Cronbach alpha value > 0.7 , was not removed. However, it is recommended that the white wine risk driver scale be retested and improved.

Table 4.6. A summary of validity and reliability measures in this study

Face validity	<ul style="list-style-type: none"> • Measurement instrument was screened by two academics in the fields of oenology and business management as well as a consultant statistician.
Content validity	<ul style="list-style-type: none"> • Measurement instrument was developed after a thorough review of literature and a qualitative phase to ensure all relevant risk perception concepts were included. • Using a small-scale pencil-and-paper test (n=5), the measurement instrument was pilot tested and respondents were asked for feedback to ensure all questions were well understood.
Internal reliability	<ul style="list-style-type: none"> • Measurement instrument was large scale pilot tested (n=62) and Cronbach alpha coefficients were used to identify and amend weak items with cut-off values of ($\alpha = 0.60$) and item-total correlations of ($r < 0.3$). • Second round reliability analysis after main data collection (n=2051) identified weak items with cut-off values of ($\alpha = 0.70$) and item-total correlations of ($r < 0.3$). In total, 10 items were deleted.

	<ul style="list-style-type: none"> • A third round reliability analysis was done, with recommendations for improvement of the measurement instrument. As the development of the measurement instrument was a pioneering effort and in essence exploratory, some construct items lower than the desired $\alpha=0.70$ were retained.
Construct validity	<ul style="list-style-type: none"> • LISREL-SEM were used to assess construct validity. Goodness-of-fit (GOF) indices appropriate to use in large samples were used to indicate threats to construct validity. Cut-off values were interpreted as follows: RMSEA=0.08; CFI=0.90; GFI=0.90.
Convergent validity	<ul style="list-style-type: none"> • Factor loadings with cut-off values of 0.50 and SMART-PLS, Average Variance extracted (AVE) with a cut-off value of 0.50 were used to indicate problems with convergent reliability.
Discriminant validity	<ul style="list-style-type: none"> • SMART-PLS Heterotrait-Monotrait ratios with cut-off values of <1.00 were used to confirm discriminant validity of all constructs.

4.7. ETHICAL CONSIDERATIONS OF THIS STUDY

An application for ethical approval for this study was submitted to the Research Ethics Committee (REC): Humanities of the Stellenbosch University, who abides by the Declaration of Helsinki and the Guidelines for Ethical Research: Principles Structures and Processes 2004 (Department of Health). Primary data collection only commenced after ethical approval was granted (proposal number SU-HSD-003952). As this study involved human participation, it was necessary to have measures in place to ensure that participants are physically and emotionally safe and well-informed about the aim and procedures of this study (Babbie, 2010). Although this study was about an alcoholic product, it had no deliberate intention to encourage the increase of per capita wine consumption. Also, according to reports, the bottled wine drinking population as targeted to complete the survey, mostly fall into the middle-higher to higher income groups in South Africa (Analytix, 2013). According to the World Health Organisation (WHO) (2014), these members from higher income groups are less affected by the adverse consequences of alcohol abuse.

The tasting of wine was not included in the methodology of this study and participants/respondents were therefore not exposed to the possible side effects of alcohol. This study strongly supports the responsible use of any alcoholic beverage and was communicated as such on the covering letters prior to the start of the actual data collection.

No individual was able to participate in any of the primary data collection phases without first providing informed consent. Due to the differences in data collection methods, two separate consent forms for the qualitative and quantitative phases were designed (see Addendum X). On the consent forms it was clearly stated what the purpose and procedures of the study were, that participation was completely voluntary, any participant/respondent could withdraw at any stage without consequences and that data would be handled confidentially. No participant/respondent can be identified from the results reported in this study. Only the primary researcher has access to the qualitative data, which is electronically stored on a password encrypted computer. Only the primary researcher and the consultant statistician have access to the quantitative data, also stored on two password encrypted computers. Data will be kept for a period of time according to the prescribed guidelines of the REC: Humanities.

No/minimal emotional, physical, economic, social, community or dignitary risks/harm to the researcher or any participant/respondent were expected and/or reported. This study did, however, make a noteworthy contribution, adding to the body of knowledge about consumers' wine risk perception, therefore outweighing the minimal risks.

4.8. CONCLUSION

In this chapter, a background to the social research process and designs in social research were provided. Also, the choice of the exploratory sequential mixed methods research approach used in this study was motivated followed by a background on the population and motivation for the non-probability sampling techniques employed. Consequently, a three-phase model (Figure 4.1) based on the steps of the exploratory sequential mixed methods approach, inclusive of a summary of all the procedures followed in this study, were provided. The supplementary qualitative component was discussed using detailed descriptions of the methods used in the data collection and analysis.

Hypotheses and a conceptual framework for this study (Figure 4.2) were developed and proposed, based on a combination of theory and qualitative results. The quantitative methods, inclusive of the sampling procedures, data collection and analysis were furthermore discussed. Lastly, a summary of the validity and reliability measures as well as the ethical considerations of this study were provided. In the following chapters, the results from the qualitative and quantitative phases, inclusive of the Measurement instrument development, are presented.

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CHAPTER 5
RESULTS ARTICLE 1:

**A VARIETAL-SPECIFIC APPROACH TO EXPLORE CONSUMERS’
WINE RISK PERCEPTION**

Written according to the guidelines of International Journal of Wine Business Research

Title: A varietal-specific approach to explore consumers' wine risk perception

Abstract

Purpose - This paper aims to explore consumers' risk perception on varietal level within the South African white wine category.

Design/methodology/approach - Qualitative data were collected from a sample of South African consumers of white wine using face-to-face, semi-structured interviews. An interpretative, combined deductive and inductive approach to analysis was followed.

Findings - Perceived risks associated with the Chenin blanc varietal were functional (taste), social, financial, time and psychological risk while a red wine preference, lack of experience, perceived lower quality, unfamiliarity, occasions, risk-taking behaviour, lacking information and self-confidence were identified as the main risk drivers. Results are also indicative of a seeming consumer loyalty towards Sauvignon blanc.

Practical implications - As results suggest that consumers could perceive varying amounts of risk between wine varietals, future risk perception studies focusing on varietals or region of origin might provide fruitful insights for marketing strategy.

Research limitations/implications - Results of the exploratory phase will be used to inform an instrument to measure consumer risk perception of Chenin blanc using a quantitative survey approach. Qualitative results should be confirmed in the sequential large scale quantitative phase.

Originality/value - To the best of the authors' knowledge, this paper is the first to qualitatively explore consumer risk perception of a specific wine varietal and that report on the possibility of a wine varietal used as a risk-reducing strategy.

Keywords Consumer risk perception, Chenin blanc, Qualitative interviews, South African white wine, Varietal risk,

Paper type Research paper

Introduction

Although South Africa is the world's 8th largest wine producing country, it has a low per capita wine consumption of only 7.2 litres per year (SAWIS, 2017). When compared to other wine producing countries, with per capita consumption in excess of 20 litres per year (SAWIS, 2017), the South African wine market is underdeveloped, with beer dominating the alcoholic beverage market at 78% volume share (Holtzkampf, 2015). Those South Africans that do consume wine, tend to prefer red wine over white wine when comparing sales of certified wine sold per 750ml units (SAWIS, 2017). Surely an interesting wine landscape becoming all the more intriguing when focusing on the South African white wine category and different white wine varieties. Chenin blanc, a white variety, was one of the first wine grape varieties planted in South African soil back in the 17th century and today remains the most planted wine grape variety in South Africa (Chenin Blanc Association, n.d.).

Chenin blanc is a versatile grape suitable for a variety of wine styles (Marais, 2003) ranging from premium to lower quality (Loubser, 2008). South Africa is also the largest producer of Chenin blanc worldwide with some experts reckoning that this variety could be established as South Africa's flagship. Already, single varietal South African Chenin blanc wines have started receiving international recognition due to dedicated efforts from winemakers and industry role players to showcase its true potential (Chenin blanc Association, n.d.; Institute for Grape and Wine Sciences, 2016). However, Sauvignon blanc, a much lesser planted grape variety, seems to be South African consumers' preferred choice when comparing annual total national bottled white wine sales per 750 ml. Approximately three times more Sauvignon blanc are being sold than either Chardonnay and Chenin blanc per 750ml bottles (SAWIS, 2017).

Some of the reasons for the low contribution by Chenin blanc are that, over the years, Chenin blanc has been used for brandy making purposes, white wine blends and for bulk wine sales gaining a justifiable, yet somewhat undeserving "work-horse" label, as commonly referred to in popular media (Nieuwoudt *et al.*, 2013). However, the supply of wine for brandy making has declined, most likely due to recent changes and new trends in the spirits market (Holtzkampf, 2015) leaving the 'wine for brandy' market unpredictable. Promoting Chenin blanc as a single varietal white wine, could lead to a more stable demand which would be economically viable due to the large amount of Chenin blanc under vines and its aptitude to grow in South African terroir. Therefore, the South African wine industry is committed to

endorse Chenin blanc through a wide range of initiatives, inclusive of a consumer research focus to determine the previously unknown Chenin blanc perspective of the local market (Chenin blanc Association, n.d.; Institute for Grape and Wine Sciences, 2016). Uncovering consumers' uncertainties about Chenin blanc from a perceived risk framework could provide valuable insight into the apparent purchase barrier.

Wine: an acquired taste and risky to buy

Commonly associated with food, special occasions and social gatherings, wine has significant symbolic and religious meaning especially in the western culture (Brunner and Siegrist, 2011; Ferrarini *et al.*, 2010). However, wine is often an acquired taste and preferences and consumption practices are primarily a result of previous exposure, experience and associative learning (Melo *et al.*, 2010). First wine experiences are usually during early adulthood at family occasions (Oliveira, 2012) and younger consumers tend to only choose a wine that they know due to their inexperience and high levels of uncertainty (Kallas *et al.*, 2012). With experience, more knowledgeable consumers' frequently use different criteria such as complex terroir descriptions to base their wine decisions on (Parr *et al.*, 2011). Trends also influence preference for alcoholic beverages (Marinelli *et al.* 2014) and similarly, wine preferences often change over time (Melo *et al.*, 2010; Melo, *et al.*, 2011). Yet, consumers in both developed and developing markets tend to follow a similar "journey" concerning sensory preferences of wine starting with sweeter styles as young wine drinkers, moving to drier styles as they gain more experience (Bruwer *et al.*, 2011; Melo *et al.*, 2011; Velikova *et al.*, 2013).

Wine is however a category infamous for causing consumers, especially those that are inexperienced, to perceive risk in the purchase situation. An excess of alternatives, the inability to evaluate sensory characteristics prior to consumption and wine often being shared amongst friends and/or relatives contribute to the decision-making complexity (Bruwer, *et al.*, 2011; Lockshin and Corsi, 2012). Bauer (1960) first proposed perceived risk as a bi-dimensional construct of 1) importance of loss (I) and 2) probability of loss (P). Perceived risk is commonly experienced prior to a purchase when the consumer is uncertain whether the product will perform as expected (Schiffman *et al.*, 2014) and the possibility of adverse consequences (P) upon consumption arises (Dowling, 1999). When the purchase decision is important to the consumer, the loss will be more severe (I). From theory, six generic risk dimensions, also relevant to wine, are recognized, namely:

- **Functional risk** relates to the functional performance of a product and involve both the taste and food pairing ability of wine (Mitchell and Greated 1988; Spawton 1991)
- **Social risk** involves the risk of a product choice to result in social embarrassment (Schiffman *et al.*, 2014), therefore choosing the appropriate wine to be accepted within the consumers' reference group (Mitchell and Greated, 1988).
- **Financial risk** involves the risk of a wine not being worth the financial expense/value for money (Mitchell and Greated, 1988).
- **Physical risk** is related to physical harm as a result of product usage (Schiffman *et al.*, 2014) and could include the risk of a hangover and other adverse health consequences as a result of the amount of alcohol in wine (Bruwer *et al.*, 2013).
- **Psychological risk** is related to the mental stress that consumers suffer resulting from a purchase decision-making situation (Ibrahim *et al.*, 2014) such as being distressed or embarrassed due to a product choice (Schiffman *et al.*, 2014).
- **Time risk** involves the risk that time spent searching and evaluating a product might not be worthwhile if the product's performance is unsatisfactory (Schiffman *et al.*, 2014).

A product would for example be identified as a financial risk when the price is an important attribute, but there is a high probability that it would not be good value for money. It is furthermore argued that perceived risk is product-specific with the importance of loss associated with the generic category while the probability of loss is associated with a specific brand/product within the category (Mitchell, 1999). Therefore, for the purpose of this study the category was identified as South African white wine per 750 ml bottle and the product Chenin blanc.

With an array of perceived risks as well as other factors (e.g. own preference, experience, price, occasion, food, packaging, season, varietal and vintage etc.) influencing wine decision-making (Ginon *et al.*, 2014), it is expected that consumers would use strategies to reduce uncertainty and help them navigate a decision. A well-known and somewhat obvious correlation exists between consumers' perceived risk and actual purchase behaviour: the higher the risk perceived at the point of purchase, the lesser the chance of a specific product to be chosen (Kakkos *et al.*, 2015). Hence, lowering levels of perceived risk is regarded as a paramount strategy when market growth is required (Bruwer *et al.*, 2013; Mitchell, 1999) as in the case of South African Chenin blanc wine. There are six known generic risk-reducing

strategies where consumers e.g. 1) search for information such as on wine labels, 2) seek reassurance through wine tastings, 3) only buy a well-known brand, 4) rely on a store image, 5) buy within a specific price range or 6) remain loyal to a brand (Johnson and Bruwer 2004; Schiffman *et al.*, 2014). As individuals, consumers have different levels of risk tolerance and whenever exceeded, one or more risk-reducing strategies will be used, often dependent on level of wine experience and self-confidence (Mitchell and Greatedorex, 1989). In early research on wine decision-making, it has been reported that consumers might even become loyal and attach brand value to specific wine regions or varieties (Gluckman, 1986). However, to the knowledge of the authors, the use of a specific variety as risk-reducing strategy, has not been reported on.

In previous wine related perceived risk studies (Bruwer *et al.*, 2013; Johnson and Bruwer, 2004; Lacey *et al.*, 2009; Mitchell and Greatedorex, 1988), the focus was primarily on the risk types and risk-reducing strategies and not necessarily on identifying those factors driving the risk. However, it is known that perceived risk is higher under certain conditions. These drivers of perceived risk include: when a product is new or unfamiliar, when a consumer lacks experience or self-confidence to choose a product within a product category, when there are quality variations between products in the same category, when the purchase is important to the consumer or when the product is highly priced (Bettman, 1973). Considering the previously mentioned history and characteristics of Chenin blanc, in combination with the developing status of the South African wine market, one might conclude that there are evidence to hypothesise that consumers could perceive higher levels of risk when Chenin blanc is encountered in a purchase situation. South African consumers might also have limited information or lack experience with this variety while the versatility and reported quality variances of different Chenin blanc wines could all add to consumer uncertainty.

Research question

In general, there is a lack of consumer research on South African wine consumers and therefore, perceptions and purchasing behaviour remain largely unknown. As the research topic was completely under-explored, the aim of this initial qualitative phase was twofold: 1) to explore and describe consumers' Chenin blanc perceived risks in the context of white wine retail decision-making and 2) to gather insight to refine hypotheses and inform a measurement instrument to be used in a sequential quantitative survey investigating the same aforementioned topics. This paper reports only on the first abovementioned aim.

Research methods

Data collection

Face-to-face, personal and semi-structured interviews were used to collect qualitative data over a period of three months. Potential participants were selected based on referral within a network of acquainted wine drinkers. Before the interviews commenced, each participant provided verbal and written consent being fully aware of the purpose and procedure to be followed. On average, interviews took 40 minutes to complete and were voice recorded.

The sample consisted of both male and female, established drinkers of white wine aged between 28 and 60 years. Minors and inexperienced wine drinkers were excluded. More established wine drinkers were specifically included as it was judged that they had sufficient experience to provide insight (Melo *et al.*, 2011) into the white wine category as well as Chenin blanc. Due to the exploratory nature, the researchers did not aim for representativeness of the wine drinking population, but rather to gain a better understanding of consumer perceptions of Chenin blanc. Nonetheless, data collection continued until no new themes emerged, i.e. point of saturation (Harding, 2013) and when it was judged sufficient to inform a quantitative survey as used in the sequential phase. After six interviews already, little new sub-themes emerged perhaps due to the homogeneous sample of established wine drinkers as well as the semi-structured approach followed. To add rigour to the data, the researchers did however conduct two more interviews to establish a sample size of eight participants, which is an acceptable total for qualitative interviews (Collins, 2010; Morse, 2010).

Measures and analyses

A semi-structured interview schedule was designed with the sequential quantitative survey in mind using the three main perceived risk constructs of 1) risk drivers, 2) perceived risk dimensions as well as 3) risk-reducing strategies as framework. The interview schedule consisted of four parts moving from 1) informal and unstructured questions (e.g. “*tell me about yourself shopping for/buying white wine*”) to structured questions about 2) risk reducers and risk dimensions related to the white wine category (e.g. “what are the most important factors to consider when buying a white wine?”; “what makes you choose one bottle of wine over the other?”), 3) varietal risk, Chenin blanc risk drivers and risk dimensions related to Chenin blanc (e.g. “if you invite new friends or maybe colleagues, which white wine varietal would you serve?”; “what would be the risks of buying Chenin blanc?”; “what is your friends’ perception of Chenin blanc”). Specific questions related to each of the six risk types were included to

explore the Chenin blanc probability of loss construct. Lastly, 4) recommendations to improve Chenin blanc sales were explored.

Data were analysed according to the steps as prescribed by Creswell (2014). Voice data were firstly transcribed verbatim and each transcript was individually read and coded by hand thereafter. As data collection was theory-driven, coding was done mostly deductively according to the themes (three main themes of risk perception) that were decided on *a priori* (Vogt *et al.*, 2014), therefore applying content analysis (Ezzy, 2002). All the data from the individual transcripts were combined and organised into general findings and the three main themes of risk perception, with quotes from the participants representing each of the themes. Data were scrutinised and interpreted based on interconnections, similarities and dissimilarities between themes and sub-themes and discussed accordingly. The Chenin blanc perceived risks were for example identified after comparing the importance dimensions on category level, i.e. white wine (I) with the probability of loss on product level, i.e. Chenin blanc (P) (refer to the results section).

During the analysis however, new sub-themes emerged and the researcher also allowed for inductive coding. Dissimilarities between especially Sauvignon blanc and Chenin blanc became apparent and were therefore also included in the report. Identifying themes that were not part of the *a priori* coding framework, but in the data itself, enhances the validity of the results (Harding, 2013). Based on frequency of occurrence, Sauvignon blanc (sub-theme) has for example been identified as a new risk-reducing strategy (theme) in the white wine category as discussed later in this paper.

Results

General findings

No participant enquired, during any stage of the interview, about the specific style of wine. From the participants' descriptions, it is however clear that, their own references of white wine, involve only the **dry style**. This finding is consistent with previous research, reporting that dry white wine is an **acquired taste** with younger consumers, being excluded from the sample of this study, preferring sweeter style wines (Melo *et al.*, 2011; Velikova *et al.*, 2013). In this study, some participants elaborated on their "**wine journey's**" and confirmed that they had **started off with sweeter style wines**: "...I have been along the wine journey and for me I wouldn't back track to sweet wine because that is where I started with the sweets..." (Interview 5).

Varietal risk

Almost unanimously, participants **spontaneously mentioned specific varieties**, especially **Sauvignon blanc** and **Chardonnay** during the earlier and more unstructured parts of the discussion. There were however **very little spontaneous mention of Chenin blanc**, while only one participant said **Chenin blanc is unfamiliar** compared to other varieties. Participants tended to spontaneously compare Chenin blanc characteristics to Sauvignon blanc and Chardonnay, most likely because they are more familiar with the latter, using them as **references**: “...*Chenin blanc is a little bit unfamiliar compared to the other two.*” (Interview 8).

The data also **suggest the existence of varietal-specific perceived risk** as some participants spontaneously used the word “**safe**” when describing **Sauvignon blanc**: “...*Sauvignon blanc...I think that is a very safe wine...*” (Interview 7); opposed to **Chenin blanc** which seems to be **perceived as “riskier”**: “...*it will be a major risk buying a Chenin that I don’t know...*” (Interview 6).

Identifying Chenin blanc perceived risks

When comparing importance on category level with the probability of loss on product level, it became evident that functional, social, financial, time and psychological risk is likely to be perceived when Chenin blanc wine is encountered in a purchase situation.

- *Functional risk: white wine importance*

Consistent with previous findings (Lacey *et al.*, 2009), the **taste of white wine** is reported to be the **most important** attribute when buying and consuming wine: “...*I think the first important thing is of course the taste...*” (Interview 4). Some participants in this study explicitly stated that the price (financial dimension) of the wine is secondary to the taste (functional dimension), indicating they are **willing to pay a higher price if they like the taste**: “...*if I like the taste, then I will buy the wine irrespective of the price...*” (Interview 2). This corresponds with previous research indicating the existence of a **hierarchy** in terms of the importance of the different risk dimensions (Bruwer *et al.*, 2013; Mitchell and Greatorex, 1988).

It furthermore seems that “safety” is experienced when participants are able to predict how a wine will taste, especially when the **taste is associated with a specific varietal**. In this study, participants pertinently referred to the **Sauvignon blanc** varietal as a **safe option** as you know what to expect due to this varietal’s **perceived taste consistency**: “...*and in my opinion, most*

people know what to expect if you tell them you are serving Sauvignon blanc as a white wine... ” (Interview 3); *“...Sauvignon blanc you can get a flavour and you can get a taste and there is some consistency in it...”* (Interview 5).

What is evident though, is the **consistency of vocabulary**, albeit abstract, to **describe Sauvignon blanc**: *“...Sauvignon blanc for me is fresh...fresh, clean, crisp...”* (Interview 8); *“...my preference is still for the Sauvignon blanc because of the crisp and clean flavours.... ”* (Interview 2). This finding supports the existence of varietal-specific expectations which, seems to be formed by a consistency of perceived taste therefore creating a generalized **taste expectation** prior to consumption.

For participants in this study, white wine often **accompanies food**, hence it is judged to be important to consider whether the wine is suitable for the occasion: *“...I think the food or the meal that I planned will have a big influence on what I choose in the shop...”* (Interview 3).

- *Functional risk: Chenin blanc probability of loss*

In general, **taste preferences** for Chenin blanc **differed** amongst participants. Some were quite confident and outspoken to **not like the taste of it**: *“...I just don't like the taste of that”* (Interview 7), while it is **enjoyed by others**: *“...It's a very drinkable wine...”* (Interview 2). Participants' **taste descriptions for Chenin blanc were inconsistent**: *“...I think it's a very...it is a light wine...”* (Interview 5); versus: *“...sometimes it's like...it's not bitter, but it's just like strong...I found it very...quite sharp...”* (Interview 7) and even **more abstract** than for the other varietals: *“...I think it's the more medium one...”* (Interview 1). One participant explicitly stated that different Chenin blanc wines **taste completely different**: *“...I have tasted different Chenins and they all taste completely different...its inconsistent...”* (Interview 3). In an effort to describe the taste of Chenin blanc, **Sauvignon blanc** was once again spontaneously used as **reference**: *“...maybe a bit less easy drinking than a Sauvignon blanc...”* (Interview 6).

Participants indicated that they **do not necessarily have clear expectations of Chenin blanc** due to **lacking a distinguishing sensory character**, the **taste not being memorable** and participants not being able to **describe the taste**: *“...Nothing jumps to mind if you say Chenin with regards to the taste...I cannot put any word to it...it's a...it's something that...it kind of lacks a distinguishing character.”* (Interview 8); *“I can't remember what it tastes like...”* (Interview 6).

Surprisingly, it seems as if participants, even those that do not necessarily prefer this varietal, judged Chenin blanc to be **suitable for a variety of food pairings**. Chenin blanc was described as being a **safe option to accompany food** due to the taste not being overpowering:

“I think it’s a safe choice with regards to food...because it doesn’t really overpower anything.” (Interview 8).

- *Social risk: white wine importance*

It is important for participants to consider the white wine **friends and family prefer** and if they would **approve the choice** of wine: *“...I think it is important to know your guests and give them something they will enjoy...so I will definitely have that in mind when shopping...”* (Interview 3). Participants furthermore indicated that **guests’ preferences are priority when buying wine**: *“...because the guests’ preference will get preference in the choice...”* (Interview 2).

- *Social risk: Chenin blanc probability of loss*

Participants reported that very few, or even **none of their friends prefer Chenin blanc**: *“...Actually I don’t have a friend who actively goes for Chenin...”* (Interview 4). When Chenin blanc is offered, some participants even stated that **friends might be dissatisfied**: *“...having people dissatisfied with their choice of wine...”* (Interview 6) or **confused** by this varietal: *“...and Chenin will be in there just to confuse them...”* (Interview 8). One participant even mentioned that friends might enquire **why Sauvignon blanc wasn’t on offer**: *“...and asking you why you didn’t rather buy the Sauvignon blanc...”* (Interview 6).

Another interesting finding is that participants perceived Chenin blanc to have a **very specific following**, perhaps even **more established and older wine drinkers**: *“...me, I find it more at the more seasoned wine drinker spectrum which is going to be your older kind of people...”* (Interview 4). Chenin blanc is therefore perceived as **outside of the norm** and not generally accepted within participants’ reference groups as opposed to Sauvignon blanc, which has been described as being the norm: *“...Sauvignon blanc almost has become the norm you know...so, the Chenin blanc is outside of the norm in the white...”* (Interview 5). Surprisingly, some participants revealed that they would buy **Chenin blanc for their own consumption at home**, but it might be too risky to share socially: *“...just for consumption at the house...then it’s a safe bet.”* (Interview 8).

- *Financial risk: white wine importance*

The **price** of white wine seems to be an **important factor** to consider: *“...price would guide me as well...still guides me”* (Interview 2) and participants tend to have a certain **price range** in which they feel comfortable to buy white wine: *“...the price range...anything between*

probably R60-R150...” (Interview 8). **Value for money** is also **important** and the **taste of the wine, in combination with the price** often determines whether the wine is then **perceived as being good value for money**: “*...I think value for money...in that I would buy it again is also part of my process...so if I have liked something and I liked the taste and I know it is good value for money, I then would go into the shop and I would probably always buy that...*” (Interview 5). Participants indicated to be **less price sensitive** when they **like the taste** of the white wine: “*...if you like a wine you tend to pay a higher price for that...*” (Interview 7), while a **higher priced wine** is perceived as **higher quality**: “*...a higher price have got a perceived higher value and a perceived higher taste...*” (Interview 8). This finding is consistent with previous research indicating that the price of wine is an indicator of the perceived quality (Mastrobuoni *et al.*, 2014).

- *Financial risk: Chenin blanc probability of loss*

It seems as if there are **differences** in participants’ **price perception of Chenin blanc**. Compared to other varietals, some thought it is **more expensive**: “*...maybe it’s a bit more expensive than Sauvignon Blanc...it seems a bit more expensive...*” (Interview 1) while others regarded it as **cheaper**: “*...My perception is that it is a cheaper wine...*” (Interview 5) and some judged it to be **similar**: “*...I don’t find it pricier than anything else...*” (Interview 4).

Although value for money seems to be important to participants, some participants perceived **Chenin blanc as lower value**: “*...maybe a little bit less with regards to perceived value...not much less, but probably within the 20% bracket of perceived value less than the other two...*” (Interview 8). Interestingly, some participants would rather **buy a less expensive Chenin blanc**: “*...If I had to buy, I will go for the lower price...cheaper...because maybe I don’t like the taste...that is why...*” (Interview 7). Buying a less expensive Chenin blanc, on its turn might result in an unsatisfactory taste experience due to the previously reported price/quality/taste perception of higher priced wines being of higher quality and vice versa.

- *Time risk: white wine importance*

Some participants reported to **spend quite a lot of time** to select a bottle of wine due to the large variety and amount of evaluative criteria: “*...there are so many to choose from that you start to spend quite a lot of time...then you start to look at the back of the label...and then you look at the estate and you want to know a bit more about the estate itself...*” (Interview 5). Furthermore, when participants are **time pressed**, the **decision-making process** of white wine buying seems to **differ** from when they do have time available. If **time is available**, participants reported to **spend time to carefully evaluate alternatives**, while, when **time pressed**, some

reported to make **habitual purchases** rather than considering **unfamiliar wines** as that will **take more time**: “...if you are pressed for time, then you go for your familiars, but if time is not an issue then I’ll will probably spend about 5 to 10 minutes to select a wine...” (Interview 8).

- *Time risk: Chenin blanc probability of loss*

Participants reported that it **takes more time to choose a bottle of Chenin blanc** than some of the other white wine varietals: “...I probably would spend more time evaluating the Chenin...than I would spend time thinking about the Sauvignon blanc or something else...” (Interview 6). When buying Chenin blanc, participants reported to scrutinise label information or even **ask for in-store assistance** when trying to choose a bottle: “...It would take me quite a while and I would probably want to ask for some advice...” (Interview 5). Although the time risk dimension was excluded in some previous wine risk perception studies (Mitchell, 1988; Spawton, 1991), it appeared to be an important dimension in the case of Chenin blanc decision-making.

- *Psychological risk: white wine importance*

For some participants, the white wine buying experience is pleasant, while for others it is indeed **stressful and difficult**: “...It’s really...it’s a very difficult thing for me to buy wine...it is stressful to find the right one...” (Interview 1). Participants furthermore reported on experiencing **negative emotions** as a result of a wine that did not please them, especially when hosting an event. Clearly, there seems to be a **link between social and psychological risk** and it can surely be expected that psychological risk will be higher when wine is shared socially which is supported by Bruwer *et al.* (2013): “...you want people to enjoy this moment with you that you are quite fond of and then they don’t and then you...yes, I do normally feel embarrassed...” (Interview 7).

- *Psychological risk: Chenin blanc probability of loss*

Some participants reported that it takes **more cognitive effort to choose Chenin blanc** which could result in negative feelings such as frustration and/or mental stress when confronted with Chenin blanc in store: “...For me it would be a specific choice, not a go to without thinking choice...” (Interview 5). In the consumption situation, it also seems likely that consumers might experience psychological risk, especially when Chenin blanc is shared socially. One participant reported about Chenin blanc being difficult to describe to guests, perhaps causing some **mental**

stress to the host: “...it is a difficult white wine to pin down and describe to myself or to guests...” (Interview 3).

- *Physical risk*

Although physical risk has previously been recognised to contribute to overall perceived risk in wine decision-making (Lacey *et al.*, 2009), only one participant reported that inexpensive wine is perceived to have a faster intoxicating effect. There was however no direct statement from any participant that Chenin blanc is perceived to be a higher physical risk than other white wines. This could have been expected as alcohol level doesn't typically differ between different varietals. However, due to some participants describing Chenin blanc as a lower quality and inexpensive wine, there could be a probability of a perceived physical risk and it should therefore not necessarily be excluded from varietal-specific enquiries.

Chenin blanc risk drivers

The results indicate that there are specific risk determinants, i.e. reasons why participants experience heightened levels of risk when confronted with Chenin blanc.

- *A red wine preference*

Although participants indicated to be both white wine and red wine drinkers, it seems as if red wine is consumed more frequently due to a **preference for the taste of red wine**: “...well my preference is actually red wine...” (Interview 1). Participants furthermore mentioned the **perceived health benefits** of red wine as well as **more exposure to red wine in general**. It is perceived that **more marketing communication** revolves around the red wine category while one participant explicitly stated that, **compared to red wine, there is a lack of information about white wine** with even **fewer information about lesser known white wine varietals**, referring to Chenin blanc: “...I think in the bigger scheme of things, where I live, there is less information about white wines to start off with and okay then even less information about white wine varietals that is not that well-known...” (Interview 3).

- *A lack of experience*

Participants, almost unanimously reported on a **lack of exposure** to Chenin blanc while some participants reported to almost be somewhat **ignorant towards Chenin blanc**: “..I haven't

been exposed to Chenin blanc, so therefore I didn't even have a look at the shelves..." (Interview 2).

This aforementioned phenomenon can be supported as it is known that consumers are attracted to stimuli due to individual motives and expectations and therefore selectively perceive and pay attention to stimuli that are relevant to their needs while ignoring irrelevant stimuli (Schiffman *et al.*, 2014). This lack of exposure to Chenin blanc could most likely be attributed to the **absence of intergenerational transfer**. Participants reported to have learned the habit of drinking wine from their parents but that their **parents never purchased Chenin blanc**: "*...my parents never bought Chenin...and I can't ever remember my mom ever saying she loves a Chenin...*" (Interview 6).

- *Unfamiliar*

Participants also described Chenin blanc as being **unfamiliar**: "*...Chenin I am not too familiar with this wine...*" (Interview 7) and **lacking knowledge** about this varietal most likely due to the reported lack of experience: "*...I don't think I know a Chenin blanc at all...*" (Interview 6).

- *A lack of information and availability*

It seems as if there is a perceived **lack of information** about Chenin blanc due to **little in-store availability**: "*...In the places where I shop, there is definitely more options with regards to Sauvignon blanc and Chardonnay compared to Chenin blanc...*" (**Interview 8**) as well as **lacking marketing initiatives**: "*...when you get to Chenin it is not...but that is my perception...it is not marketed that much...*" (**Interview 4**). With Chenin blanc being unfamiliar to some participants, they might also subconsciously ignore Chenin blanc stimuli and only select stimuli from the "more well-known" Sauvignon blanc and Chardonnay varietals. One could, however, say that if there are marketing efforts to actively promote Chenin blanc, it might not be effective in creating awareness.

- *A lack of self-confidence*

Participants reported to not necessarily have the **confidence** to buy Chenin blanc: "*...No, I wouldn't be ultra-confident in taking a Chenin blanc...I would take something that I like and am more comfortable with...*" (Interview 6).

- *Perceived lower quality*

Some participants indicated to perceive **Chenin blanc** as being a **lower quality** varietal than other white wines: “... *the other two are kind of your higher end white wines...I think for me, Chardonnay has got a...stands on the top podium, number one place, then Sauvignon blanc and then Chenin with regards to perceived value and the price tag...*” (Interview 8). However, the perceived lower quality, could be due to a **lack of experience and taste perception**:

“... *but I think maybe because I'm not that aware of it...and I don't necessarily like the taste of it...for me that implies lower quality...*” (Interview 5). One participant explicitly stated to be **unable to make any judgement** on Chenin blanc's quality due to **lack of knowledge** with this varietal: “...*I have no perception of the quality of Chenin blanc...because I don't know it at all...I know it so badly; I don't even think I would know what I would look out for when they do have a nice Chenin blanc...*” (Interview 5).

- *Occasions*

Confirming previous reports (Bruwer *et al.*, 2013; Hirche and Bruwer 2014), occasions seem to be a significant influencing factor on participants' wine buying behaviour. Participants consider the occasion and reportedly buy different white wines for different occasions: “...*The biggest factor is normally what the occasion (is). When I am on my own I will maybe buy something different than for people that is visiting or if I go out...*” (Interview 7). Moreover, participants reported to be **hesitant to buy Chenin blanc for occasions** outside the comfort of at home consumption. Therefore, it seems as if occasions might be a risk driver in the case of Chenin blanc wine: “...*If I buy home...just for consumption at the house then it's a safe bet. If I give it as a present to someone that I don't know and I don't know the specific wine, then it's not a safe bet...*” (Interview 8).

- *Risk-taking behaviour*

Reports from participants in this study support previous findings describing risk-taking behaviour where consumers tend to be risk averse towards unfamiliar wines (Bruwer and Rawbone-Viljoen, 2013; Vigar-Ellis *et al.*, 2015). Some consumers however, depending on their experience, personality and financial means, have a higher tolerance for risk and are more likely to explore buying new and unfamiliar wines (Lacey *et al.*, 2009). In this study, there were reports of a low risk tolerance for Chenin blanc, with participants reportedly **unwilling to explore with Chenin blanc**. Risk-taking behaviour is therefore identified as a potential

Chenin blanc risk driver: “it will be a major risk buying a Chenin that I don’t know” (Interview 6).

Safety in Sauvignon blanc: a risk-reducing strategy

The use of generic risk-reducing strategies (price, well-known brand, information search, store image, reassurance and brand loyalty) previously identified in wine research (Mitchell and Grottel, 1989; Bruwer *et al.*, 2013) has been confirmed in this study. However, the data suggests the existence of a specific varietal being used as a risk-reducing strategy in the South African dry white wine category. Participants unanimously reported that Sauvignon blanc is the most preferred white wine varietal amongst the majority of white wine consumers. Descriptive terms provided are also indicative of Sauvignon **brand loyalty** (Johansson and Carlson, 2015). Participants for example reported on **repeated Sauvignon blanc purchases and resistance to other varietals**: “...we always go for the Sauvignon blanc; we don’t drink the Chardonnay or Chenin blancs or any of the others...” (Interview 6). Words such as “**love**” was also used to describe Sauvignon blanc: “...everyone I know loves Sauvignon blanc...” (Interview 1).

Sauvignon blanc is also the varietal that the majority of participants will serve to friends or even unfamiliar guests or take to a dinner as it is regarded a **crowd pleaser**: “...in my opinion, Sauvignon blanc is just a crowd pleaser to serve it as white wine...” (Interview 3). Participants even referred to Sauvignon blanc as the **household white wine**, more commonly known white wine and the varietal that makes them feel comfortable.

Contrary to Chenin blanc, it seems as if Sauvignon blanc preference is a result of **intergenerational learning**: “...I remember when I grew up my parents had... they still speak about dry white...if they said dry white they always had Sauvignon Blanc...” (Interview 1) and **restaurants cultivating the Sauvignon blanc market** with Sauvignon blanc commonly being served as **dry white wine**: “...and I think the restaurants also have a big role in that because most of them serve Sauvignon blanc as a house wine, a dry white...” (Interview 3). Participants have become **familiar with Sauvignon blanc** over the years and they **know what to expect** from Sauvignon blanc in terms of **taste, reducing functional risk in participants’ minds**: “With more people consuming Sauvignon blanc over the years, people know the product...so, they know what it tastes like, they know what to expect...so that’s a safe bet...” (Interview 8).

Participant recommendations to promote Chenin blanc

Interestingly, a number of participants recommended that Chenin blanc should be **differentiated from other varietals**: “...*Make it look different from Sauvignon blanc...just make it look different in general...*” (Interview 6) through **branding**: “...*within the shops...to try and get better exposure in the shops with the branding or whatever...big things like have you tasted Chenin?...*” (Interview 2) and **positioning**: “...*I think it will have to be promoted and sort of be categorised or characterised...*” (Interview 3). Further recommendations included more **exposure** through especially **tastings**: “...*I think people must taste it, that is the most important thing...*” (Interview 7) and **food pairings/suggestions**: “...*Link themselves to specific foods...*” (Interview 8). Some participants also recommended that Chenin blanc should be targeted at a specific **market segment**: “...*I think they should target a market...they are not pushing their products enough to the right market...*” (Interview 4). Other recommendations included information on the **front label**, on **social media** and in **popular magazines**.

Conclusion

The majority of previous wine risk perception enquiries followed quantitative approaches however, the qualitative data generated from this study were insightful to gather consumers’ perspectives of a specific varietal in the context of risk perception. This study is the first on wine risk perception in South Africa, and to the best of our knowledge, an international first studying consumer risk perception of a specific wine varietal. Although South Africa does not have a wine drinking culture per se, those that do drink white wine seems to have rather acquired a taste for Sauvignon blanc due to initial enculturation, expectations being continuously met and a consequent perceived lower risk. The findings of this study suggest that perceived risk could indeed differ between varietals within a wine category.

The data provides early evidence that consumers might perceive Chenin blanc as a higher risk white wine due to a lack of experience, lower perceived quality, unfamiliarity, a lack of information and self-confidence to evaluate Chenin blanc as well as an overall preference for red wine over white wine. In contrast with Sauvignon blanc, it pertinently emerged that consumers have a lack of taste expectations about Chenin blanc. Consumers’ expectations per se are primarily formed due to previous experiences and information available to the consumers (Schiffman *et al.*, 2014). Hence, a lack of experience and information, such as in the case of Chenin blanc, would contribute to consumers having difficulty forming

expectations. Some participants specifically stated to have rather learned to drink Sauvignon blanc from their parents which reportedly didn't buy or drink Chenin blanc. Generally, Sauvignon blanc is regarded as a safe choice due to being the social norm and having perceived taste consistency. It therefore seems as if consumers feel more confident to choose a white wine when they know what to expect, resulting in repeated Sauvignon blanc purchases. Due to less time and cognitive effort involved in choosing Sauvignon blanc, this varietal might be considered a risk-reducing strategy in the South African white wine category.

Practical implications

The study of perceived risk could be valuable for strategic marketing of slow growing varietals or even regions-of-origin. Concerning the Chenin blanc risk types identified, taste of wine was indicated to be the most important attribute, but participants were uncertain about the taste of Chenin blanc and would not necessarily buy and serve Chenin blanc when shared socially. Participants were also concerned about the value for money and reported to experience difficulty to choose and describe Chenin blanc. The qualitative findings therefore suggest that strategies to reduce Chenin blanc perceived risks should aim to increase consumer exposure and reduce mainly functional (taste) and social risk. Participants themselves recommended that Chenin blanc should be promoted by distinguishing it from other varietals through branding as well as exposure through tastings and food pairings, by targeting a specific market and providing information through labelling, social and traditional popular media.

Limitations and future research directions

Due to the exploratory nature of this study, results should be interpreted with caution and confirmed in the sequential quantitative phase. Although inexperienced wine drinkers younger than 28 were purposefully excluded from this study, insightful and varying data on wine risk perception might be gathered from this group due to generational differences.

When a varietal or region-of-origin approach to risk perception is followed, it is recommended to include a qualitative component to at least enhance the validity of a scale used for quantitative measures. In previous research on consumers' wine risk perception, the time risk dimension has for example been excluded by some researchers (Mitchell and Greatorex, 1988; Spawton, 1991). However, findings from this study indicate that the time risk dimension should be included when a varietal-specific approach is followed as participants reported that choosing Chenin blanc takes more time than e.g. Sauvignon blanc. In terms of marketing strategy, it would furthermore be sensible to not only include risk dimensions and risk-reducing

strategies, but also to explore the risk drivers, i.e. reasons for the slow growth and/or low market share from a consumer perspective which was particularly insightful in the case of Chenin blanc.

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CHAPTER 6
RESULTS ARTICLE 2:

**AN EXPLORATORY SEQUENTIAL MIXED METHODS DESIGN TO
DEVELOP A WINE-VARIETAL PERCEIVED RISK MEASUREMENT
INSTRUMENT**

Written according to the guidelines of Food Quality and Preference

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Title: An exploratory sequential mixed methods design to develop a wine-varietal perceived risk measurement instrument

Abstract

This paper presents an exploratory sequential mixed methods article to develop a wine-varietal perceived risk measurement instrument. An exploratory sequential mixed methods approach was followed to investigate consumers' perceived risks of South African Chenin blanc wine and to consequently develop an instrument to quantitatively measure wine varietal risk. Qualitative interview data, collected from wine consumers (N=8), were used to build on existing theory of wine risk perception and informed the measurement instrument. The instrument was pilot tested with a small scale pencil and paper pilot test (N=5) followed by a larger scale electronic pilot test (N=62). Weak items were identified using Cronbach's alpha coefficient and directed the improvement of statements in the measurement instrument. Using convenience sampling, the measurement instrument was re-tested on a large sample (N=2051) of wine consumers. Cronbach alpha coefficient (α) and Confirmatory Factor Analysis (CFA) with Structural Equation Modelling (SEM) and Heterotrait-Monotrait (HTMT) ratio of correlations were used to assess the internal reliability and validity of the measurement instrument. Based on the analysis, recommendations are made for the selective removal of items below the acceptable reliability and validity indicators. To the best of the authors' knowledge, this paper is the first to propose a wine varietal-specific perceived risk measurement instrument. The methodology described and proposed measurement instrument can be used to study perceived risks of other struggling wine varietals and/or regions of origin and to recommend strategies to reduce perceived risks.

Keywords Mixed methods research, Scale development, Varietal perceived risk, Wine risk perception.

Paper type Research paper

1. Introduction

Chenin blanc wine, produced from South Africa's most planted wine grape, seems to be lesser preferred by consumers of bottled white wine. When compared to Sauvignon blanc, another white wine varietal, Chenin blanc sales per 750ml are significantly lower in the South African wine market (SAWIS, 2017). Flourishing in the diverse South African terroir, Chenin blanc wine grapes are recognised for its versatility and is used to make a large variety of wines in different styles, as well as brandy (Nieuwoudt *et al.*, 2013). However, due to the large amount of Chenin blanc grapes available, South African wine industry role-players encourage and support initiatives to explore and develop this varietal to its fullest potential ("Chenin blanc Association," n.d.).

In previous wine literature, it has been noted that the study of consumers' perceived risk might be helpful to develop strategies to increase wine sales (Mitchell & Greatorex, 1988) as sought after in the case of South African Chenin blanc. Perceived risk can be defined as the uncertainty about potential negative consequences attributed to the purchase, use and/or consumption of a product (Hoyer, MacInnis, & Pieters, 2013). The wine category per se is considered complex and provokes consumer uncertainty as it requires experience to rationally evaluate product attributes such as region-of-origin, vintage and grape varieties (Parr, Mouret, Blackmore, Pelquest-Hunt, & Urdapilleta, 2011). Although risk, as perceived by consumers, is known to be product-specific (Dowling, 1999), it has never been applied to a wine varietal.

Due to the multi-dimensionality of the risk construct, methodological and measurement approaches to investigate consumer risk perception are not standard (Bruwer, Fong, & Saliba, 2013) and remain debated (Mitchell, 1999). Therefore, this paper aims to describe the methodology followed to develop a wine varietal perceived risk measurement instrument using the case of Chenin blanc wine within the South African white wine category. As the majority of bottled wine is sold in the off-consumption South African retail sector (WESGRO, 2017), this study focussed exclusively on risk perception during in-store wine purchases. The development of the measurement instrument occurred in the following sequential steps, adapted from the scale development guidelines of DeVellis (2012) secondary analysis of consumer risk perception constructs and measurement; 2) qualitative data collection and analysis; 3) measurement instrument development based on theory and qualitative findings; 4) pilot testing to identify threats to reliability and validity; 5) measurement instrument was amended and tested on a large sample; 6) based on statistical reliability and validity analysis,

recommendations are made to optimise the measurement instrument in future research.

2. Methods

2.1. Secondary data analysis of risk perception constructs and measurement

Objective risk is practically almost immeasurable in the context of consumer behaviour. Contrary to realism, relativists argue that risk is only relative to the perceiver and is therefore subjective. In consumer behaviour theory, subjective risk refers to “that risk which is perceived by the consumer and which motivates behaviour” (Mitchell, 1999). In a high-risk purchase situation, consumers therefore rather try to avoid facing negative consequences (Peter & Olsen, 2005), yet the level of risk and anticipated consequences are often based on a combination of individual and product-specific characteristics (Conchar, Zinkhan, Peters, & Olavarrieta, 2004), therefore subjective. It is, however, common practice of relativists to use scientific tools that stems from realism to measure subjective risk as perceived by consumers (Mitchell, 1999). To measure perceived risk comprehensively, Mitchell (1999) recommended using a bi-dimensional approach based on the two facets of perceived risk: importance of loss (I) and probability of loss (P). However, in previous wine risk perception studies, only one study explicitly described the use of the bi-dimensional model, applied in the restaurant context (Bruwer & Rawbone-Viljoen, 2013). Other previous researchers followed one-dimensional approaches reporting either on the importance or probability of loss in the context of wine purchases (Bruwer et al., 2013; Lacey, Bruwer, & Li, 2009; Mitchell & Greatorex, 1988). None of these studies was however varietal-specific.

Outside the scope of wine, a previous product-specific study (McCarthy & Henson, 2005) successfully adopted the bi-dimensional approach where the importance of loss was applied to a category (food), while the probability of loss applied to a specific product within the category (beef) (Table 1). Furthermore, there are six known risk dimensions (Schiffman et al., 2014) where two to four measurement instrument statements are typically used to represent each of the dimensions on both the importance and probability of loss facets (Bruwer & Rawbone-Viljoen, 2013; McCarthy & Henson, 2005). To calculate total perceived risk, the following model is therefore recommended where total perceived risk is considered to be the sum of all the dimensions on the importance of loss and probability of loss facets (Mitchell, 1999).

$$\text{Perceived Risk (PR)} = \sum_n \text{importance of loss} + \text{probability of loss}$$

$$n = \text{dimensions/types of perceived risk}$$

$$PR = [Functional_i + Social_i + Financial_i + Physical_i + Psychological_i + Time_i] + [Functional_p + Social_p + Financial_p + Physical_p + Psychological_i + Time_p]$$

Functional risk relates to the product's performance based on an evaluation of attributes. Social risk involves other's approval of a product while financial risk considers the perceived value/loss of money due to the purchase. Physical risk involves potential health concerns due to the use of a product, time risk relates to the time loss due to searching for a product while psychological risk relates to the buyer's mental state, i.e. negative feelings due to the product purchase and/or usage (Schiffman et al., 2014).

Table 1. Example of perceived risk statements (McCarthy & Henson, 2005)

Perceived risk facet	Perceived risk statements
Physical risk (I):	"It is important that the food I buy should improve my health"
Physical risk (P):	"Eating beef is likely to result in long-term health problems"

Irrespective of the number of dimensions, identifying the key risks, as perceived by consumers is valuable as it provides direction to accurately address these risks through risk-reducing strategies (Mitchell & Greatedorex, 1988). In some previous wine risk perception studies, psychological and/or time risks have been excluded, while functional and/or financial risks were identified as most important and/or severe in a variety of contexts (Bories et al., 2014; Bruwer et al., 2013; Bruwer & Rawbone-Viljoen, 2013; Lacey et al., 2009; Mitchell & Greatedorex, 1988). However, a drawback of the bi-dimensional model of perceived risk is, that it does not consider two other important risk constructs: risk-reducing strategies (RRS) as well as risk drivers. Risk-reducing strategies are decision heuristics, such as a brand name, price, reassurance through product trials, information seeking such as advice from friends or experts or reliance on a store image to make a purchase (Schiffman et al., 2014). Previous wine risk perception studies had a strong focus on RRS due its strategic marketing function, where a segmentation based approach has practical implications to address perceived risks using RRS

(Atkin & Thach, 2012; Johnson & Bruwer, 2004; Mitchell & Greatorex, 1989; Spawton & Bourqui, 1997). Reassurance through point-of-sale in-store tastings has been described to relieve risk and increase wine purchases by 400% (Lockshin & Knott, 2009).

Considering risk drivers, there are certain individual and product/product category characteristics that cause consumers to perceive heightened levels of risk. Consumers would typically perceive higher levels of risk when: the purchase is important, a product is new or expensive, there is a lack of information about a product, consumers lack the self-confidence and experience to evaluate a product, and there are quality variations between products within a category (Bettman, 1973). In previous wine risk perception studies, these risk driver variables were not measured, perhaps because risk perception has only been applied to the wine category per se. Rather, two wine-specific risk drivers have been identified: occasions, where the purchase decision would most likely be a higher risk when wine is bought as a gift or to share with friends (Bruwer et al., 2013) and risk taking behaviour, where some, often less experienced consumers are more risk averse, therefore less likely to explore with unfamiliar wines (Lacey et al., 2009). Yet, in a previous product-specific study about beef (McCarthy & Henson, 2005), higher levels of perceived risk were however correlated with the generic risk drivers of: a lack of consumer experience with beef, perceived inconsistencies in beef quality, a lack of interest in the product and low perceived ability/self-confidence to evaluate beef in a purchase situation. These drivers were consequently used to describe significant differences between groups of risk perceivers and were used to recommend strategies to reduce beef-specific perceived risks (McCarthy & Henson, 2005). Thus, when a product-specific approach to risk perception is followed, the exploration of generic risk drivers proved to be valuable.

To conclude, from the literature, three main perceived risk constructs of risk drivers, risk dimensions and risk reducers, each with their respective sub-constructs relevant to wine, were identified. However, no previous wine studies were varietal-specific, nor measured all three constructs of generic risk drivers, risk dimensions as well as risk-reducing strategies simultaneously. Therefore, this study adopted a similar approach to a previous product-specific study, outside the scope of wine, where all three constructs were measured using a single quantitative survey (McCarthy & Henson, 2005). McCarthy & Henson (2005) did, however, conduct focus groups to explore and identify beef-specific risk drivers, risk dimensions and risk-reducing strategies which were consequently used to develop the survey.

2.2. *Qualitative data collection*

As this study was the first that aimed to propose a wine varietal-specific perceived risk measurement instrument, it was judged appropriate to include a qualitative phase to first explore risk constructs relevant to Chenin blanc. The semi-structured interview schedule was designed using open-ended questions to represent the three main perceived risk constructs. Informal, introductory questions probed the enjoyment of white wine in general. Following, were questions related to white wine buying, different white wine varietals and more specific questions relating to each of the six risk dimensions and their relevancy to Chenin blanc. To explore risk-reducing strategies, recommendations to improve the sales of Chenin blanc were requested from participants. Lastly, in preparation of the interviews, the researcher observed the white wine category in various retail outlets and Chenin blanc options appeared to be fewer than other white wine varietals. Therefore, a lack of Chenin blanc availability was added to the interview schedule and explored as a potential Chenin blanc risk driver.

After obtaining ethical clearance from the Research Ethics Committee (REC): Humanities at Stellenbosch University (South Africa), potential participants were recruited based on referral within a known network of wine drinkers. Using non-probability sampling, participants were selected because they were non-expert, adult consumers of white wine. The sample included males and females aged between 28-60 years. As the aim of the interviews was to uncover varietal-specific insights, it was judged that some level of experience with the white wine category and different varietals were needed. Therefore, consumers younger than 28 years were excluded from the sample. After providing informed consent, personal interviews were conducted over a period of three months until data saturation occurred. Interviews were voice recorded and lasted 40 minutes on average. After six interviews, the accepted minimum in qualitative studies (Collins, 2010), no new themes emerged, and point of data saturation (Harding, 2013) was reached. To add rigour, the researcher conducted two more interviews, establishing an acceptable sample size of $n=8$ (Collins, 2010; Morse, 2010). After a scrutiny of the interview data, the researcher was confident that the interview data was adequate to inform the measurement instrument.

2.3. *Qualitative analysis and results used to build on existing theory and informed the wine varietal-specific measurement instrument*

Interview data were transcribed verbatim and coded by hand according to an *a priori* coding framework. Therefore, content analysis (Harding, 2013) was applied where codes were

assigned according to the three main themes and their respective sub-themes of risk perception. The researcher furthermore allowed for new themes to emerge. Based on participants' repetitive reference, a code was assigned to Sauvignon blanc and discourse analysis (Harding, 2013) was used to conceptualise and include Sauvignon blanc, as a construct item. Significant qualitative findings are presented which directed the measurement instrument development (Table 2).

The qualitative results highlighted the importance of investigating a wine varietal within the context of a category and other varietals. Interview participants reported on a preference for the taste of red wine, while also claiming that white wines are generally less visible in the market than red wine (Table 2). The latest wine sales statistics support the existence of a bigger red wine preference amongst South African consumers of bottled wine (SAWIS, 2017). One might, therefore, hypothesise that buying and consuming more red wine and less white wine could make the white wine category in general more unfamiliar and consequently riskier for the wine consumer.

Qualitative results furthermore suggested the existence of perceived risk on varietal level. Sauvignon blanc has been explicitly referred to as a safe option, opposed to Chenin blanc, which all eight participants unanimously reported being unsure about. Throughout the interviews, while further exploring the seeming Chenin blanc uncertainty, participants continued to spontaneously compare Chenin blanc to other white wine varietals, especially Sauvignon blanc (Table 2). Therefore, in all sections, items were included to represent not only Chenin blanc, but also the white wine category and different white wine varietals which would enable Chenin blanc perceived risks to be analysed and interpreted in the context of the South African white wine category.

Table 2. Summary of significant qualitative findings

Theme	Participant quotes
Red wine preference/culture	<p>“...well my preference is actually red wine...”</p> <p>“...everybody just goes for the red most of the time...”</p> <p>“...I see red more pushed in the market than white wine...”</p> <p>“...I think in the bigger scheme of things, where I live, there is less information about white wines to start off with...and okay then even less information about white wine varietals that is not that well-known...”</p>

Varietal risk

Sauvignon blanc

- “...I would look at the whites and first of all go the Sauvignon blancs...”
- “...I know what to expect from a Sauvignon Blanc. So that’s a safe bet...”
- “...normally Sauvignon blanc, I think that is a very safe wine to give to people...”
- “...I am more comfortable with a Sauvignon blanc...”
- “...We always go for the Sauvignon blanc; we don’t drink the Chardonnay or Chenin blancs or any of the others. Yes. That is the most famous one, so we always go for that and we know everybody will most likely like it and everybody has tasted it before...”
- “...with more people consuming Sauvignon blanc over the years, people know the product. So, they know what it tastes like, they know what to expect. So that’s a safe bet...”
- “...everyone I know loves Sauvignon blanc...”

Chenin blanc

- “...it will be a major risk buying a Chenin that I don’t know...”
- “...So if you get it somewhere on a list, it is not your first choice, because you are not sure what you are getting...”
- “...my parents never bought Chenin. And I can’t ever remember my mom ever saying she loves a Chenin...”
- “...Maybe they’re afraid of Chenin...”

Risk drivers

Lack of knowledge/experience

- “...I don’t think I know a Chenin blanc at all. So that would probably be the riskiest one...”
- “...then Chenin blanc is a little bit unfamiliar compared to the other two...”

Lack of information/availability

- “...It is definitely not as available as the Sauvignon blanc or Chardonnay. Cause I can’t even remember the last time I saw a Chenin blanc...”
- “...And I am going to ask, where is Chenin blanc on the Social media? I don’t see it...”
- “...There is less variety in the Chenin range that is of good quality...”

Perceived lower/inconsistent quality

- “...Perceived value of the brand...that’s my perception of the Chenin brand. The other two are kind of your higher end white wines. I think for me, Chardonnay has got a...stands on the top podium, number one place, then Sauvignon blanc and then Chenin with regards to perceived value and the price tag...”
- “I have tasted different Chenins and they all taste completely different. Its inconsistent...”

Risk-taking behaviour

- “...I won’t necessarily pay more for a Chenin than a Chardonnay, then I would rather go for the Chardonnay...”

Lack of confidence

- “...No, I wouldn’t be ultra-confident in taking a Chenin blanc unless I knew the people liked it...I would take something that I like and am more comfortable with...”

Occasions

- “...just for consumption at the house then it’s a safe bet. If I give it as a present to someone that I don’t know and I don’t know the specific wine, then it’s not a safe bet...”

Risk dimensions

Functional

- “...I don’t particularly find myself liking it when I have had it. It’s just not memorable...”

Social

- “...you don’t talk about a Chenin blanc that often whereas a Sauvignon blanc almost has become the norm you know. So, the Chenin blanc is outside of the norm in the white...”

Financial

- “...In my mind, I don’t like Chenin as much as I do Sauvignon blanc, so I think it would be less value for money because I wouldn’t like it...”

Psychological

- “...It is a difficult white wine to pin down and describe to myself or to guests...”
-

<i>Time</i>	“...I probably would spend more time evaluating the Chenin, reading the label at the back and looking at the wine farm itself seeing what kinds of other wines they have and I probably spend more time deciding if I should buy this particular Chenin than I would spend time thinking about the Sauvignon blanc or something else...”
<i>Physical</i>	“...My perception is that it is a cheaper wine...” “...And also, you sometimes get more tipsy or drunk on it, cheap wine...”
Risk-reducing strategies	
<i>Favourite brands</i>	“...I probably have my few favourites that I know to always look out for...”
<i>Tasted before</i>	“...mostly I’ll go for things I’ve tasted before...”
<i>Well-known producers</i>	“...estates that I know is more known for specifically white wine...”
<i>Price</i>	“...the price definitely plays a role as a higher price have got a perceived higher value and a perceived higher taste...”
<i>Label artwork</i>	“...It’s about the look and the feel and the way they tell the story...”
<i>Label information</i>	“...to read the labels to see whether say for example it’s a white wine, it’s a wooded wine...”
<i>Trusted store</i>	“...And then I will buy it at either Woolworths or Checkers because they have the biggest variety...”
<i>Medals/awards</i>	“...the stickers, if there’s more awards on it, it’s kind of the experts...they’ve already proofed that it’s a good wine, so you can trust them...”
<i>Recommendations</i>	“...Good friends on a social WhatsApp group that are very familiar with the South African wine industry and if you are uncertain, you just pop a photo of the bottle of wine on the group, and the comments will come in immediately...”
<i>Store assistant</i>	“...advice from somebody in the store that said this is really good value for money and it comes from a good estate...”
<i>Media</i>	“...I read a lot of magazines, and then you’ll see some new wines in there and then I tend to go and look for those wines...”

- Risk drivers

From the qualitative findings in this study, risk drivers pertinently emerged after probing to uncover the reasons for the apparent uncertainty about Chenin blanc. Due to the prominence of these risk drivers, it was identified as a major theme and items to represent risk drivers were therefore included, which have largely been neglected in previous wine-related risk perception studies. From the interview data, all known risk drivers as identified in the literature review (Bettman, 1973; Bruwer *et al.*, 2013; Bruwer & Rawbone-Viljoen 2013; Vigar-Ellis *et al.*, 2015) were confirmed relevant to Chenin blanc within the South African white wine category. For the measurement instrument however, it was important to distinguish between risk drivers relevant to the white wine category per se, different white wine varieties and Chenin blanc. When the length of the measurement instrument and potential respondent fatigue were considered, it was not reasonable to include items representing all the known

risk drivers for the white wine category and the different white wine varieties. Therefore, analysis of qualitative findings and a careful scrutiny of the risk drivers as identified from theory, directed the application of the risk drivers. The following risk drivers were identified as “category” risk drivers: 1) importance of the decision, 2) insufficient information/availability, 3) low confidence to evaluate wine and 4) risk-taking behaviour. Therefore, all the items were duplicated for the white wine category and Chenin blanc, except for the importance of the decision to buy white wine (Table 4).

For risk drivers on varietal level, items related to 1) occasions, 2) variations in quality and 3) lacking experience (purchase frequency and subjective knowledge) were included (Table 2). The definition of experience in consumer behaviour theory, as previously argued in wine literature (Vigar-Ellis, Pitt & Caruana, 2015), directed the application of “a lack of experience” as risk driver relevant to wine varieties. Experience refers to the actual past experience with wine and is closely related to the concepts of awareness, familiarity and/or knowledge (Dodd, Laverie & Wilcox, *et al.*, 2005; Perrouty, d’Hauteville & Lockshin, 2006). Therefore, purchase frequency (Fountain & Lamb, 2011) and subjective knowledge (D’Alessandro & Pecotich, 2013) were used as variables to measure varietal experience. Subjective knowledge refers to the knowledge that consumers believe they have, while objective knowledge needs to be measured using a variety of questions (Vigar-Ellis, *et al.*, 2015). Considering the length of the measurement instrument, it was judged to rather only include items related to subjective knowledge for the purpose of this study.

Sauvignon blanc, Chardonnay, Chenin blanc and White blends, as identified from the interviews, were included as the four different varieties. From the interviews, the four occasions of gifting, special occasions, occasions with friends/family and at-home consumption were identified. Previously, seven occasions of gifting, celebration, business, intimate, friends, family and at-home have been applied in a wine risk perception study (Bruwer *et al.*, 2013). However, considering the length of the measurement instrument, the use of four occasions was judged sufficient to test whether Chenin blanc might be perceived as a significantly inferior/riskier choice for certain occasions than other varieties, as suggested during the interviews. All statements in this section, except for the new items identified from the qualitative findings, were adapted from previous studies (Table 4).

- Perceived risk

Similar to a previous product-specific study (McCarthy & Henson, 2005), questions were firstly included to subjectively measure overall perceived risk of the white wine category and Chenin blanc (Table 6). Due to the significance of the context provided by the white wine category, it was appropriate to adopt the bi-dimensional approach to objectively risk perception in this study. Therefore, the importance of loss facet was applied to the white wine category, while the probability of loss facet was applied to Chenin blanc and the qualitative data were coded accordingly. Although using the bi-dimensional approach to risk perception inherently implies that each risk dimension on the probability of loss facet is independent, some level of correlation between the dimensions can surely be expected (Mitchell, 1999). For example, one would expect a bad tasting wine that is shared amongst friends to cause functional, financial, social and perhaps psychological loss. This known drawback of the bi-dimensional approach (Mitchell, 1999) was considered in the coding of qualitative data and during the design of scale items. Therefore, continuous efforts were made to clearly differentiate between the risk dimensions. For example, to differentiate between social and psychological probability of loss dimensions, coding and development of measurement instrument statements were based on the core difference, i.e. social loss relates to “other’s thoughts/feelings” and psychological loss relates to “my own thoughts/feelings” (Schiffman *et al.*, 2014).

Based on a comparison between the importance and probability of loss on each of the risk dimensions, qualitative results indicated that functional, social, financial, time and psychological risks are likely to be perceived when buying and consuming Chenin blanc wine. In some previous wine risk perception studies, time (Mitchell & Grestorex, 1988; Spawton, 1991) and psychological (Bruwer & Rawbone-Viljoen, 2013; Lacey *et al.*, 2009; Mitchell & Grestorex, 1988) risk dimensions have been excluded. However, in this study, a number of participants reported that, due to a lack of exposure and knowledge, it takes more time and cognitive effort to evaluate Chenin blanc in a purchase situation. Chenin blanc was also reported to be difficult to describe and even confusing, perhaps leading to feelings of mental stress and/or embarrassment. Therefore, based on evidence from the qualitative results, both time and psychological risks were included as risk dimensions in the measurement instrument.

As expected, there were no reports from participants on Chenin blanc being perceived as a higher physical risk than other white wine varieties. However, some participants reportedly perceived Chenin blanc as a lower quality wine, while one participant mentioned perceived faster intoxication due to lower quality wine which might indirectly indicate a probability of

physical loss (Table 2). Therefore, it was, at this stage of the study, decided to include the physical risk dimension in the measurement instrument. Also, as the measurement instrument was the first proposed to investigate risk perception on wine varietal level, it was considered appropriate to rather include all six risk dimensions.

For each of the risk dimensions, three to four statements were adapted and/or developed on both the importance and probability of loss facets (Table 7). As the relevancy of each risk dimension had to first be confirmed in a qualitative phase, all statements on the Chenin blanc probability of loss facet (all risk dimensions), can be considered new. In some cases, the statement measuring importance of loss was adapted from previous studies and consequently, a new accompanying statement, to measure Chenin blanc probability of loss was developed (Table 7).

- Risk-reducing strategies (RRS)

From the qualitative results, RRS used in the white wine category were identified which have all been previously described as risk relievers/decision heuristics during consumers' wine decision-making (Atkin & Thach, 2012; Goodman, 2009; Higgins, McGarry Wolf, & Wolf, 2014; Jaeger, Danaher, & Brodie, 2009; Johnson & Bruwer, 2004). However, Sauvignon blanc emerged as a repetitive theme from the interviews and was conceptualised as a possible RRS in the South African white wine category. From the qualitative data, there were evidence of consumer learning and satisfaction, an emotional connotation (feelings of "love", comfort and crowd pleasing) as well as a behavioural component (resistance to other varietals), indicating that participants' might recognise and express brand loyalty towards Sauvignon blanc (Schiffman et al., 2014) (Table 1). Therefore, in total 15 risk-reducing strategies were included in the measurement instrument, allowing to test whether Sauvignon blanc is an important RRS in the South African white wine category. As a specific wine varietal used as a RRS has not been described before, results could make an important contribution to wine literature.

The scale items included to identify more specific RRS for Chenin blanc, was based on participants requested recommendations to improve the sales of Chenin blanc. Open coding was applied to all the recommendations and seven RRS were identified (Table 2) with two to five scale items/statements representing each strategy (Table 8) (qualitative results not shown). Statements to measure RRS were mostly adapted from previous wine-related consumer studies, only with a few new statements, informed by the qualitative data (Table 8).

- Scales and structure of measurement instrument

Considering the length of the measurement instrument and potential respondent fatigue, a number of steps were taken to enhance the instrument's quality. Similar to previous risk perception researchers (Bruwer *et al.*, 2013; McCarthy & Henson, 2005), 7-point Likert scales were initially considered. However, after input from an experienced consultant statistician reporting that 7-point Likert scales often causes consumer confusion due to the large number of options, 5-Point Likert scales were used. To mitigate the "tendency to agree", a number of items, as adapted from previous scales, were stated in the negative and reversed scored. The large number of RRS items on 5-point Likert scales at the end of the measurement instrument was a particular cause of concern. Therefore, in an effort to support/confirm the data from the RRS Likert scale, two ranking scales were included where respondents were asked to select the three most effective strategies from two lists of randomly divided RRS. A first draft measurement instrument was finalised and variables were structured into four different sections using closed-ended questions: section A (demographic and general consumption/buying characteristics), section B (risk drivers), section C (perceived risk) and section D (risk-reducing strategies) (Table 3).

Table 3. Construct measurement instrument variables

Construct	Number of items
A: DEMOGRAPHIC AND CONSUMPTION/BUYING CHARACTERISTICS	
Age	1
Gender	1
Education	1
Home language	1
Province	1
Household size (adults)	1
Ethnicity	1
Frequency of consumption	1
Retail purchase channel	1
Wine style	1
Wine type	1
B: RISK DRIVERS	
White wine category risk drivers	
Importance of white wine decision	4
Information/availability	3
Risk personality	4
Lack of self-confidence	3
Chenin blanc category and varietal risk drivers	

Information/availability	3
Risk personality	4
Lack of self-confidence	3
Quality variations	1
Occasion (ranking)	4
Lack of experience	
<i>Purchase frequency</i>	1
<i>Subjective knowledge</i>	1
C: RISK PERCEPTION	
White wine risk (overall subjective)	3
Varietal/Chenin risk (overall subjective)	3
White wine importance of loss	
Functional risk	4
Financial risk	4
Physical risk	3
Social risk	4
Psychological risk	3
Time risk	4
Chenin blanc probability of loss	
Functional risk	4
Financial risk	4
Physical risk	3
Social risk	4
Psychological risk	3
Time risk	4
D: RISK-REDUCING STRATEGIES	
White wine category RRS	15
Chenin blanc RRS	
Store promotions	5
Recommendation from friends'/ opinion leaders	4
Packaging and labelling	5
Social media	3
Traditional media	2
Promotions/tastings outside store	5
Matching food	2
<i>Chenin blanc RRS ranking 1</i>	3
<i>Chenin blanc RRS ranking 2</i>	3

2.4. Pilot test to assess face and content validity as well as internal reliability

A small-scale informal pencil-and-paper pilot test as well as a larger scale electronic pilot test (n=62) were carried out to assess content and internal reliability. With the former, a small number of consumers of white wine (n=5) were asked for feedback on the time taken to

complete the measurement instrument and to identify any scale items/wording they had difficulty with. No significant problems were experienced during the completion of the survey that took on average, a reported, 20-25 minutes. After a few minor grammatical changes, the measurement instrument was evaluated per item by two experienced academics in the fields of wine science and business management and finally by a consultant statistician. After the successful informal pilot test and positive evaluation by experts, it was agreed that the measurement instrument demonstrated face and content validity (DeVellis, 2012). Thereafter, the measurement instrument was converted to an electronic format hosted by the Stellenbosch University SunSurveys platform. Using non-probability snowball sampling, the e-survey was sent out via email and social media to acquainted adult consumers of white wine. Respondents were included based on the following criteria: (1) South African citizens of (2) legal drinking age (18+) which had to (3) at least be aware of Chenin blanc and (4) buy white wine at least occasionally. It was judged that a certain level of awareness would be required to answer questions about a specific wine varietal, however, wine industry experts/employees were excluded.

Each respondent was requested to complete and forward the survey to other known consumers of white wine. Data collection continued until a sample size of more than 50 ($n=62$), which is recommended for a large scale pilot test, was reached (Brace, 2013). Data from the e-survey was successfully extracted by a consultant statistician and was confirmed appropriate for statistical analysis. Consequently, Cronbach's alpha coefficients were calculated to test item interrelatedness to the constructs being measured. Although Cronbach alpha coefficients are frequently used to test internal consistency of perceived risk scale items (Bruwer *et al.*, 2013; Bruwer & Rawbone-Viljoen 2013; McCarthy & Henson, 2005), there are debates about its relevancy for this purpose. Mitchell (1999) argued that with risk dimensions, one would not necessarily expect high item interrelatedness as items within one dimension might be evaluated using different wine purchasing/consumption contexts as references. Also, the inclusion of an item with a negative inter-item correlation (psychological risk) was judged appropriate in a proposed wine PRS used in an exploratory study as the statement was formerly validated in another study (Bruwer *et al.*, 2013). Alike, in a previous product-specific perceived risk study ($n=510$) published in a peer-reviewed journal, a number of low Cronbach alpha coefficients between 0.48-0.64 have been reported, yet without removing the problematic items (McCarthy & Henson, 2005).

Nevertheless, at this stage of the study, Cronbach alpha coefficient was used to identify

problematic scale items based on the pilot test responses ($n=62$). A Cronbach alpha coefficient of 0.7 would indicate an acceptable value, however, with exploratory research, a value between 0.6 to .0.7 is considered minimally acceptable (DeVellis, 2012). At this exploratory stage, Cronbach alpha coefficients below 0.6 were considered unacceptable. Items within the constructs with weak item-total correlations ($r<0.3$) or negative correlations were reconsidered and amended (DeVellis, 2012), while no items were deleted.

2.5. Data collected from a large sample to re-test reliability and assess construct validity

Using a sample of convenience, data were collected online with the help of a large market research company. A total of 2051 usable questionnaires were retrieved from respondents, all included based on the same criteria used for the pilot test. In addition, participants were only allowed to complete the survey once, hence a screening question was added, excluding respondents that previously completed the survey and/or took part in the pilot test. Survey data were extracted and statistical analysis commenced to assess the instrument's internal reliability and validity.

Reliability analysis using Cronbach alpha was repeated. To assess construct validity, Confirmatory Factor Analysis (CFA) was used to test whether the data were a good representation of the structuring of variables as included in the measurement instrument. As the scale constructs and variables were decided on *a priori*, CFA was a more appropriate measure than Exploratory Factor Analysis (EFA) in the case of this study (Schmitt, 2011). CFA is a multivariate, co-variance based Structural Equation Modelling (SEM) method to test if the individual variables support the latent variables (Hair, Black, Babin, & Anderson, 2010). Due to the large number of construct variables, separate SEM's were calculated for white wine category risk drivers; Chenin blanc risk drivers; overall risk; importance of loss risk dimensions, probability of loss risk dimensions and Chenin blanc risk-reducing strategies, resulting in six scales. To assess convergent validity, i.e. that latent variables are well explained by measured variables, individual item factor loadings as well as Average Variance Extracted (AVE), which is the mean variance of the factor loadings, were considered (Hair et al., 2010). Furthermore, to assess discriminant validity, i.e. that the variables correlated higher with the parent construct (latent variable), and not with another variable, the heterotrait-monotrait (HTMT) ratio of correlations were calculated. HTMT is a newly recommended criterion and regarded a statistically superior approach to assess discriminant validity than cross-loadings (Henseler, Ringle, & Sarstedt, 2015).

All items measured on a 5-Point Likert scale (1-Strongly agree...5-Strongly disagree) were included in the reliability and validity analysis. Single-item and ranking questions were excluded. Due to the significance of Sauvignon blanc identified and included as a RRS in the white wine category, all items measuring white wine RRS were handled as single items and were therefore also excluded from the analysis. Based on the results of the reliability and validity analysis, recommendations were made to remove scale items for future research studies.

3. Data analyses

The data were analysed electronically using Statistica (version 13.4.0.14). Lisrel-SEM was used for CFA and Smart-PLS to calculate AVE and HTMT-ratios. All constructs with Cronbach alpha-scores <0.70 were flagged as threats to internal reliability and were scrutinised for items with low item-total correlations ($r < 0.3$). Goodness-of-fit (GOF) indices for the SEM were reported according to criteria for an acceptable fit (Hooper et al., 2008): $\chi^2/df < 5$; p -value > 0.05 ; RMSEA ≤ 0.08 ; CFI and GFI ≥ 0.9 . Sample size has a significant effect on p -values and Chi-square (χ^2/df) which become unreliable GOF indices when sample sizes are large (Hair et al., 2010). Therefore, RMSEA, CFI and GFI were more reliable GOF indices due to the sample size ($n=2051$). Cut-off values for convergent and discriminant validity were interpreted according to the following indicators: factor loadings (Lambda-X) ≥ 0.5 , AVE ≥ 0.5 , and HTMT-ratios < 1.0 . Phi-coefficients (ϕ) indicated statistically significant estimated correlations between latent variables (Kline, 2011) at the 0.05 significance level; correlations with medium ($r \geq 0.3$) or large ($r \geq 0.5$) effect sizes (Cohen, 1988) are reported.

4. Results and discussion

4.1. Sample

The sample consisted of more females (56%) than males (44%) with a mean age of 46.5 (± 15) years. Consistent with national sales and interview data, slightly more respondents indicated to prefer red wine (44%) to white wine (41%), followed by Rosé (10%) and Sparkling wine (5%). Nevertheless, the majority of respondents are frequent white wine drinkers indicating to consume white wine once a week (20%), two to three times per week (22%), four to six times per week (10%) and daily (8%). Supporting national and international trends (Lockshin & Corsi, 2012), respondents are reluctant to buy wine online (2%) and seems to rather purchase wine as part of a grocery/shopping excursing at a general supermarket (48%)

or large national retailer (29%). In terms of varietal purchase frequency, the findings support national sales statistics (SAWIS, 2017) as 49% indicated to always buy Sauvignon blanc compared to Chenin blanc (28%), Chardonnay (27%) and White blends (19%) while 20% never buys Chenin blanc.

4.2. Risk driver variables

After the pilot test reliability analysis, items within the self-confidence and risk-taking behaviour latent variable constructs with low inter-item or negative α -scores were amended on both scales (Table 4). In the case of items representing a lack of information/availability, the pilot test reliability analysis revealed it should be separate constructs. It was clear that two statements related to a lack of availability and one statement, with a weak inter-item correlation for both white wine ($r=0.11$) and Chenin blanc ($r=0.32$), related to a lack of information (Table 3). Therefore, the constructs were split and more items were added for a lack of information and a lack of availability, each represented by three statements.

In general, the reliability improved after the main data collection. However, the risk-taking behaviour latent variables, on both the white wine risk driver and Chenin blanc risk driver scales, remained problematic, also with factor loadings and AVE ≤ 0.5 (Table 3). For the white wine risk driver scale, GOF indices of CFI, GFI and RMSEA were within acceptable limits, while RMSEA (0.11) for the Chenin blanc risk driver scale indicated that the data were not a good fit and amendments were required. Based on low reliability, in combination with low factor loadings and AVE, it is recommended to omit the four items as highlighted in Table 4. As item removal would not have increased the Cronbach alpha scores to above 0.7, no omissions are recommended for the lack of self-confidence ($\alpha=0.64$) and availability ($\alpha=0.66$) constructs on the white wine risk drivers scale. Concerning the below threshold factor loading (0.33) of the self-confidence item on the white wine risk driver scale, omission of this item, would have lowered the Cronbach alpha value to below 0.6 and therefore, it is recommended that the item be retained. For exploratory purposes, as in this study, Cronbach alpha scores between 0.6 to 0.65 are acceptable (DeVellis, 2012). HTMT-ratios (<1.0) confirmed discriminant validity of all latent variables on the white wine and Chenin blanc risk driver scales.

Considering estimated correlations between Chenin blanc risk drivers, there were positive correlations with large effect at the 0.05 significance level between availability and information ($r = 0.72$), risk-taking behaviour and availability ($r = 0.52$) as well as risk-taking behaviour and information ($r = 0.54$) (Table 4). This finding is consistent with theory as higher

risk perceivers tend to explore and enjoy selecting a product from a large variety of alternatives (Schiffman *et al.*, 2014). There were negative correlations with large effect between a lack of confidence and risk-taking behaviour ($r = -0.66$), availability ($r = -0.55$) and information ($r = -0.61$). Consistent with theory, confidence to evaluate Chenin blanc becomes lower as the availability and information increase, which often leaves consumers' intimidated and uncertain to make a purchase decision (Bruwer & Buller, 2012) (results not shown).

4.3 Perceived risk variables

The overall, PR scale, measuring subjective perceived risk appeared to have acceptable reliability and validity according to all indicators (Table 5). One item, as indicated in the table, were however removed prior to the main study, where after internal reliability of overall Chenin blanc risk furthermore improved to the desired Cronbach alpha score of above 0.7. Furthermore, there was a positive correlation with large effect at the 0.05 significance level between overall white wine risk and overall Chenin blanc risk ($r = 0.64$), indicating that higher risk perceivers tend to be uncertain in a purchase situation across the white wine category (results not shown). Although correlated, HTMT-ratios (<1.0) confirmed discriminant validity between overall white wine and overall Chenin blanc risk.

Concerning the objective perceived risk scales, the financial and time dimensions (I and P) as well as the functional dimension (I) had unacceptable Cronbach alpha scores ($\alpha < 0.7$) after the pilot test. Consequently, problematic items with low item-total scores were amended, as indicated in Table 6. After main data collection and analysis, reliability for functional (I) improved to an acceptable level ($\alpha = 0.71$), while Cronbach alpha scores for financial and time (I and P) remained below the acceptable level ($\alpha < 0.7$). All other latent variables had acceptable reliability ($\alpha \leq 0.7 \leq 0.94$). After CFA, the importance of loss scale had acceptable GOF indices, while the RMSEA (0.09) on the probability of loss scale indicated that the data were not a good fit to the model. Low AVE on both scales for the time variables, indicated convergent validity below the acceptable level (≥ 0.5). Based on low reliability scores, and/or low factor loadings and/or AVE, it is recommended to omit the six items as highlighted in Table 6.

Table 4. Reliability and validity of white wine and Chenin blanc risk drivers scale

<i>White wine risk drivers scale</i>	Pilot		Main study			Statement source
	Internal reliability		Construct validity			
GOF: $p=0.00$; $\chi^2/df=20.2$; GFI=0.95; CFI=0.93; RMSEA=0.08	α (r)	α (r)	α if deleted	Item loading	AVE	
Importance of decision	0.76	0.72			0.60	
Deciding which white wine to buy is an important decision to me	0.55	0.49	0.67	0.74		Lockshin et al. (1997)
I choose a white wine to match the occasion	0.62	0.58	0.75	0.45		Lockshin et al. (1997)
I choose my white wine very carefully	0.67	0.63	0.59	0.87		Lockshin et al. (1997)
Which white wine I buy matters a lot	0.42	0.37	0.62	0.70		Lockshin et al. (1997)
Lack of self-confidence	0.47	0.64			0.53	
I often wonder if I have made the right white wine selection	0.27	0.44	0.57	0.33		McClung, Freeman and Malone (2015)
I am confident in my ability to choose white wine in a purchase decision (R)	0.25		0.63	1.12		McClung et al. (2015)
<i>I feel confident to choose white wine (R)</i>		0.37				
I have doubts about the white wine purchase decisions I make	0.37	0.55	0.39	0.52		McClung et al. (2015)
Information	0.32	0.75			0.68	
I know where to find information about white wine	0.11	0.60	0.65	0.85		McClung et al. (2015)
<i>Generally, there is a lack of information about white wine (R)</i>		0.45	0.81	0.53		New item
<i>I can easily find information about white wine</i>		0.71	0.52	0.90		New item
Availability		0.66			0.58	
There is a large selection of white wines to choose from in South Africa	0.14	0.52	0.48	0.66		New item
There are South African wine producers well-known for good quality white wines	0.43	0.44	0.60	0.81		New item
<i>There are many white wine options available in the store where I usually buy wine</i>		0.45	0.59	0.66		New item
Risk-taking behaviour	0.43	0.42			0.36	
I am willing to spend R75 or more on a white wine I have not tasted before	0.25	0.29	0.29	0.66		Bruwer and Rawbone-Viljoen (2013)
I have favourite white wines that I buy over and over again (R)	-0.00		0.41	0.22		Vigar-Ellis et al. (2015)
<i>If considering to buy white wine, I will only choose one that I know. (R)</i>		0.17				
<i>I prefer to choose a white wine from a large selection</i>	0.17	0.05	0.51	0.23		Bruwer and Rawbone-Viljoen (2013)
I enjoy buying unfamiliar white wines	0.60	0.45	0.11	0.65		New item

Chenin blanc risk drivers scale

	α (r)	α (r)	α if deleted	Item loading	AVE
GOF: $p=0.00$; $\chi^2/df=20.2$; GFI=0.96; CFI=0.93; RMSEA=0.11					
Lack of self-confidence	0.76	0.71			0.62
I often wonder if I have made the right decision when buying Chenin blanc	0.57	0.59	0.52	0.61	McClung et al. (2015)
I am confident in my ability to choose Chenin blanc in a purchase situation (R) <i>I feel confident to choose Chenin blanc (R)</i>	0.54	0.45	0.70	0.99	McClung et al. (2015)
I have doubts about Chenin blanc in a purchase decision	0.69	0.53	0.61	0.56	McClung et al. (2015)
Information	0.53	0.75			0.68
I know where to find information about Chenin blanc	0.32	0.68	0.55	0.93	McClung et al. (2015)
<i>Generally, there is a lack of information about Chenin blanc (R)</i>		0.39	0.87	0.50	New item
<i>I can easily find information about Chenin blanc</i>		0.70	0.52	0.86	
Availability		0.74			0.65
There is a large selection of Chenin blanc wines to choose from in South Africa	0.41	0.60	0.61	0.73	New item
There are South African producers well-known for good quality Chenin blanc	0.33	0.53	0.68	0.81	New item
<i>There are many Chenin blanc options available in the store where I usually buy wine</i>		0.56	0.66	0.71	New item
Risk-taking behaviour	-0.09	0.49			0.41
I am willing to spend R75 or more on a Chenin blanc I have not tasted before	0.14	0.40	0.28	0.64	Bruwer and Rawbone-Viljoen (2013)
I have favourite Chenin blanc wines that I buy over and over again (R) <i>If considering to buy Chenin blanc, I will only choose one that I know. (R)</i>	-0.48	0.09	0.57	0.16	Vigar-Ellis, Pitt and Caruana (2015)
I prefer to choose a Chenin blanc from a large selection of Chenin blanc wines	0.12	0.13	0.53	0.48	Bruwer and Rawbone-Viljoen (2013)
I enjoy buying unfamiliar Chenin blanc wines	0.38	0.55	0.13	0.70	New item

Note: Items in *italics* are amended/new items after pilot test reliability analysis
(R) indicates items that were reverse scored

All items were measured on a 5-point Likert scale (1=Strongly disagree...5=Strongly agree)

Omission is recommended for highlighted item

Table 5. Reliability and validity of overall PR scale

<i>Overall PR scale</i>	Pilot		Main study			Statement source
	Internal reliability		Construct validity			
	α (r)	α (r)	α if deleted	Item loading	AVE	
GOF: $p=0.00$; $\chi^2/df=5.38$; GFI=1.0; CFI=1.0; RMSEA=0.05						
Overall white wine risk	0.75	0.75			0.83	
When I buy white wine, I am concerned that it will not meet my expectations	0.59	0.56	0.70	0.69		McCarthy and Henson (2005)
Buying white wine is risky	0.70	0.62	0.63	0.82		McCarthy and Henson (2005)
When I face a shelf of white wine, I feel uncertain to make my choice	0.48	0.57	0.69	0.75		McCarthy and Henson (2005)
Overall Chenin blanc risk	0.68	0.80			0.67	
Buying certain white wine varietals (e.g. Sauvignon blanc & Chardonnay) is riskier than others	0.31	-				New item
Buying Chenin blanc is risky	0.69	0.67	0.00	1.01		McCarthy and Henson (2005)
When I face a shelf of <u>white wine</u> , I feel more uncertain about Chenin blanc than other white wines	0.54	0.67	0.00	0.72		McCarthy and Henson (2005)

Note: All items were measured on a 5-point Likert scale (1=Strongly disagree...5=Strongly agree)

Highlighted item was omitted from main study

Table 6. Reliability and validity of importance of loss and probability of loss PR scale

<i>Importance of loss scale (white wine category)</i>	Pilot		Main study			Statement source
	Internal reliability		Construct validity			
	α (r)	α (r)	α if deleted	Item loading	AVE	
GOF: $p=0.00$; $\chi^2/df=10.07$; GFI=0.95; CFI=0.94; RMSEA=0.07						
Functional risk (I)	0.51	0.71		0.69	0.69	
Taste is an important factor when I buy white wine	0.38	0.45	0.68	0.63		Bruwer et al. (2013)
I buy white wine to complement my food	0.23					Bruwer et al. (2013)
<i>It is important that the wine I buy complements my food</i>		0.42	0.72	0.60		
Buying white wine of consistent quality is important to me	0.46	0.60	0.60	0.79		Atkin and Johnson (2010)
It is important for me to know what to expect from a specific white wine varietal in terms of taste	0.26	0.57	0.61	0.80		New item
Financial risk (I)	0.49	0.54			0.51	

The price is an important factor when I buy white wine	0.30	0.55	0.22	0.49	Bruwer et al. (2013)
When buying white wine, value for money is important to me	0.43	0.46	0.33	0.69	Bruwer et al. (2013)
I am willing to pay a higher price for a wine of good quality (R)	0.01	0.00	0.70	-0.49	New item
White wine should be reasonably priced	0.48	0.35	0.45	0.62	Atkin and Johnson (2010)
Physical risk (I)	0.79	0.83		0.79	0.79
I consider whether the white wine I buy might cause a headache/hangover	0.60	0.63	0.82	0.74	Bruwer et al. (2013)
I consider the chance of an allergic reaction to the white wine I buy	0.64	0.70	0.74	0.85	Bruwer et al. (2013)
I consider the intoxicating effects of the white wine I buy	0.69	0.72	0.72	0.90	Bruwer et al. (2013)
Social risk (I)	0.82	0.78			0.59
I worry that others will not enjoy the white wine I buy	0.61	0.58	0.74	0.70	Bruwer et al. (2013)
I consider whether my friends/family will approve the white wine I buy	0.77	0.70	0.67	0.80	Bruwer et al. (2013)
The white wine I buy should make a good impression	0.69	0.57	0.74	0.77	Atkin and Johnson (2010)
I buy white wine that is popular among people	0.49	0.52	0.77	0.67	New item
Psychological risk (I)	0.85	0.87			0.89
I consider whether the white wine I buy could be embarrassing when it is not appropriate for an occasion	0.68	0.65	0.91	0.83	Atkin and Johnson (2010)
A bad choice of white wine could harm my self-esteem	0.75	0.80	0.77	0.90	Atkin and Johnson (2010)
If I buy the wrong white wine it could send a negative impression about me	0.74	0.81	0.76	0.91	Atkin and Johnson (2010)
Time risk (I)	0.20	0.23			0.38
It is easy to find information about white wine	-0.04				Bruwer, <i>et al.</i> (2013)
<i>When I buy white wine, it should be quick to find information</i>		0.20	0.07	0.57	
Choosing white wine should not be time consuming	0.17	0.36	0.00	0.40	Bruwer et al. (2013)
It is important to spend time comparing white wines before buying it	0.09				Bruwer and Rawbone-Viljoen (2013)
<i>It is important to spend time to find and appropriate bottle of wine(R)</i>		-0.14	0.48	-0.39	
<i>When I am pressed for time, I will NOT consider buying unfamiliar white wines</i>	0.18	0.12	0.18	0.50	New item
Probability of loss scale (Chenin blanc)					
GOF: $p=0.00$; $\chi^2/df=14.46$; GFI=0.95; CFI=0.96; RMSEA=0.09					
Functional risk (P)	0.81	0.85			0.69
It is likely that Chenin blanc will result in a satisfactory consumption experience	0.58				New item
<i>I like the taste of Chenin blanc (R)</i>		0.72	0.79	0.92	
Chenin blanc generally goes well with food (R)	0.66	0.79	0.77	0.93	New item
The quality of Chenin blanc is consistent (R)	0.72	0.60	0.84	0.64	New item

I know what to expect from Chenin blanc in terms of taste (R)	0.61	0.66	0.82	0.80	New item
Financial risk (P)	0.31	0.64			0.51
<i>Buying Chenin blanc will be a bad way to spend my money</i>	0.30	0.26	0.72	0.68	New item
Chenin blanc is generally an expensive wine	-0.34				New item
<i>Generally, Chenin blanc is reasonably priced (R)</i>		0.48	0.55	0.53	
Chenin blanc is likely to be good value for money (R)	0.46	0.61	0.47	0.66	New item
There is a good chance that I will pay more for a high quality Chenin blanc (R)	0.36	0.45	0.56	0.51	New item
Physical risk (P)	0.90	0.87			0.79
Chenin blanc is likely to cause side effects such as a hangover or headache	0.78	0.76	0.81	0.81	New item
Chenin blanc is likely to cause an allergic reaction	0.82	0.75	0.81	0.96	New item
Chenin blanc has fast intoxicating effects	0.82	0.74	0.82	0.83	New item
Social risk (P)	0.81	0.74			0.59
People enjoy Chenin blanc (R)	0.65	0.67	0.62	0.74	New item
It is likely that my friends/family will approve Chenin blanc (R)	0.69	0.65	0.62	0.75	New item
I am hesitant to buy Chenin blanc because others might think it is a bad wine choice	0.63	0.34	0.82	0.83	New item
Chenin blanc is popular amongst people (R)	0.56	0.56	0.68	0.58	New item
Psychological risk (P)	0.92	0.94			0.89
Chenin blanc is likely to cause feelings of embarrassment	0.88	0.82	0.51	0.91	New item
Chenin blanc might harm my self-esteem	0.81	0.90	0.31	0.94	New item
If I buy Chenin blanc it could send a negative impression about me	0.85	0.89	0.31	0.94	New item
Time risk (P)	0.57	0.50			0.42
It is easy to find information about Chenin blanc (R)	0.12				New item
<i>It is quick to find information about Chenin blanc (R)</i>		0.19	0.51	0.38	
Choosing Chenin blanc is time consuming	0.50	0.42	0.31	0.67	New item
I would have to spend a lot of time to find an appropriate bottle of Chenin blanc	0.53	0.41	0.31	0.61	New item
<i>When I am pressed for time, I will consider buying Chenin blanc (R)</i>	0.34	0.18	0.54	0.57	New item

Note: Items in *italics* are amended/new items after pilot test reliability analysis

(R) indicates items that were reverse scored

All items were measured on a 5-point Likert scale (1=Strongly disagree...5=Strongly agree)

Omission is recommended for highlighted items

Confirming a previous report (Mitchell, 1999), a number of correlations were evident between the risk dimensions, indicating that when the most severe perceived risks are effectively reduced, all other risks would most likely also subside. Concerning estimated correlations between risk dimensions on the importance of loss scale, there were positive correlations with medium effect between physical and psychological ($r = 0.47$) risk, financial and social risk ($r = 0.3$), physical and social risk ($r = 0.3$) and psychological and time risk ($r = 0.46$). There were positive correlations with large effect between financial and functional risk ($r = 0.57$), psychological and social risk ($r = 0.70$), time risk and financial risk ($r = 0.59$), functional risk ($r = 0.66$) and social risk ($r = 0.61$) (results not shown).

On the probability of loss scale, there were positive correlations with large or medium effect between all the risk dimensions. Positive correlations with large effect were evident between financial and functional risk ($r = 1.01$), financial and physical risk ($r = 0.53$), financial and psychological risk ($r = 0.73$), physical and psychological risk ($r = 0.69$), financial and social risk ($r = 0.91$), functional and social risk ($r = 0.81$), psychological and social risk ($r = 0.69$), time risk and financial, functional, physical, psychological and social risk ($r \geq 0.50$). Regardless of the numerous large positive correlations, HTMT-ratios (<1.0) confirmed discriminant validity of all risk dimensions on the importance of loss and probability of loss scales (results not shown).

4.4. *Chenin blanc RRS*

In general, the *Chenin blanc RRS* scale appeared to have acceptable reliability and validity according to all indicators (Table 7). However, the Cronbach alpha score of store promotions showed a decrease after the main study ($\alpha=0.64$), yet still acceptable for exploratory purposes and no omission of any of the items would have increased the alpha score. Store promotions also had a lower than acceptable AVE indicating questionable convergent validity. There were positive correlations with medium to large effect between all *Chenin blanc RRS* ($r \geq 0.33 \leq 0.88$). Although no item omission is recommended due to acceptable Cronbach alpha scores and factor loadings, exploratory factor analysis (EFA) might be valuable to explore a different structuring of individual *RRS* items, therefore not according to the *a priori* structuring.

5. Conclusion

This paper described the methodology followed to develop and propose a wine varietal-specific perceived risk measurement instrument – a first of its kind. A review of literature revealed that the concept of risk is subjective to the perceiver and complex, where different approaches to measurement have been followed in previous wine risk perception studies. Three main constructs of risk perception, i.e. risk drivers, perceived risk and risk-reducing strategies were identified, however, in previous wine research, the three constructs were not measured as part of a single study. Yet, in a previous product-specific risk perception study (McCarthy & Henson, 2005) outside the scope of wine, an exploratory mixed methods approach was followed which included all three main constructs. A more inclusive approach, considering all risk perception constructs appeared to be valuable, especially in terms of strategy development to reduce product-specific perceived risk. Therefore, a similar approach was adopted in the case of this study. Consequently, semi-structured interviews explored consumers' risk perception of Chenin blanc, a South African white wine varietal aiming to gain market share in the bottled white wine category.

The qualitative data highlighted the importance of investigating Chenin blanc within the context of the South African white wine category, identified perceived risk drivers, risk dimensions and RRS relevant to the white wine category and Chenin blanc. The findings of this study strongly support the use of a qualitative phase to inform a perceived risk measurement instrument, as it is believed to enhance the validity. From the qualitative data, time as well as psychological risks were identified as risk dimensions relevant for Chenin blanc. In previous wine studies, both these aforementioned risk dimensions have been excluded, yet when a varietal-specific approach is followed, it might be significant and differ between wine varietals. The qualitative data were therefore used to build on existing theory of wine risk perception which, in combination, informed the measurement instrument. In each section, the risk drivers, perceived risk and risk-reducing strategies were applied to the white wine category as well as Chenin blanc.

The measurement instrument was pilot tested to assess validity and reliability. Face and content validity were confirmed while reliability analysis identified problematic items, amended prior to a large scale survey (N=2051). After main data collection, Cronbach alpha coefficient and CFA (SEM) assessed reliability, construct, convergent and discriminant validity. Due to the large number of variables, six different models were used to test whether the *a priori*

structuring of variables were a valid representation, therefore resulting in six different scales. The large number of variables confirms the measurement complexities of perceived risk. However, the separate scales provide future risk perception researchers the opportunity to use one or more of the scales on category and/or product level. In general, reliability and validity of the scales were within acceptable parameters. As the sample was large, CFI, GFI and RMSEA were used as GOF indices. Based on a combination of Cronbach alpha scores, item-total correlations, factor loadings and AVE, recommendations were made for the selective removal of scale items which would furthermore improve the reliability and validity.

The proposed measurement instrument could be adopted and used as diagnostic tool, investigating other slow growing varieties or even regions-of-origin. For South African wine industry professionals, the application of this measurement instrument would be useful to identify Chenin blanc risk perceivers, drivers responsible for the perceived risk and the most important risk dimensions. With the inclusion of RRS related to the white wine category and Chenin blanc, focussed marketing strategies could be developed to reduce Chenin blanc perceived risks.

There are limitations to the study. Although large and with elements of representativeness, the sample of convenience limits generalisability of results to the South African wine drinking population. Furthermore, with the inclusion of items representing both the white wine category and Chenin blanc, the proposed measurement instrument is extensive. Therefore, potential respondent fatigue could result in low response rates and the repetition of Likert-scales might result in agreement/central tendency bias. Future studies could therefore select one or more of the scales and employ a supplementary qualitative phase to explain the quantitative findings. Nevertheless, this study makes an important contribution, not only to wine literature, but also describing the methodology of developing a risk perception measurement instrument, which remains challenging (Conchar et al., 2004; McCarthy & Henson, 2005; Mitchell, 1999).

Acknowledgement and declaration of interest

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Author contributions

N.V., C.P., and H.N. planned the research and developed the measurement instrument. N.V. collected and analysed the data and wrote the paper. C.P. and H.N. critically reviewed and edited the paper. N.V. was responsible for the final version.

Ethical disclosure

This study was ethically approved and conducted according to the guidelines of the Research Ethics Committee (REC): Humanities at Stellenbosch University (South Africa), abiding by the Declaration of Helsinki (proposal number SU-HSD-003952).

Table 7. Reliability and validity of Chenin blanc RRS scale

<i>Chenin blanc RRS scale</i>	Pilot		Main study			Statement source
	Internal reliability		Construct validity			
	α (r)	α (r)	α if deleted	Item loading	AVE	
GOF: $p=0.00$; $\chi^2/df=8.94$; GFI=0.97; CFI=0.97; RMSEA=0.07						
Store promotions	0.74	0.64			0.41	
In-store tastings	0.45	0.34	0.61	0.55		New item
More advertising material in-store (no tastings)	0.49	0.45	0.56	0.58		King et al. (2012)
Discount price promotions	0.60	0.47	0.55	0.53		Bruwer and Nam (2010)
Small/sample bottles to buy (e.g. 250 ml)	0.63	0.40	0.59	0.52		Bruwer and Nam (2010)
More Chenin blanc from well-known wine estates to choose from in-store	0.41	0.32	0.62	0.64		Johnson and Bruwer (2004)
Recommendation from friends'/opinion leaders	0.61	0.65			0.49	
Friends recommending Chenin blanc	0.28	0.36	0.63	0.61		Johnson and Bruwer (2004)
A wine club	0.34	0.46	0.56	0.69		Johnson and Bruwer (2004)
Recommendations from store personnel	0.42	0.51	0.52	0.63		Johnson and Bruwer (2004)
Celebrity endorsers	0.54	0.41	0.60	0.54		Pelet and Lecat (2014)
Packaging and labelling	0.79	0.74			0.51	
Attractive packaging	0.49	0.36	0.76	0.64		Atkin and Johnson (2012)
Information about how Chenin blanc is different from other varieties	0.43	0.34	0.75	0.56		New item
Information on the front label	0.67	0.69	0.63	0.75		Goodman (2009)
Tasting notes on the front label	0.72	0.64	0.64	0.74		Goodman (2009)
Technical information on the back label	0.54	0.54	0.68	0.65		Goodman (2009)
Social media	0.83	0.89			0.82	
Twitter	0.58	0.78	0.85	0.83		New item
Facebook	0.74	0.77	0.86	0.92		Higgins et al. (2014)
YouTube	0.75	0.81	0.82	0.9		Higgins et al. (2014)
Traditional media	0.82	0.78			0.82	
Article in popular Magazine/Newspaper	0.69	0.65	0.00	0.82		Atkin and Tach (2012)
Article in wine magazine/expert review	0.69	0.65	0.00	0.86		Atkin and Tach (2012)
Promotions/tastings outside store	0.74	0.76			0.51	
Formal tasting events (tutored)	0.67	0.58	0.69	0.70		Johnson and Bruwer (2004)

Informal tasting events (non-tutored)	0.61	0.54	0.71	0.63	Johnson and Bruwer (2004)
Chenin blanc events in my town	0.63	0.55	0.70	0.72	New item
Promotions at restaurants	0.19	0.42	0.75	0.67	New item
Cellar door promotions (on the wine farm)	0.42	0.52	0.72	0.70	New item
Matching food	0.84	0.86			0.88
Food pairing events	0.72	0.76	0.00	0.90	Goodman (2009)
Food pairing suggestions (information)	0.72	0.76	0.00	0.89	Goodman (2009)

All items were measured on a 5-point Likert scale (1=Strongly disagree...5=Strongly agree)

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CHAPTER 7
RESULTS ARTICLE 3:

**A VARIETAL-SPECIFIC APPROACH TO INVESTIGATE WINE RISK
PERCEPTION: AN INTERNATIONAL FIRST**

“...then the different brands like Chenin blanc or Sauvignon blanc...” – Interview 2

*Written according to the guidelines of International Journal of Wine Business
Research*

Title: A varietal-specific approach to investigate wine risk perception: an international first

Abstract

Purpose – This paper describes South African consumers' wine risk perception on varietal level with recommendations for Chenin blanc.

Design/methodology/approach – An exploratory mixed methods approach was followed where qualitative data were used to develop the measurement instrument. Quantitative data were collected from 2051 respondents using an online survey. ANOVA and Fischer LSD tests were used to indicate statistical significance.

Findings – The three most significant perceived risks associated with Chenin blanc across age and ethnic groups were functional, time and financial risks. The most important risk-reducing strategies (RRS) in the white wine category were favourite brands and a trusted store, while Sauvignon blanc was also described as an RRS. Recommended Chenin blanc RRS include tastings and events with food.

Managerial implications – Segments were identified to develop new markets for Chenin blanc. Chenin blanc RRS emphasise the importance of real sensory experience rather than media exposure to build knowledge and familiarity.

Research limitations/implications – Measurement of perceived risk remains challenging and this research approach can be reproduced and/or adapted to investigate other struggling varietals and/or regions-of-origin. The convenience sample limits generalisability.

Originality/value – To the best of the authors' knowledge, this paper is the first to describe consumer risk perception of a specific wine varietal and to report on a wine varietal used as an RRS.

Keywords Consumer risk perception, South African white wine, Chenin blanc, Varietal perceived risk measurement instrument.

Paper type Research paper

Introduction

In South Africa, the world's 8th largest wine producing country (SAWIS, 2017), only 14% of adults consume wine (The Moss Group, 2015). South Africa therefore relies heavily on exports, but low price points and rigorous opposition from international competitors are threats to the wine industry (WESGRO, 2017). Therefore, exploration and development of new markets, including the domestic market, are prioritised by the South African wine industry (WESGRO, 2017). Although South Africa is a beer-drinking nation, the local wine market has developed with new interest from the growing black middle class (Holtzkampf, 2015), which has substantial buying power (The Moss Group, 2015). Traditionally, wine has been a more favoured alcoholic beverage of choice amongst the white South African minority (Kew, 2015).

Wine consumption habits and preferences are often acquired from previous generations and require some experience (Melo *et al.*, 2011) to rationally evaluate attributes, prior to and post the purchase (Lockshin and Cohen, 2011). Wine is a category that elicits significant uncertainty, i.e. perceived risk, especially amongst younger and less experienced consumers (Spawton, 1991). As South Africa does not have an established wine drinking culture, it can be assumed that, albeit diverse in terms of demographics, the majority of consumers are inexperienced wine consumers. Sixty-five percent (65%) of all wine produced in South Africa is white wine, with the 750ml bottle category being the largest contributor to wine producers' income. However, in the 750ml bottle category, white wine accounts for only 37.5% of domestic sales (SAWIS, 2017). Therefore, the development of new markets for white wine seems sensible.

In the bottled South African white wine category, at least three times more Sauvignon blanc was sold per annum than either Chardonnay or Chenin blanc for the period 2011-2017 (SAWIS, 2017). However, Chenin blanc, South Africa's most planted wine grape, representing 18.6% of all vineyards, only contributed 9.5% to the total domestic bottled white wine sales in 2017 (SAWIS, 2017). South Africa harbours the most Chenin blanc vineyards in the world (IGWS, 2016), which is reportedly one the first wine grapes planted in the wine growing region of the Western Cape during the 17th century ("Chenin Blanc Association", n.d.). Chenin blanc has been the "work-horse" of the South African wine industry due to its adaptability to different terroir, also used to produce a variety of wine styles (Nieuwoudt *et al.*, 2013). Therefore, traditionally, high-yielding Chenin blanc vineyards served the South African wine industry based on volume, but as a single varietal, quality was controversial (James, 2013). However,

there has been dedicated and successful quality improvement efforts by vineyard managers and wine makers, who are currently producing internationally award-winning single varietal Chenin blanc wine (IGWS, 2016).

Because Chenin blanc wine is so readily available, it was important to investigate the apparent sales barrier from the wine consumer's perspective. As an investigation into perceived risk would provide the necessary insight to ultimately increase sales through risk-reducing strategies (RRS) (Bruwer *et al.*, 2013; Spawton 1991), it was an appropriate construct to explore Chenin blanc – this is an international first on varietal level. Most wine is sold in the off-consumption domain in South Africa (WESGRO, 2017); therefore this study focused exclusively on risk perception during in-store purchase decision-making.

Risk perception and risk dimensions

Risk perception is described as a bi-dimensional construct of importance of loss (I) and probability of loss (P) (Bauer, 1960). In a purchase situation, the importance relates to the uncertainty about the anticipated consequences after a decision had been made, while the probability relates to the likelihood that a decision might lead to negative consequences (Cunningham, 1967). Mitchell and Grottel (1988) identified four dimensions of risks that apply to buying and consuming wine, namely functional, social, financial and physical risks. Spawton (1991) suggested that functional, economic and psychological dimensions are the three significant wine-related perceived risks. However, Schiffman *et al.* (2014) report on six generic risk types used in modern research approaches of wine risk perception (Bories *et al.*, 2014; Bruwer *et al.*, 2013):

- Functional risk involves product performance and relates to the sensory experience of wine, with or without food (Mitchell and Grottel, 1988; Spawton, 1991).
- Social risk relates to others' approval of the wine (Mitchell and Grottel, 1988).
- Financial risk relates to the price and perceived value of the wine (Mitchell and Grottel, 1988; Spawton, 1991).
- Physical risk includes the risk of a hangover and other side effects as a result of the wine (Mitchell and Grottel, 1988).
- Psychological risk relates to one's own negative feelings due to a perceived "poor" wine choice (Spawton, 1991).

- Time risk involves the time spent to evaluate and choose an appropriate wine (Bruwer *et al.*, 2013).

The (I) and (P) are typically applied to each risk dimension and wine would be identified as a functional risk when the taste is an important attribute, but there is a high probability that it would not taste as expected. Therefore, perceived risk is often described according to a hierarchy of risk dimensions, where functional and financial risks were previously identified as the most important for wine consumers (Bories *et al.*, 2014; Bruwer *et al.*, 2013; Bruwer and Rawbone-Viljoen, 2013; Lacey *et al.*, 2009; Mitchell and Greatorex, 1988).

Perceived risk is, however, known to be product-specific, as suggested in the risk perception definition by Dowling (1999): “the uncertainty of the possible adverse consequences which a person thinks will attach to buying or using a product”. According to Mitchell (1999), the (I) is associated with the generic category, while the (P) is associated with a specific brand/product within the category. For purposes of this study, the category was therefore identified as South African white wine per 750 ml bottle, and Chenin blanc as the product (varietal).

A product-specific approach to perceived risk

Risk perception is described as product-specific due to generic conditions, i.e. risk drivers that cause heightened levels of risk associated with certain products and/or product categories. Bettman (1973) identified certain conditions as causes of perceived risk in a purchase situation: insufficient product/category information; lack of experience and/or self-confidence to evaluate products in a category; a product being new or expensive; perceived quality variations between products in the same category; and the importance of the purchase. However, it appears that the measurement of generic risk drivers has been neglected in previous wine risk perception studies. The reason for this could be threefold. Firstly, most researchers followed a quantitative approach, possibly assuming that wine is inherently considered a higher-risk category (Spawton, 1991), and therefore did not consider why and when consumers perceive wine-related risk. Secondly, these researchers recognised and focused on the practical value of studying perceived risk dimensions and risk-reducing strategies (RRS) for strategic marketing purposes (Atkin and Thach, 2012; Bruwer, *et al.*, 2013; Cho, *et al.*, 2014; Johnson and Bruwer, 2004; Lacey, *et al.*, 2009; Mitchell and Greatorex, 1989; Mitchell and Greatorex, 1988). Lastly,

none of these studies were region or varietal-specific, but were generic and applied in the contexts of restaurants (Lacey *et al.*, 2009; Bruwer and Rawbone-Viljoen, 2013), online purchasing (Cho *et al.*, 2014), point-of-purchase (Bories *et al.*, 2014) and comparing perceived risk behaviour between consumer groups (Atkin and Thach, 2012; Johnson and Bruwer, 2004; Mitchell and Greatorex, 1988).

Only two wine-specific perceived risk drivers have explicitly been identified: (1) consumption occasions and (2) wine risk-taking behaviour. Bruwer *et al.* (2013) reported on different occasions being a risk driver: buying wine for gifting/celebrations was for instance associated with a higher perceived risk than buying wine for at-home consumption. Affinity for risk, i.e. risk-taking behaviour in the wine category, has also been described as a potential risk driver. Consumers portraying risk-taking tendencies would explore buying unfamiliar wines, while those with a low affinity for risk would rather buy the same wines habitually (Bruwer and Rawbone-Viljoen, 2013; Vigar-Ellis *et al.*, 2015). Considering the varietal-specific approach of this study, it can be envisaged that one wine varietal might be perceived as a riskier choice for a specific occasion and that consumers might also be risk-averse towards unfamiliar varietals.

Risk-reducing strategies (RRS)

In efforts to reduce uncertainty during the wine purchase situation, RRS can be considered as decision heuristics gathered from a variety of information sources (Atkin and Thach, 2012; Spawton, 1991) (Table I). Once consumers gain the information needed from their preferred RRS, they often continue to purchase a product (Mitchell and Greatorex, 1989; Spawton, 1991); hence insights into consumers' RRS are most sought-after for strategic marketing purposes (Bruwer *et al.*, 2013). To ensure effective targeting of different consumer segments, demographic characteristics such as age (Atkin and Thach 2012), socio-economic class (Mitchell and Greatorex, 1989) and lifestyle segments (Johnson and Bruwer, 2004) are commonly used as segmentation bases to identify and describe differences in preferred RRS. Reassurance through tastings has been described as a significantly more important RRS across socio-economic classes than the price of wine (Mitchell and Greatorex, 1989), while brand name was found to be the most important RRS across consumers of all ages (Atkin and Thach, 2012).

Table I. Risk-reducing strategies (RRS) in wine decision-making

Mitchell and Greatorex (1989) Schiffman <i>et al.</i> (2014)	Spawton (1991)	Atkin and Thach (2012)
Search for information;	Wine appreciation education;	Store personnel; Newspaper;
Brand loyalty;	Learn from others;	Wine steward; Bottle label;
Reliance on store image;	Retail assistants;	Wine magazine; Friends or family
Well-known brands;	Known brands;	Shelf talker; Brand name
Price and	Pricing and	Vintage; Country of origin;
Reassurance through tastings or sample sizes	Packaging and labelling	Region; Alcohol content;
		Label imagery; Medals won
		State; Appellation;
		Organic

The generic RRS (see Table I), as identified by Mitchell and Greatorex (1989) and Schiffman *et al.* (2014), are recognised as the six RRS during wine consumers' decision-making process (Bruwer *et al.*, 2013). However, based on an evaluation of applied wine risk perception studies, the generic RRS do not necessarily allow for well-differentiated marketing strategies. For example, Johnson and Bruwer (2004) matched retailer strategies to the generic RRS relevant to wine, which does provide direction for allocating marketing resources, but shows considerable overlapping. In the aforementioned study, the retailer strategy of "advertising and promotions" has been suggested as useful for "brand loyalty"; "well-known brands" and "price", without providing any details on the type/channel of advertising and promotions relevant to the different RRS. Therefore, after careful evaluation, a more specific approach to RRS, similar to Spawton (1991) and Atkin and Tach (2012) (Table I), is considered suitable for a varietal-specific investigation. Consequently, concrete strategies could be recommended to reduce varietal-specific perceived risks.

Concerning the RRS of "brand loyalty", it seems as if the boundaries of what consumers consider a brand are hazy in the context of wine. According to Gluckman (1986) consumers often evaluate and become emotionally connected to a wine varietal and region as if these are true brands. It is somewhat surprising, then, that no previous studies pertinently included and described varietals as RRS. Brand loyal consumers' behaviour is often based on the

convenience of repeating the same purchase, and to a lesser degree on knowledge of product attributes (Peter and Olsen, 2005). In a country where a wine culture is not yet established, these traits of often less informed brand loyalists (Vigar-Ellis *et al.*, 2015) might therefore explain South African consumers' overwhelming preference for Sauvignon blanc – a RRS in the white wine category? Differences in perceived risk behaviour between age and ethnic groups are to be expected, given the heterogeneous South African population, underdeveloped status of the South African wine market and demographic differences in perceived risk behaviour.

Research aims

After a scrutiny of relevant literature, the three main constructs of risk drivers, risk dimensions and RRS were judged appropriate to be included in a varietal-specific approach to risk perception. This study therefore aimed (1) to describe current perceptions of Chenin blanc according to known risk driver variables; (2) to describe the most severe Chenin blanc risk dimensions across age and ethnic groups; and (3) to recommend strategies to reduce Chenin blanc perceived risks.

Methodology

An exploratory sequential mixed methods approach was followed in this study, with a large scale survey (n=2051) used for main data collection. However, as this was a pioneering effort to investigate varietal-specific perceived risk and because South African consumers' perceptions about Chenin blanc were previously unknown, an initial qualitative phase explored Chenin blanc risk perception. Based on a combination of reviewed literature review and qualitative findings, an online survey and hypotheses were developed.

Qualitative results, measurement instrument development and hypotheses

Semi-structured interviews (n=8) were used to explore Chenin blanc perceived risk from wine buyers' perspective. Data were collected within a network of non-expert, acquainted wine drinkers until data saturation. Data were coded according to an *a priori* framework of risk drivers, risk dimensions and RRS. Using content analysis, qualitative findings stressed the

importance of investigating Chenin blanc as part of the white wine category and were particularly helpful to identify Chenin blanc risk drivers.

- Risk drivers

Certain risk drivers were identified as “category” risk drivers, namely insufficient information, lacking availability, low confidence to evaluate wine and risk-taking behaviour (Table II).

Table II. Interview excerpts indicating category risk drivers

Theme	Sub-theme	Quote
Category risk driver	Lack of information	“... I think in the bigger scheme of things, where I live, there is less information about white wines to start off with ... and okay then even less information about white wine varieties (Chenin blanc) that is not that well-known ...”
	Risk-taking behaviour	“... Not very comfortable, no. Any white wine for that matter, but the Chenin specifically ... I would probably go for something else ...”

Consequently, the measurement instrument was adapted from previous scales for risk taking-behaviour and self-confidence (Bruwer and Rawbone-Viljoen 2013; McClung *et al.*, 2015) and newly developed for a lack of information and availability. Scale items for each of the aforementioned risk drivers were included for both the white wine category and Chenin blanc, as shown in the “risk-taking behaviour” example (Table III).

Table III. Statements measuring risk-taking behaviour (adapted from Bruwer and Rawbone-Viljoen, 2013).

White wine category	I am willing to spend R75 or more on a white wine I have not tasted before
	I enjoy buying unfamiliar white wines
Chenin blanc	I am willing to spend R75 or more on a Chenin blanc I have not tasted before
	I enjoy buying unfamiliar Chenin blanc

H1. There are significant differences between Chenin blanc and the white wine category in terms of:

H1.1. availability

H2.2. lack of self-confidence

H2.3. risk-taking behaviour and

H2.4. perceived amount of information available

Lack of experience (subjective knowledge and purchase frequency), quality variations and occasions were identified as “varietal risk” drivers, as indicated in the interview excerpt examples (Table IV). Based on interview data and national sales statistics of bottled white wine, the varieties of Sauvignon blanc, Chardonnay, Chenin blanc and “white blends” were included in this study.

Table IV. Interview excerpts on varietal risk drivers

Theme	Sub-theme	Quote
Varietal risk driver	Occasions	“... If I buy (Chenin blanc) just for consumption at the house then it’s a safe bet. If I give it as a present to someone that I don’t know ... then it’s not a safe bet ...” “... normally Sauvignon blanc, I think that is a very safe wine to give to people ...”
	Quality variations	“... I think for me, Chardonnay has got a ... stands on the top podium, number one place, then Sauvignon blanc and then Chenin with regards to perceived value and the price tag ...”

For occasions, questions were developed to rank the different varieties according to best-worst (1-4) choice to buy as a gift, for special occasions, everyday enjoyment with friends and family and for own consumption (adapted from Bruwer *et al.*, 2013). 3-, 4- and 5-point Likert scales were used to respectively measure purchase frequency (1=never ... 3=always) (adapted from Fountain and Lamb, 2011), subjective knowledge (1=know nothing at all ... 4=expert) and perceived quality (1=very poor ... 5=very good) (adapted from D’Alessandro and Pecotich, 2013).

H2. There are significant differences between Chenin blanc and other white wine varieties in terms of:

H2.1 quality

H2.2 consumer experience and

H2.3 goodness-of-fit for occasions

- Perceived risk and risk dimensions

In the interviews, there was evidence that Chenin blanc was perceived as a higher risk variety (“it will be a major risk buying a Chenin that I don’t know”). Therefore, scale items were included to measure subjective overall risk for the white wine category and Chenin blanc (Table V).

Table V. Statements for overall perceived risk (adapted from McCarthy and Henson, 2005).

Overall white wine risk	When I buy white wine, I am concerned that it will not meet my expectations Buying white wine is risky When I face a shelf of white wine, I feel uncertain to make my choice
Overall Chenin blanc risk	Buying Chenin blanc is risky When I face a shelf of white wine, I feel more uncertain about Chenin blanc than other white wines

Qualitative data furthermore confirmed the relevance of all six risk dimensions on variety level. Three to four statements represented each of the risk dimensions on both the importance of loss (I) and probability of loss (P) facets which were adapted from previous scales and/or newly developed, as indicated in Table VI.

H3. Functional risk is a significantly more severe perceived risk than financial risk

H4. Financial risk is a significantly more severe perceived risk than functional risk

H5. There are significant differences between age groups’ Chenin blanc perceived risk

H6. There are significant differences between age groups according to perceived risk dimensions

H7. There are significant differences between ethnic groups according to Chenin blanc perceived risk

H8. There are significant differences between ethnic groups according to perceived risk dimensions

Table VI. Statements measuring functional risk

Functional risk (I)	Taste is an important factor when I buy white wine	} Adapted from Bruwer, <i>et al.</i> (2013)
	It is important that the wine I buy complements my food	
	Buying white wine of consistent quality is important to me	Adapted from Atkin and Johnson (2010)
Functional risk (P)	It is important for me to know what to expect from a specific white wine varietal in terms of taste	} New items: interview data
	I like the taste of Chenin blanc	
	Chenin blanc generally goes well with food	
	The quality of Chenin blanc is consistent	
	I know what to expect from Chenin blanc in terms of taste	

- Risk-reducing strategies

Concerning RRS applied during white wine buying on category level, 14 previously described RRS (Atkin and Thach 2012; Johnson and Bruwer 2004; Goodman, 2009) emerged from the qualitative findings. However, discourse analysis of interview data (Harding, 2013) suggested Sauvignon blanc loyalty, which was consequently included as RRS in the measurement instrument. Based on the three core components of the definition (Schiffman *et al.*, 2014), participants' descriptions of Sauvignon blanc resembled brand loyalty (Table VII).

H9. Sauvignon blanc is a significantly more important RRS than well-known brands

H10. Sauvignon blanc is a significantly more important RRS than price

Lastly, based on participants' own recommendations, seven Chenin blanc-specific RRS categories were identified: store promotions (five items); recommendations from others (four items); packaging and labelling (five items); social media (three items); promotions/tastings

outside store (five items) and matching food (two items). Due to the extensive list of items (26), and to mitigate agreement bias, two ranking scales were included, where the list was randomly divided into 13 items each (Which three strategies would be the most effective to promote Chenin blanc?).

H11. There are significant differences between the importance of Chenin blanc RRS

Table VII. Qualitative results indicating Sauvignon blanc loyalty

Components of brand loyalty	Quotes
Consumer learning/satisfaction	<p>“... with more people consuming Sauvignon blanc over the years, people know the product ... so, they know what it tastes like, they know what to expect. So that’s a safe bet ...”</p> <p>“... Sauvignon blanc you can get a flavour and you can get a taste and there is some consistency in it ...”</p>
Behavioural component (resistance towards other varietals)	<p>“... we always go for the Sauvignon blanc, we don’t drink the Chardonnay or Chenin blancs or any of the others ...”</p> <p>“... I would look at the whites and first of all go the Sauvignon blancs ...”</p>
Affective component	<p>“...Sauvignon blanc for me is fresh, fresh, clean, crisp. Which I love...”</p> <p>“... everyone I know loves Sauvignon blanc.”</p> <p>“... In my opinion, Sauvignon blanc is just a crowd pleaser to serve it as white wine ...”</p>

Quantitative data collection and reliability and validity measures

Screening questions were used to include potential respondents who met the following criteria: (1) South African citizens of (2) legal drinking age (18+) who had to (3) at least be aware of Chenin blanc and (4) buy white wine at least occasionally. Wine industry employees were excluded. Using snowball sampling, the survey was administered online and pilot-tested (n=62) to assess functionality and internal reliability. Data were successfully extracted and analysed, and amendments were made to items with Cronbach alpha scores $\alpha < 0.6$ and item-total correlations $r < 0.3$.

For the main study, data were collected from a sample of convenience. Considering the length of the measurement instrument and heterogeneous South African population, a large sample size was required. Due to the low response rate of online surveys (Brace, 2013), data were collected with the support of a market research company with access to a large South African online consumer database. At a response rate of 8.4%, 2554 responses were gathered over seven months ending July 2018. Based on inclusion/exclusion criteria, 503 respondents were disqualified and 2051 usable responses were retrieved. Unless otherwise stated, all scale items were measured on a 5-point Likert scale (1=Strongly disagree ... 5=Strongly agree).

After data collection, the measurement instrument was again assessed for internal reliability, which, in general, improved after the pilot test. After careful consideration, 10 items with Cronbach alpha scores $\alpha < 0.6$ and item-total correlations $r < 0.3$ were identified as threats to the instrument's reliability and were deleted prior to further analysis. In a third-round reliability analysis the majority of variables displayed acceptable to very good reliability ($\alpha \leq 0.70 \leq 0.94$) (Table. VIII). Only two variables – risk-taking behaviour and time risk – both relevant to the white wine category, had α -scores < 0.6 . As the corresponding variables relevant to Chenin blanc had acceptable α -scores, however, no further amendments were made.

As the scale items were *a priori* structured according to constructs and variables identified from theory and interview data, Confirmatory Factors Analysis (CFA), co-variance based Structural Equation Modelling (SEM) was used to assess construct validity (Schmitt, 2011). Due to the large number of construct variables and items, individual SEMs was calculated for the latent variables with goodness-of-fit indices, indicated in Table VIII. In the case of large sample sizes, as in this study, p -values and Chi-square (χ^2/df) are of little value (Hair *et al.*, 2010). Rather, RMSEA, GFI and CFI indicated a good fit for all the latent variables, except for Chenin blanc risk drivers, where only the RMSEA was 0.09. Lastly, as risk dimensions are known to be correlated (Mitchell, 1999), it was important to establish discriminant validity. Heterotrait-monotrait (HTMT) ratios (Henseler *et al.*, 2015) confirmed that all construct variables were discriminant (HTMT < 1.00).

Statistical analyses

The data were analysed electronically using Statistica (version 13.4.0.14), which involved a combination of descriptive and inferential analysis. Lisrel-SEM was used for CFA and Smart-PLS to calculate HTMT-ratios. To test the hypotheses, a series of ANOVA with post-hoc

Fischer Least Significance Difference (LSD) tests were used to indicate statistical significance at 95% confidence intervals. As Chenin blanc RRS have managerial implications, effect sizes using Cohen's *d*-value and Hedges' *g*-value were calculated to indicate practical significance (Cohen, 1988). Similar to previous research (Atkin and Thach 2012; Melo *et al.*, 2011), respondents were divided into younger (<30 years) and older (≥ 30 years) age groups.

Table VIII. Reliability and construct validity of measurement instrument

Latent variable	Measured variables	No of items	α -score	χ^2/df	p	RMSEA	CFI	GFI
Chenin blanc risk drivers	Self-confidence	3	0.71	17.38	0.00	0.09	0.95	0.98
	Information	3	0.75					
	Availability	3	0.74					
White wine risk drivers	Risk-taking behaviour	2	0.63	12.04	0.00	0.08	0.95	0.96
	Importance of decision	4	0.72					
	Self-confidence	3	0.64					
	Information	3	0.75					
Overall risk	Availability	3	0.66	5.38	0.00	0.05	1.00	1.00
	Risk-taking behaviour	2	0.49					
	White wine	3	0.75					
White wine risk (I)	Chenin blanc	2	0.80	6.94	0.00	0.06	0.97	0.97
	Functional	4	0.71					
	Financial	3	0.70					
	Physical	3	0.83					
	Social	4	0.78					
	Psychological	3	0.87					
Chenin blanc risk (P)	Time	2	0.50	9.15	0.00	0.07	0.98	0.97
	Functional	4	0.85					
	Financial	3	0.72					
	Physical	3	0.87					
	Social	4	0.74					
	Psychological	3	0.94					
Chenin blanc RRS	Time	2	0.78	8.94	0.00	0.07	0.97	0.97
	Store promotions	5	0.64					
	Recommendation from	4	0.65					
	Packaging/labelling	5	0.74					
	Social media	3	0.89					
	Traditional media	2	0.78					
	Tastings outside store	5	0.76					
Matching food	2	0.86						

Notes:

Indices for goodness-of-fit (Hooper *et al.*, 2008): $\chi^2/df < 5$; *p*-value > 0.05 ; RMSEA ≤ 0.08 ; CFI and GFI ≥ 0.9

Cronbach alpha scores (α) internal reliability indicators (DeVellis, 2012): < 0.6 =unacceptable; $\geq 0.6 < 0.65$ =acceptable with caution; $\geq 0.65 < 0.7$ =acceptable; $\geq 0.7 < 0.8$ =good; ≥ 0.8 =very good.

Results and discussion

Demographic, wine-buying and consumption characteristics

Most respondents were female (56%), aged between 31-60 years (64%), obtained tertiary qualifications (84%), were Afrikaans (46%) or English (40%) speaking and Caucasian (75%). Consistent with the national wine drinking population (The Moss Group, 2015), most respondents resided in the three provinces of Gauteng (45%), Western Cape (30%) and KwaZulu-Natal (9%).

Most respondents purchase white wine from a general supermarket (48%) or large national retailer (29%) and spend between ZAR50-R100 (73%) on a bottle. Although more respondents prefer red wine (44%) than white wine (41%), most respondents were frequent consumers, enjoying white wine once a week or more (60%). Consistent with the mean age of the sample ($M=46.5$), most respondents were experienced white wine drinkers, having been consuming white wine for 16 years or more (53%).

Chenin blanc in the white wine category based on a comparison of risk driver variables

To describe wine consumers' current perceptions, Chenin blanc was compared to the white wine category and other varietals based on previously identified risk drivers. ANOVA and post-hoc LSD tests indicated significant differences ($p<0.05$) between Chenin blanc and white wine according to all category risk drivers (Figure I).

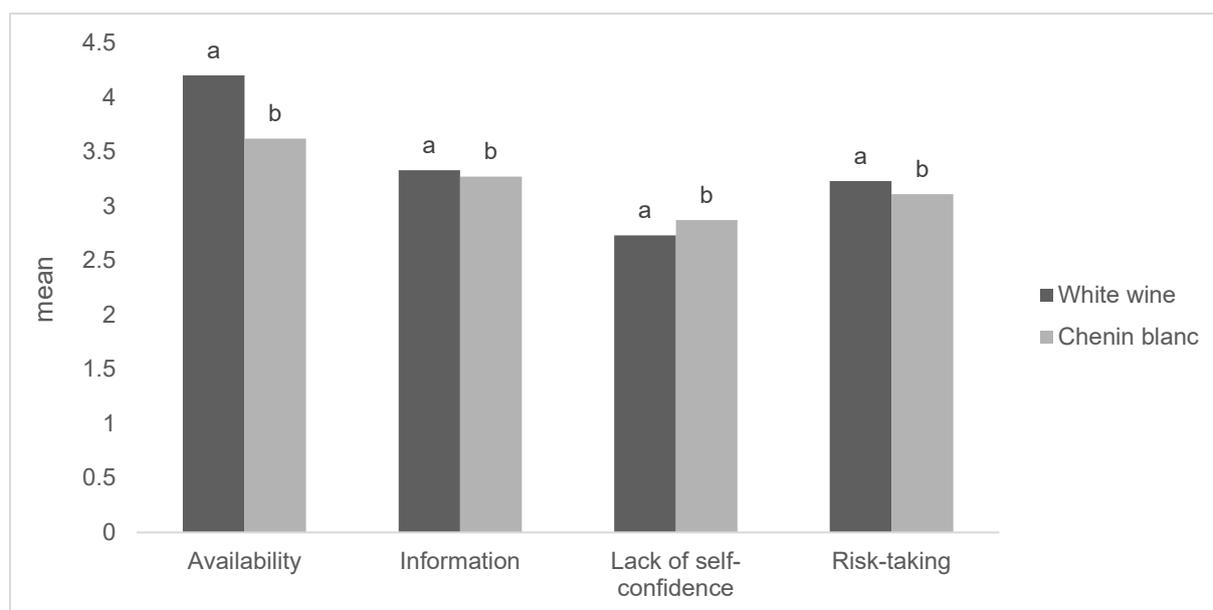


Figure I: Differences between Chenin blanc and white wine according to category risk drivers

Notes: ^{ab}Means with different superscripts indicate statistically significant differences ($p<0.05$).

In terms of product characteristics, Chenin blanc was judged to be less available ($p=0.00$), with less information ($p=0.01$) than white wine. In terms of personality/psychological characteristics, respondents indicated confidence ($p=0.00$) to evaluate Chenin blanc and were less likely to engage in risk-taking behaviour ($p=0.00$) when considering Chenin blanc in a white wine purchase situation. H1.1-H1.4 are accepted.

ANOVA indicated significant ($p<0.01$) differences in respondents' mean quality perception, knowledge, purchase frequency and goodness-of-fit for occasions between different varieties (Table VIII).

Table VIII. Differences between varieties according to varietal risk drivers

	Chenin blanc	Sauvignon blanc	Chardonnay	White blends	p	F
	Mean	Mean	Mean	Mean		
Quality	4.09 ^b	4.29 ^a	4.28 ^a	3.83 ^c	0.00*	41.23
Experience						
Subjective knowledge	2.22 ^b	2.43 ^a	2.39 ^a	2.19 ^b	0.00*	18.27
Purchase frequency	1.99 ^{bc}	2.26 ^a	2.06 ^b	1.96 ^c	0.00*	20.63
Occasions						
Gift	2.5 ^b	1.76 ^a	1.95 ^a	3.05 ^c	0.00*	74.44
Special occasions	2.43 ^c	1.78 ^a	2.00 ^b	3.12 ^d	0.00*	98.97
Friends/family	2.49 ^{bc}	1.91 ^a	2.19 ^b	2.72 ^c	0.00*	18.27
Own consumption	2.49 ^c	1.84 ^a	2.13 ^b	2.89 ^d	0.00*	27.38

Notes: *Indicates statistical significance ($p<0.01$; $p<0.05$)

^{abcd}Means with different superscripts indicate statistically significant differences ($p<0.05$), read by row.

For occasions, varieties were ranked, lower means indicate a better choice.

Chenin blanc quality was considered below both Sauvignon blanc ($p=0.00$) and Chardonnay ($p=0.00$), but above white blends ($p=0.00$). There was no significant difference between subjective knowledge of Chenin blanc and white blends ($p=0.38$), which were, however, significantly below Sauvignon blanc ($p=0.00$) and Chardonnay ($p=0.00$). Chenin blanc was indicated to be purchased less frequently than Sauvignon blanc ($p=0.00$), but similar to Chardonnay ($p=0.51$) and white blends ($p=0.1$). Chenin blanc was indicated an inferior choice for all occasions, compared to Sauvignon blanc ($p<0.01$), which was judged a superior choice ($p<0.01$) over Chardonnay, Chenin blanc and white blends for special occasions, occasions with friends/family and for own consumption. H2.1-H2.3 are accepted. Consistent with previous research (Bruwer *et al.* 2013; Hirche and Bruwer 2014), occasions seem to be an

important influencing factor, also in the case of varietal choice, and could explain the significantly higher ($p < 0.01$) Sauvignon blanc purchase frequency, compared to the other varietals.

Chenin blanc perceived risk

Based on a subjective measurement of overall risk, 26% of respondents confirmed that they feel more uncertain about Chenin blanc than other white wines, while 16% agreed that Chenin blanc is risky to buy. Using an objective measure, the two-component summated model (I+P) (Cunningham, 1967; Mitchell, 1999) was adopted to measure perceived risk in this study:

$$\text{Perceived Risk (PR)} = \sum_n \text{I (white wine)} + \text{P (Chenin blanc)}$$

$n = \text{risk dimensions}$

$$\text{PR} = [\text{Functional}_i + \text{Social}_i + \text{Financial}_i + \text{Physical}_i + \text{Psychological}_i + \text{Time}_i] + [\text{Functional}_p + \text{Social}_p + \text{Financial}_p + \text{Physical}_p + \text{Psychological}_p + \text{Time}_p]$$

Assuming that all six dimensions are of equal weight, a moderate level of Chenin blanc risk was perceived by respondents (PR=35.69). The findings of this study furthermore confirmed a hierarchy in perceived risk dimensions. ANOVA indicated statistically significant differences ($p < 0.01$) between the six perceived risk dimensions, which were ranked according to severity (Table X). Chenin blanc functional risk (medium-high risk) was indicated to be significantly higher ($p < 0.01$) than financial (medium-high risk), social and physical risks (medium risks) as well as psychological risk (low risk). H3 is accepted while H4 is rejected. Although time risk has been excluded in previous wine risk perception studies (Mitchell and Grestorex 1988; Spawton 1991), it was indicated to be as high as functional ($p = 0.06$) and financial risk ($p = 0.10$) in this study.

Importantly, mean scores on the majority of the probability of loss dimensions indicated that respondents were uncertain ($M \geq 2.5 < 3.5$) and possibly lacked the know-how to rationally evaluate Chenin blanc risk, most likely due to inexperience. Therefore, the higher mean scores on the importance of loss dimensions had a larger influence on the PR and summated scores. When buying white wine, Functional_i risk (i.e. the sensory properties and food pairing ability) was the most important ($p < 0.05$) risk, followed by Time_i, with Time_p the most likely ($p < 0.05$) Chenin blanc risk. As most respondents buy wine from a supermarket or large retailer, wine is most likely purchased during general grocery shopping, where consumers increasingly seek

convenience and are time-pressed, and therefore reluctant to spend time evaluating products (Rahkovsky and Jo, 2018).

Table X. Differences in Chenin blanc perceived risk

PR dimension	I	P	I+P	
	$p=0.00^* F=262.26$	$p=0.00^* F=50.90$	$p=0.00^* F=175.98$	
	Mean	Mean	Mean	
Functional	4.21 ^a	2.45 ^c	6.65 ^a	Medium-high risk
Time	3.72 ^b	2.79 ^a	6.51 ^{ab}	
Financial	3.94 ^c	2.44 ^c	6.38 ^b	Medium risk
Social	3.31 ^d	2.53 ^b	5.81 ^c	
Physical	3.01 ^e	2.63 ^b	5.62 ^c	Low risk
Psychological	2.61 ^f	2.13 ^d	4.72 ^d	
PR			35.69⁺	

Notes: *Indicates statistical significance ($p<0.01$; $p<0.05$)

^{abcdef}Mean scores with different superscripts indicate statistical significant differences ($p<0.05$), read by column.

Means were rounded to the second decimal and interpreted according to the indicators:

I and P means ≥ 4.5 =very important/very likely; $\geq 3.5<4.5$ =important/likely; $\geq 2.5<3.5$ =uncertain; <2.5 =unimportant/unlikely; I+P means ≥ 9.0 =severe risk; $\geq 7.5<9.0$ =high risk; $\geq 6.0<7.5$ =medium high risk $\geq 4.5<6.0$ =medium risk; $\geq 3.0<4.5$ =low risk; <3.0 =no risk.

PR: ≥ 55 =severe risk; $\leq 46<55$ =high risk; $\leq 35<45$ =moderate risk; $\leq 25<35$ =average risk; <25 =low risk.

Demographic differences in Chenin blanc perceived risk

Contrary to expectations, three-way ANOVA indicated no statistically significant ($p=0.25$) difference between younger (PR=35.42) and older (PR=35.97) respondents' Chenin blanc perceived risk (Table XI), and H5 is rejected. For risk dimensions there was only one significant difference ($p<0.05$), as older respondents indicated higher levels of psychological risk than younger respondents – H6 is therefore accepted.

Table XI. Chenin blanc perceived risk differences according to age and ethnicity

PR dimension	I+P age		I+P ethnicity			I+P ethnicity: age					
	$p=0.01^* F=3.29$		$p=0.00^* F=21.69$			$p=0.08 F=1.68$					
	<30	≥ 30	Caucasian	Black African	Coloured	<30		Black African		≥ 30	
Functional	6.69	6.62	6.50	6.73	6.73	6.49	6.51	6.79	6.68	6.77	6.69
Time	6.50	6.51	6.20	6.74	6.58	6.33	6.08	6.67	6.81	6.50	6.66
Financial	6.41	6.36	6.35	6.34	6.45	6.39	6.31	6.47	6.21	6.35	6.54
Social	5.74	5.88	5.56 ^a	6.07 ^b	5.80 ^{ab}	5.62	5.51	6.05	6.10	5.57	6.02
Physical	5.60	5.65	4.75 ^a	6.16 ^b	5.97 ^b	4.71	4.78	6.08	6.23	6.00	5.93
Psychological	4.48 ^a	4.95 ^b	4.07 ^a	5.42 ^b	4.67 ^c	4.04	4.10	5.14	5.70	4.27	5.06
PR	35.42 ^a	35.97 ^a	33.43 ^a	37.46 ^b	36.20 ^b	33.58	33.29	37.20	37.73	35.46	36.90
	$p=0.25 F=1.30$		$p=0.00^* F=49.99$			$p=0.28 F=1.29$					

Notes: *Indicates statistical significance ($p<0.05$)

^{abc}Summated mean scores with different superscripts indicate statistical significant differences ($p<0.05$), read by row/

Ethnicity seemed to have a significant influence on Chenin blanc perceived risk, as Black African (PR=37.46) and Coloured (PR=36.20) respondents perceived significantly higher ($p<0.05$) Chenin blanc risk than Caucasian respondents (PR=33.43). H7 is therefore accepted. There were no significant differences for the three highest ranked PR dimensions, but significant ($p<0.05$) differences were found for the three lowest ranked perceived risk dimensions. Caucasian respondents perceived lower psychological ($p=0.00$) and physical risk ($p=0.00$) than Black African and Coloured respondents. Black African respondents perceived higher levels of social risk ($p=0.00$) than Caucasian respondents, perhaps due to their inexperience with wine and associated consumption practices. H8 is accepted.

Sauvignon blanc: a risk reducing strategy

Respondents in this study identified Sauvignon blanc (M=3.70) as an important RRS in the South African white wine category, where bottled wine is marketed with the varietal and brand name indicated on the front label. 71% of respondents confirmed that they buy Sauvignon blanc when they are uncertain in a purchase situation. The only two significantly ($p<0.05$) more important RRS than Sauvignon blanc were buying favourite brands (M=4.05) and from a trusted store (M=3.90) (Figure II). H9 is rejected. Sauvignon blanc was, however, indicated to be a significantly ($p<0.05$) more important RRS than the price of white wine (M=3.36), attractive label artwork (M=3.27), medals/awards (M=3.09), expert review (M=2.97), advice from a store assistant (M=2.84) and a mobile wine application (M=2.25), which was the only unimportant RRS. H10 is accepted.

According to the qualitative results, Sauvignon blanc indeed seems to fit the criteria of brand loyalty. Sauvignon blanc is a superior choice for various occasions and is purchased significantly more frequently than other varietals. Brand loyalty is known to be an outcome of repetitive satisfaction, and thus a process of learning (Schiffman *et al.*, 2014). In the case of wine, this could certainly point to the sensory characteristics and enjoyment of wine upon consumption (Melo *et al.*, 2010). It has been found that the taste of wine per se is less important to consumers than the taste of wine linked to a specific brand (Mitchell and Greated, 1988), which might furthermore explain why Sauvignon blanc has become a habitual and/or convenient choice. The definition proposed by Bruwer *et al.* (2014) in a study of country-of-origin wine brand loyalty was adapted for this study to describe varietal brand loyalty: wine varietal brand loyalty is a “behavioural response” expressing commitment to continuously

repurchase a preferred varietal due to “psychological dimensions of satisfaction, commitment, emotional attachment, word-of-mouth, purchase intent, and resistance to brand switching”. This finding holds significant value when marketing strategies for Chenin blanc are considered.

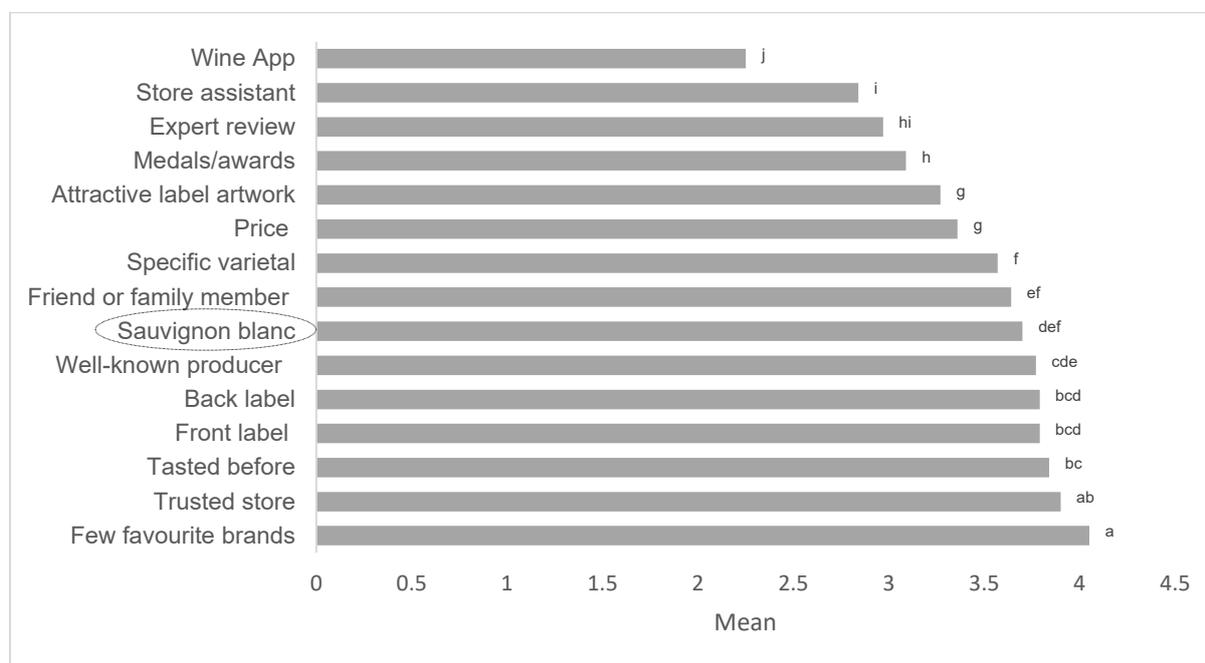


Figure II. RRS in the white wine category

Notes:

Indicators for interpretation of means: ≥ 4.5 = very important; $\geq 3.5 < 4.5$ = important; $\geq 2.5 < 3.5$ = uncertain; < 2.5 = unimportant. ^{abdefghij} Means with different superscripts indicate statistical significant differences ($p < 0.05$).

Segment(s) to target based on differences between age and ethnic groups' Sauvignon blanc and Chenin blanc purchase frequency

An important practical consideration of this study was to identify segments where new markets for Chenin blanc can be explored and developed without cannibalisation of sales. A substantial number of the respondents indicated that they never (20%) buy Chenin blanc, which motivated further analysis to identify this segment according to demographic characteristics. ANOVA indicated statistically significant ($p < 0.05$) differences between age and ethnic groups' purchase frequency of Sauvignon blanc and Chenin blanc (Table XII). It appears that younger Caucasian respondents are following the Sauvignon blanc trend of older Caucasian respondents, as there were no significant ($p > 0.05$) differences in their purchase frequency of Sauvignon blanc. However, older Black African and Coloured respondents indicated to purchase Sauvignon blanc significantly ($p < 0.05$) more often than their younger counterparts.

For young Black African and young Coloured respondents, there was no significant difference ($p>0.05$) in the purchase frequency of Sauvignon blanc and Chenin blanc. Therefore, in terms of growth potential for Chenin blanc and without compromising substantial Sauvignon blanc sales, it is recommended to target younger Black African and Coloured consumers. This segment also holds substantial buying power, as Black African and Coloured consumers aged 20-29 years represent 17% of South Africa's total population of 57,7 million. As wine consumption habits are learned over time (Melo *et al.*, 2011), it also seems sensible to target a younger generation. Older Black African consumers in particular were traditionally not regarded as wine drinkers and will therefore most likely not be influenced by previously established Chenin blanc perceptions.

Table XII. Differences in Chenin blanc and Sauvignon blanc purchase frequency according to age and ethnicity

	Age		Ethnicity			Ethnicity: age						
	$p=0.01^* F=4.08$		$p=0.00^* F=8.10$			$p=0.01^* F=2.90$						
	<30	≥ 30	Caucasian	Black African	Coloured	<30		Black African		<30		
						≥ 30	<30	≥ 30	<30	≥ 30	<30	≥ 30
Sauvignon blanc	2.17 ^b	2.35 ^a	2.43 ^a	2.18 ^b	2.18 ^b	2.41 ^{ab}	2.45 ^a	2.08 ^c	2.29 ^b	2.05 ^c	2.31 ^b	
Chenin blanc	1.98 ^c	1.99 ^c	2.11 ^b	1.88 ^c	1.97 ^{bc}	2.08 ^c	2.14 ^{bc}	1.95 ^{cd}	1.81 ^d	1.90 ^{cd}	2.04 ^{cd}	

Notes: *Indicates statistical significance differences ($p<0.05$)

^{abcd}Mean scores with different superscripts indicate statistical significant differences ($p<0.05$), read by row and column.

Indicators for interpretation of means: ≥ 2.5 =very often; $\geq 2<2.5$ =regularly; $\geq 1.5<2$ =occasionally; $\geq 1<1.5$ =seldom; <1 =never.

Risk-reducing recommendations for Chenin blanc

ANOVA indicated statistically significant differences between all Chenin blanc RRS ($p<0.05$) (Table XIII). H11 is accepted. However, there were no practically significant differences ($d<0.5$) between events and/or information matching Chenin blanc with food (M=3.96), tastings outside the store (M=3.84), store promotions (M=3.73) and information on packaging and labelling (M=3.67), and they are therefore considered as equally important. Social media was indicated to be significantly (statistically and practically) less important than all other RRS, with medium or large effect sizes ($p\leq 0.01$; $d>0.5$). For the young Black African and Coloured segments, the order of importance of Chenin blanc RRS was consistent with that of the rest of the respondents. For these segments there were also significantly higher Chenin blanc risk perceivers ($p<0.05$) than for Caucasian respondents, and RRS should therefore be targeted mainly to reduce the three biggest risks: functional, financial and time risks.

Table XIII. Chenin blanc RRS

RRS				Black African <30			Coloured <30		
	Mean	<i>p</i>	<i>d</i>	Mean	<i>p</i>	<i>g</i>	Mean	<i>p</i>	<i>g</i>
<i>p</i> =0.00* <i>F</i> =68.67									
Matching food	3.96 ^a			4.18 ^a			3.88 ^{ab}		
Tastings outside store	3.84 ^a	0.01**	0.14	3.90 ^{ab}	0.02**	0.38	3.93 ^a	0.81	0.07
Store promotions	3.73 ^a	0.00*	0.35	3.88 ^{ab}	0.01**	0.37	3.75 ^{abc}	0.54	0.16
Information: Packaging/labelling	3.67 ^{ab}	0.00*	0.40	3.75 ^b	0.00*	0.59	3.59 ^{bcd}	0.16	0.38
Recommendations from others	3.47 ^b	0.00*	0.74	3.65 ^b	0.00*	0.70	3.53 ^c	0.09	0.50
Traditional media	3.44 ^b	0.00*	0.50	3.58 ^b	0.00*	0.67	2.97 ^c	0.00*	0.96
Social media	3.19 ^c	0.00*	1.13	3.57 ^b	0.00*	0.60	3.38 ^{de}	0.01**	0.54

Notes: *Indicates statistical significance ($p < 0.01$)

**Indicates statistical significance ($p < 0.05$)

^{abc}Mean scores with different superscripts indicate medium or large practical significant differences, read by column.

Effect size (Cohen's *d*/Hedges *g*) guidelines: 0.2=small; 0.5=medium; 0.8=large.

Indicators for interpretation of means: ≥ 4.5 =very important; $\geq 3.5 < 4.5$ =important; $\geq 2.5 < 3.5$ =uncertain; < 2.5 =unimportant.

Respondents' ranking of individual RRS items supported the RRS variables identified as important. Based on the frequency of items ranked as the most effective RRS for Chenin blanc (Table XIV), the five highest ranked items were in-store tastings (53%), promotions at restaurants (45%), discount price promotions (37%), food pairing events (35%) and information about how Chenin blanc is different from other varieties (33%).

Table XIV. Highest and lowest ranked Chenin blanc RRS

Which three strategies would be the most effective to promote Chenin blanc?	% (1)	Rank
In-store tastings	53	1
Promotions at restaurants	45	2
Discount price promotions	37	3
Food pairing events	35	4
Information about how Chenin blanc is different from other varieties	33	5
More advertising in-store (no tastings)	8	22
Facebook	7	23
Celebrity endorsers	6	24
Twitter	1	25
YouTube	1	25

Although store promotions per se were identified as an important RRS, the individual item of more advertising in-store (no tastings) (8%) was ranked among the five lowest RRS, stressing the importance of sensory exposure and experience ahead of information and advertising without tastings. Consistent with previous findings in an underdeveloped wine market (Mitchell and Groatorex, 1989), an opportunity to taste Chenin blanc, with or without food, would therefore most likely be more effective than merely creating awareness through various forms of media.

Conclusion and managerial implications

Although perceived risk is known to be product-specific (Dowling, 1999), this study was a pioneering effort to investigate consumer risk perception on a wine varietal level. Therefore, an exploratory qualitative phase, in combination with previously described literature, was required to develop a varietal-specific measurement instrument. A series of measures, including a pilot test and CFA, ensured acceptable reliability and validity of the measurement instrument.

This study aimed to describe South African consumers' risk perception of Chenin blanc according to risk drivers, risk dimensions and risk-reducing strategies. A lack of availability, information, confidence to evaluate and reluctance to engage in risk-taking behaviour were reported for Chenin blanc, compared to the white wine category. It was found that respondents had less knowledge about Chenin blanc and perceived it as being of less quality than Chardonnay and Sauvignon blanc. Chenin blanc was also purchased less frequently than Sauvignon blanc, the preferred varietal for a variety of occasions.

The I+P model (Cunningham, 1967) was adopted to measure risk perception with (I) applied to the white wine category and (P) to Chenin blanc. Time risk (excluded in previous risk perception studies), together with functional and financial risk, was indicated as the most significant Chenin blanc risks. The majority of respondents buy wine from supermarkets and might therefore not have the time to rationally evaluate Chenin blanc, which would require effort due to their lack of experience. Age appeared to have little influence on perceived risk, while there were significant differences in Chenin blanc perceived risk in terms of ethnicity. Black African and Coloured respondents were identified as moderate Chenin blanc risk perceivers, with higher levels of perceived social, physical and psychological risks than Caucasian respondents, who were identified as average risk perceivers.

The two most important RRS identified in the white wine category were buying favourite brands and buying from a trusted store. Sauvignon blanc was identified as an important RRS in the South African white wine category, with characteristics of brand loyalty. To develop new markets for Chenin blanc without significantly compromising the Sauvignon blanc market share, it is recommended to target younger Black African and Coloured respondents who are currently buying equal amounts of Chenin blanc and Sauvignon blanc. Considering the current status of Sauvignon blanc amongst the more traditional wine drinking Caucasian segment, an opportunity might arise to establish Chenin blanc as an equal brand

amongst the identified younger segments. Younger and less experienced consumers tend to be more prone to risk (Atkin and Thach 2012; Barber *et al.*, 2006) and consequently more brand loyal (Vigar-Ellis *et al.*, 2015). However, to establish brand loyalty requires efforts beyond creating awareness.

Based on respondents' recommendations, promotions involving true sensory experience with Chenin blanc would be most effective. Repeated exposure to Chenin blanc tastings, both in-store and at restaurants, with food pairings and food pairing suggestions, is specifically recommended to reduce functional risk. Information about Chenin blanc through media sources should be supplementary at most. To ultimately use Chenin blanc as a decision heuristic would require a voyage of repetitive satisfaction, and therefore a process of learning to a level where it becomes familiar and recognised as distinct from other varietals. Lastly, it is recommended to associate Chenin blanc with a specific occasion, perhaps as a varietal to enjoy with friends and family – this would not only create more exposure, but also relieve social risk which seems to be higher amongst Black African consumers.

Limitations and future research directions

Although the sample was large, with elements of representativeness, generalisability to the South African wine drinking population is limited. The length of the measurement instrument, in combination with the inherent complexities of the risk perception construct, can be considered a limitation of this study. Respondent fatigue might have caused agreement bias; and construct validity of the instrument had to be handled separately according to the latent variables as structured *a priori*. This approach to individual SEMs produced valid and reliable measures which could be reproduced separately or in combination. However, the white wine risk driver scale requires improvement. As this study was a pioneering effort to investigate varietal-specific risk perception and the corresponding constructs for Chenin blanc had acceptable reliability scores for exploratory studies, the values below the desired threshold of $\alpha=0.7$ were retained. For future studies, a mixed methods approach is recommended, as the qualitative results of this study were particularly helpful to enhance the validity of the measurement instrument. An explanatory sequential mixed methods approach might be the gold standard to study risk perception where a reduced-item quantitative survey with a follow-up qualitative approach can be used to clarify results. Nevertheless, this varietal-specific approach to risk perception yielded valuable results and can be replicated to investigate other struggling wine varietals or regions-of-origin.

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CHAPTER 8

SUMMARY AND CONCLUDING DISCUSSION

“...People don’t know what Chenin is, what it tastes like...what it stands for...” – Interview 8.

8.1. INTRODUCTION

The primary aim of this study was to explore and describe varietal-specific perceived risk with insights for Chenin blanc wine. As the majority of South African wine is sold in the off-consumption retail sector (WESGRO, 2017), this study specifically focussed on risk perception during in-store decision-making of 750ml bottled white wine. In this final chapter, the results of this study are summarised and further recommendations are made for Chenin blanc wine. The aim and objectives were successfully reached and the main findings are presented as gathered throughout the phases of this study. To conclude this chapter, the limitations of this study are addressed with recommendations for future research while the practical and scientific contributions of this study are highlighted.

8.2. SUMMARY OF FINDINGS

In this section, a summary of the findings from the secondary and primary research is presented according to the objectives of this study (as provided in Chapter one).

8.2.1. Secondary research findings

A scrutiny of domestic white wine sales in the 750ml category revealed that, from 2011-2017, three times more Sauvignon blanc was sold annually than Chenin blanc and Chardonnay. Chenin blanc is however the most planted wine grape variety in South Africa and accounts for 23% of all wine grapes crushed for production purposes (SAWIS, 2017). In recent years, single varietal Chenin blanc gained increasing international recognition, yet the local market’s perceptions were previously unknown. Due to successful quality improvements and known adaptability to South African terroir, it is believed that Chenin blanc could become South Africa’s flagship varietal. However, previous reports pointed to the sensory variances which might create consumer confusion about the taste and differentiation of Chenin blanc in the white wine category (Institute for Grape and Wine Sciences, 2016).

After carefully evaluating previous consumer and wine marketing literature, it was decided to use the theoretical paradigm of risk perception to explore and describe Chenin blanc from the

consumer's perspective. Risk perception is widely recognised as a key construct in wine marketing. Insights into consumers' perceived risk behaviour enable the development of concrete strategies that could ultimately increase market share (Bruwer, Fong, & Saliba, 2013; Mitchell & Grottel, 1988), as sought-after in the case of Chenin blanc wine. Although risk perception is known to be product-specific (Dowling, 1999), previous researchers only investigated risk perception of wine in general and in different contexts of restaurants, in-store and online purchases. Therefore, this novel investigation required an in-depth review and evaluation of the core constructs and measurement approaches to risk perception, also outside the scope of wine. Numerous researchers reported on the inherent complexities and measurement difficulties of risk perception (Conchar, Zinkhan, Peters, & Olavarrieta, 2004; Dowling & Staelin, 1994; McCarthy & Henson, 2005; Mitchell, 1999). Due to these complexities, it was previously recommended to include and argue risk perception and related constructs as part of a recognised consumer decision-making model. However, no evidence from the literature could be found where risk perception constructs were illustrated and described as part of the consumer decision-making process. Therefore, the first objective of this study was to integrate and describe risk perception constructs within a recognised consumer decision-making model.

- **Theoretical objective: *To review previous wine risk perception research and integrate and describe risk perception constructs within a recognised consumer decision-making model.***

The risk perception constructs were successfully included and described as part of the consumer decision-making process. The consumer decision-making model of Engel, Blackwell and Miniard (1995:153) was adapted, inclusive of the main risk perception constructs. It was consequently applied to consumers' in-store wine decision-making process. The inclusion of risk perception in a recognised consumer decision-making model, enabled theoretical comparisons with the (dis)confirmation paradigm, previously not associated with risk perception. Findings were presented as a research article in Chapter 3.

8.2.2. Primary research findings

As this study was the first to investigate varietal-specific perceived risk, an exploratory mixed methods approach was followed where a qualitative phase first explored Chenin blanc risk perception. Consequently, the qualitative findings, in combination with secondary research findings were used to develop the measurement instrument and hypotheses. Main data

collection involved a quantitative online survey (n=2051) that tested a set of hypotheses. The following set of empirical objectives and hypotheses were addressed in this study:

- **Empirical objective 1: *To qualitatively explore consumers' risk perception of Chenin blanc wine***

Qualitative, semi-structured interview data were collected from a small number (n=8) of experienced consumers of white wine to provide insight into the white wine category and perceptions of Chenin blanc. Results from the qualitative phase suggested the existence of a higher level of perceived risk associated with Chenin blanc and were particularly helpful to identify Chenin blanc risk drivers. Furthermore, participants tended to spontaneously compare Chenin blanc to other white wine varieties, highlighting the importance of investigating a specific varietal as part of a category. The qualitative data also suggested that all six known perceived risk dimensions were relevant in the case of Chenin blanc. Using discourse analysis, the qualitative data provided early evidence of brand loyalty shown towards Sauvignon blanc. Participants also made recommendations to promote Chenin blanc in the South African wine market.

In general, Chenin blanc was described by participants as unfamiliar, lacking a distinctive sensory character and also less available than other white wines. Chenin blanc was not a preferred choice for occasions as friends and family reportedly do not regularly consume Chenin blanc. Participants furthermore reported that they do not have knowledge and experience with Chenin blanc making it a riskier choice, also requiring higher levels of involvement, time and effort to buy and choose Chenin blanc. The lack of knowledge and experience can be attributed to a lack of exposure as reportedly, the previous generations only consumed Sauvignon blanc. Therefore, over a number of years, with more exposure, participants reported to have rather acquired a taste for Sauvignon blanc, also described as a safe choice and a crowd pleaser. On the contrary, participants reported that they are uncertain what to expect from the taste of Chenin blanc and perceived it as inconsistent, also lacking a vocabulary to describe the sensory characteristics.

The qualitative data confirmed a hierarchy of perceived risk dimensions where participants unanimously reported that the functional properties, i.e. sensory characteristics of wine are the most important attribute. Participants stated to be less price sensitive, therefore perceiving lower financial risk when the taste of the wine is according to expectations. Therefore, participants reported to often buy the same wines habitually, confident that it would be satisfying. To promote Chenin blanc, participants mostly recommended exposure to tastings, food pairing events and suggestions, and to clearly differentiate Chenin blanc from Sauvignon

blanc. This suggested differentiation referred not only to the sensory characteristics, but also to a total product management effort, requiring effective marketing communication to create a unique identity for Chenin blanc. Findings were presented as a research article in Chapter 5.

- **Empirical objective 2: To use qualitative data and risk perception theory to develop and propose a measurement instrument to investigate wine varietal-specific risk perception**

Qualitative data, in combination with theory were used to develop a varietal-specific perceived risk measurement instrument. The measurement instrument consisted of four sections: A) demographic and consumption characteristics; B) risk drivers; C) perceived risk and risk dimensions; and D) risk-reducing strategies. White wine was identified as the category, with Chenin blanc the product, where questions represented both the white wine category and Chenin blanc in sections B, C and D. All questions were closed-ended while Likert-scales were mostly used to measure the variables in sections B, C and D.

- **Empirical objective 3: To quantitatively test the reliability and validity of a wine varietal-specific risk perception measurement instrument**

The developed measurement instrument was pilot-tested (n=62) using an online survey. Reliability analysis with Cronbach alpha was used to identify and amend weak scale items. Using a sample of convenience, main data collection occurred over a period of seven months. A total of 2051 usable online responses were retrieved with all respondents included based on the following criteria: 1) South African citizens; 2) 18 years or older; 3) purchased white wine at least occasionally and 4) were at least aware of Chenin blanc. The sample consisted of more females (56%) than males (44%) with an average age of 46.5 years. Although more respondents indicated to prefer red wine than white wine, more than half of the respondents had 16 years or more experience consuming white wine. Most respondents also indicated to consume white wine once a week or more.

Statistical reliability and validity analysis were conducted. Cronbach alpha coefficients were calculated to test internal reliability, Confirmatory Factor Analysis (CFA), Structural Equation Modelling (SEM) was performed to test construct and convergent validity and Heterotrait-Monotrait ratio of correlations (HTMT) indicated discriminant validity. Goodness-of-fit indicators of RMSEA, CFI and GFI were used to evaluate whether the data supported the *a priori* structuring of scale variables. Cut-off values for convergent and discriminant validity

were interpreted according to the following indicators: factor loadings (Lambda-X) ≥ 0.5 , AVE ≥ 0.5 , and HTMT-ratios < 1.0 . Due to the large number of variables, separate SEM's resulted in six scales for the latent variables of 1) white wine risk drivers; 2) Chenin blanc risk drivers; 3) overall subjective perceived risk; 4) importance of loss (white wine); 5) probability of loss (Chenin blanc); and 6) Chenin blanc RRS. Phi-coefficients (ϕ) furthermore confirmed that Chenin blanc risk driver variables and risk dimensions were correlated with medium or large effect sizes. Therefore, when the most severe perceived risks can be reduced, it is likely that all other perceived risks would also decrease. This finding is consistent with previous research, indicating that all risk dimensions on the probability of loss facet are correlated (Mitchell, 1999). All variables within parent factors were discriminant. Findings addressing empirical objectives 2 and 3 were presented as a research article in Chapter 6.

Based on the reliability and validity analysis, a total of 10 items were removed prior to further analysis. A third-round reliability analysis and a second-round CFA (SEM) were performed. Cronbach alpha values and GOF indices were reported in Chapter 7 while the CFA models with factor loadings are provided in addendum B.

Empirical objective 4: *To explore and describe consumers' perception of Chenin blanc within the South African white wine category according to risk driver variables*

Using ANOVA and post-hoc LSD tests, the following hypotheses were tested:

H1. There are significant differences between Chenin blanc and the white wine category in terms of:

H1.1. availability

H2.2. lack of self-confidence

H2.3. risk-taking behaviour and

H2.4. perceived amount of information available

H2. There are significant differences between Chenin blanc and other white wine varieties in terms of:

H2.1 quality

H2.2 consumer experience and

H2.3 goodness-of-fit for occasions

There were statistically significant differences between Chenin blanc when compared to the white wine category according to all category risk drivers. Chenin blanc was perceived to be less available with a lower amount of information accessible. Respondents indicated to have lower self-confidence to evaluate Chenin blanc, also less likely to engage in risk taking behaviour when considering to buy Chenin blanc in a white wine purchase situation. Therefore, H1.1-H1.4. were accepted.

There were statistically significant differences between Chenin blanc and other varietals based on a comparison of quality, experience and goodness-of-fit for occasions (varietal risk drivers). The perceived quality of Chenin blanc was indicated to be lower than Sauvignon blanc and Chardonnay, but higher than white blends. Chenin blanc subjective knowledge was indicated to be significantly lower compared to Sauvignon blanc and Chardonnay and was indicated to be purchased less frequently than Sauvignon blanc. Chenin blanc was indicated an inferior choice for all occasions when compared to Sauvignon blanc, which was judged a superior choice than Chardonnay, Chenin blanc and white blends for special occasions, occasions with friends/family and for own consumption. H2.1-H2.3 were therefore accepted.

Thus, current perceptions of Chenin blanc indicate that respondents are likely to be uncertain about the possible adverse consequences when Chenin blanc is encountered in a purchase decision. Based on the risk driver variables measured in this study, all variables indicate that a heightened level of Chenin blanc risk might be perceived when compared to the white wine category and other white wine varietals.

- **Empirical objective 5: *To explore and describe the most severe Chenin blanc risk dimensions***

Using ANOVA and post-hoc LSD tests, the following hypotheses were tested:

H3. Functional risk is a significantly more severe perceived risk than financial risk in the case of Chenin blanc

H4. Financial risk is a significantly more severe perceived risk than functional risk in the case of Chenin blanc

Applying the importance of loss (I) + probability of loss model (P) (Cunningham, 1967), there were statistically significant differences between perceived risk dimensions. Chenin blanc

functional risk was indicated to be higher than financial risk, but no different than time risk. This finding is consistent with previous research, indicating that functional risk is the most profound risk dimension in the case of wine (Bruwer & Rawbone-Viljoen, 2013; Mitchell & Grotorex, 1988). Therefore, H3 was accepted, while H4 was rejected. In some previous wine consumer studies (Mitchell & Grotorex, 1988; Spawton, 1991) the time risk dimension was excluded. However, in this study, there was no difference in the severity of time, functional and financial risk in the case of Chenin blanc. Due to the perceived lack of availability, reduced purchase frequency and low subjective knowledge, respondents might not have the time to search for and evaluate Chenin blanc in a time-pressed shopping environment.

- **Empirical objective 6: *To explore and describe differences in Chenin blanc perceived risk across age and ethnic groups***

Using ANOVA and post-hoc LSD tests, the following hypotheses were tested:

H5. There are significant differences between age groups' Chenin blanc perceived risk

H6. There are significant differences between age groups according to perceived risk dimensions

H7. There are significant differences between ethnic groups according to Chenin blanc perceived risk

H8. There are significant differences between ethnic groups according to perceived risk dimensions

Contrary to previous research indicating that younger, inexperienced consumers tend to perceive higher levels of risk (Parr, Mouret, Blackmore, Pelquest-Hunt, & Urdapilleta, 2011; Vigar-Ellis, Pitt, & Caruana, 2015), there was no significant difference between younger and older respondents' Chenin blanc perceived risk. Considering the risk dimensions, there was only one significant difference where older respondents indicated higher levels of psychological risk than younger respondents. Therefore, H5 was rejected while H6 was accepted.

Ethnicity seemed to have a significant influence on perceived risk as Black African and Coloured respondents indicated to perceive significantly higher Chenin blanc risk than Caucasian respondents. There were significant differences between ethnic groups on the three lowest ranked perceived risk dimensions. Caucasian respondents indicated to perceive

lower psychological and physical risk than Black African and Coloured respondents. Black African respondents indicated to perceive higher levels of social risk than Caucasian respondents. H7 and H8 were therefore accepted. The higher levels of Chenin blanc perceived risk amongst the Black African and Coloured respondents might be attributed to a lack of experience and knowledge of Chenin blanc as wine has traditionally been an alcoholic beverage of choice amongst affluent, Caucasian South Africans (Kew, 2015).

- **Empirical objective 7: *To explore and describe the use of a wine varietal as risk-reducing strategy (RRS)***

Using ANOVA and post-hoc LSD tests, the following hypotheses were tested:

H9. Sauvignon blanc is a significantly more important RRS than favourite brands

H10. Sauvignon blanc is a significantly more important RRS than price

In this study, Sauvignon blanc was identified an important RRS in the South African white wine category. Favourite brands and a trusted store were significantly more important RRS than Sauvignon blanc. However, Sauvignon blanc was a significantly more important RRS than the price of white wine, therefore emphasising that Sauvignon blanc seems to be an important decision heuristic for respondents in this study. Therefore, H9 was rejected, but H10 was accepted. The quantitative findings, therefore, support the qualitative findings of this study, suggesting that consumers might recognise and attach brand value to Sauvignon blanc.

- **Practical objective 1: *To recommend strategies to reduce Chenin blanc perceived risks***

Using ANOVA and post-hoc LSD tests, the following hypothesis was tested:

H11. There are significant differences between the importance of Chenin blanc RRS.

There were significant differences between the importance of Chenin blanc RRS with events and/or information matching Chenin blanc with food, tastings outside the store, store promotions and information on packaging and labelling the most important. H11 was therefore accepted. A ranking of individual RRS items highlighted the importance of real sensory exposure and experience ahead of information and marketing without tastings. In general,

respondents tended to judge traditional and social media to be of little importance to promote Chenin blanc.

From the data, it furthermore appeared that 20% of respondents never buy Chenin blanc, while 71% reported to buy Sauvignon blanc when they are uncertain in a white wine purchase situation. Therefore, supplementary analysis was done to identify respondents that purchase Chenin blanc less frequently. An important consideration at this point was to contemplate the market share of Sauvignon blanc, as ultimately, new markets should be created for Chenin blanc without cannibalising into Sauvignon blanc sales. Therefore, age and ethnicity were used to segment and compare the mean purchase frequency of Sauvignon blanc and Chenin blanc. For only two groups, there were no significant difference in the purchase frequency of Sauvignon blanc and Chenin blanc. Young Black African and young Coloured respondents, purchase similar amounts of Sauvignon blanc and Chenin blanc, while Caucasian respondents of all ages, older Black African and older Coloured respondents purchase significantly more Sauvignon blanc than Chenin blanc. Therefore, based on the results of this study, it is recommended to target the younger Black African and younger Coloured consumer groups when promoting Chenin blanc through marketing initiatives. When Chenin blanc consumption and/or sales increase amongst the identified Black African and Coloured consumer groups, Sauvignon blanc sales would not necessarily be compromised.

Findings addressing empirical objectives four to seven and the practical objective, were presented as a research article in Chapter seven.

8.3. RECOMMENDATIONS FOR CHENIN BLANC WINE

Based on the findings from this study, a number of recommendations for Chenin blanc wine are made.

8.3.1. Creating expectations and differentiate Chenin blanc from other varietals

From the theory and qualitative findings of this study, sensory variances of Chenin blanc appears to be a challenge. The quantitative results confirmed that the functional risk dimension, i.e. sensory characteristics of Chenin blanc, is the most profound perceived risk. With wine in general being a higher risk category (Spawton, 1991), it is therefore important to ensure consistency regarding sensory experiences. From the qualitative findings, participants repeatedly reported being unsure about what to expect of Chenin blanc in terms of taste and that they do not have the vocabulary to describe Chenin blanc.

As Chenin blanc is adaptable to South African terroir and widely grown in different regions (Nieuwoudt, van Antwerpen, Hanekom, Bester, Muller *et al.*, 2013), it would perhaps be difficult to ensure consistency in sensory characteristics. Concerning sensory descriptors, the qualitative results of this study emphasised that consumers, although frequent wine drinkers, are not connoisseurs and use abstract words to describe wine varieties. Descriptions for Sauvignon blanc included “crisp”, “fruity”, and “fresh”, while Chardonnay was described as “woody”, “butterscotch” and “heavy”. Therefore, it is recommended to position and differentiate Chenin blanc from Sauvignon blanc and Chardonnay, also using less technical descriptors. The two current recognised styles of Chenin blanc include “fresh and fruity” and “rich and ripe” (“Chenin Blanc Association,” n.d.). On its own, it might be effective sensory descriptors as it is not technical, however, the “fresh and fruity” style might not be well-differentiated from Sauvignon blanc. Some interview participants in this study particularly stated to be unsure how Chenin blanc differs from Sauvignon blanc. Therefore, the challenge for Chenin blanc wine producers would be to communicate intrinsic properties of the wine, focusing on those characteristics that differentiates Chenin blanc from especially Sauvignon blanc. However, more research is needed and wine industry experts need to have consensus on the sensory descriptors and marketing communication strategy for Chenin blanc.

Furthermore, an identity should be created, perhaps promoting Chenin blanc as a versatile white wine, perfect to pair with a variety of foods. From the quantitative results, Chenin blanc seemed to be an inferior choice for a variety of occasions. On the contrary, Sauvignon blanc was indicated to be the preferred variety for special occasions, occasions with friends/family and for own consumption. It is therefore important to associate one or more occasions with Chenin blanc, which could ultimately stimulate consumer demand. Thus, when sensory consistency is not attainable, at least the message about Chenin blanc that reaches the consumer, should be consistent, therefore creating realistic expectations.

Delivering according to expectations is the first step in the process of attracting consumers who might potentially become loyal. When a product fails to deliver, consumers tend to be dissatisfied. However, when expectations are met or exceeded, consumers are satisfied (Hoyer, MacInnis, & Pieters, 2013). Repetitive satisfaction ultimately leads to consumer loyalty, implying repeated purchases and resistance towards competing products (Johansson & Carlson, 2015). The results of this study described wine variety loyalty, and it seems as if consumers recognise Sauvignon blanc as a distinct brand in the South African white wine category. From the qualitative findings of this study, it appears as if the loyalty towards Sauvignon blanc might be a result of intergenerational transfer of wine consumption habits and repetitive exposure to Sauvignon blanc.

Consistent with previous wine literature (Melo, Colin, Delahunty, Forde, & Cox, 2010), participants in this study reported to have acquired wine drinking habits from previous generations. In this study, it was reported that previous generations as well as restaurants cultivated a market for Sauvignon blanc, also described as the social norm. As wine is often shared amongst others, Sauvignon blanc might have become an easy choice, requiring less cognitive effort as it would be socially acceptable, while the sensory characteristics were described as familiar and consistent. It is believed that an opportunity exists to equally establish Chenin blanc as a brand in the South African wine market. It would, however, require numerous efforts from Chenin blanc industry role players to expose and continuously satisfy consumers. Consumers require repetitive sensory exposure to a level where Chenin blanc becomes familiar and recognised as distinct from other varietals. Thus, a process of learning, i.e. conditioning is required. From the results of this study, some risk-reducing strategies for Chenin blanc with segments to target are recommended.

8.3.2. Risk-reducing strategies for Chenin blanc wine

In this study, respondents indicated to repeatedly buy a few favourite brands, from a trusted store and white wine that they have tasted before. Expert reviews and advice from store assistants were, however, two of the least important risk-reducing strategies when buying white wine. Therefore, it appears as if respondents rather rely on less technical attributes when buying white wine, which is characteristic of higher risk perceivers with less experience (Parr *et al.*, 2011; Vigar-Ellis *et al.*, 2015). This finding is significant because, despite most of the sample being frequent and experienced wine consumers, they tend to use more abstract cues to facilitate a white wine purchase decision. Consistent with the findings from Spawton (1991), it is important for wine producers to consider that wine, and therefore also Chenin blanc, might be intimidating for the majority of consumers.

Wine is furthermore known to be an experience product (Ashton, 2014) and results of this study support the notion that awareness through various forms of media is not sufficient to lure consumers into purchasing Chenin blanc. The findings from the quantitative results highlighted the importance of exposure to Chenin blanc in terms of tastings and events with food. Therefore, it is essential to promote Chenin blanc, focussing on the core product characteristics – the sensory experience, with or without food. However, Chenin blanc promotions or educational efforts should rather be informal such as in a relaxed, celebratory atmosphere, as opposed to highly structured and technical tastings done by wine experts. Recreational events such as music festivals, organised sport competitions or picnics might perhaps be used as platforms where Chenin blanc can be promoted through tastings.

- Segments to target

As wine consumption habits are learned over time (Melo, Delahunty, & Cox, 2011), it is recommended to develop Chenin blanc marketing strategies, targeted at a younger generation. From the results of this study, younger Black African and younger Coloured consumer groups were identified as potential segments for Chenin blanc as these segments indicated to currently purchase similar amounts of Chenin blanc and Sauvignon blanc. Therefore, when Chenin blanc is promoted amongst the aforementioned segments, Sauvignon blanc market share would not be compromised substantially. Also, South African Black African and Coloured consumers aged between 20-30 hold substantial buying power due to these segments' population size (STATS SA, 2018). Furthermore, from the results of this study, it appears as if Black African and Coloured respondents perceive higher Chenin blanc risk than Caucasian respondents. Therefore, when risk can be effectively reduced amongst these consumer groups, Chenin blanc sales might increase. Also, wine has traditionally not been an alcoholic beverage of choice amongst non-white South African consumers, therefore, younger Black African and Coloured consumers might not have learned about the reported lower quality perception of Chenin blanc. It might consequently be easier to target the aforementioned segments without previously established perspectives on wine. In the following sections, some practical recommendations are made to promote Chenin blanc wine.

- Price

It is recommended to specifically target income generating consumers within the identified segments, willing and able to spend R50-R100 on a bottle of Chenin blanc. The majority of respondents indicated to buy white wine within a safe price range of R50-R100, while qualitative data confirmed the previously known relationship between price and perceived wine quality (Mastrobuoni, Peracchi, & Tetenov, 2014). In this study, Chenin blanc was however indicated to be of lower quality than Sauvignon blanc and Chardonnay. Therefore, the price points for Chenin blanc is an important strategic consideration and the price should not create a perception of a lower quality wine. A mass market penetrating strategy using low price points is not recommended for Chenin blanc wine.

- Exposure

An example of a strategy that could provide exposure to Chenin blanc amongst the identified segments, is to sponsor first-time corporate employees with a bottle of Chenin blanc wine. Perhaps young professional Black African and Coloured consumers can be gifted with a bottle of Chenin blanc wine, inclusive of a personal message which encourages the receiver to taste

and share the bottle with friends, celebrating the milestone of first employment. A personal message and the joyful memory might trigger a positive emotional response towards Chenin blanc – a necessity for brand loyalty. An information sheet with the history of Chenin blanc wine, tastings notes and food pairing suggestions might also accompany the gift. When a number of corporate companies are targeted, it is believed that the intended target market of young professional Black African and Coloured consumers can be successfully reached.

- Tastings and channels

From the results of this study, it is reported that Chenin blanc is currently less available, with only a few options offered in-store. However, retailers most likely stock their shelves according to consumer demand. Therefore, only when demand increases, more Chenin blanc per 750 ml bottle options would become available. Furthermore, the majority of respondents indicated to purchase wine at a general supermarket or large national liquor retailer, implying that the preferred channel of distribution should be off-consumption retail stores. However, opportunities to influence time-pressed consumers at the point-of-purchase are few. In this study, it was reported that time risk is a significant factor to consider, especially in the purchase of Chenin blanc, which reportedly takes a lot of time and effort to evaluate. Although in-store tastings might be effective, tastings outside the retail environment, such as at restaurants or corporate social events, where consumers are relaxed, should also be considered. Furthermore, in this study, Black African respondents indicated to perceive higher levels of social risk than Caucasian respondents, therefore, it is essential to promote Chenin blanc at events where it can be shared amongst peers, thereby instilling the perception of a varietal that is socially acceptable. Therefore, restaurants and/or bars in urban, affluent areas in the vicinity of large corporate companies might be worthy channels to explore where Chenin blanc can be promoted through tastings and/or food pairing events. Affluent parts of large cities such as Sandton and Rosebank in Gauteng Province, Durban beachfront in KwaZulu-Natal and Cape Town city bowl in the Western Cape Province are densely populated and have a variety of restaurants and bars where Chenin blanc can be promoted.

It was previously reported that younger wine consumers, such as the suggested target market for Chenin blanc, are likely to use smaller serving sizes to explore with unfamiliar wines (Bruwer, Arias & Cohen, 2017). When smaller Chenin blanc serving sizes, at a lower cost per unit than 750ml bottles are on offer at restaurants, the identified target market might increase their Chenin blanc consumption. In the same way, smaller packaging sizes such as 250ml or 375ml Chenin blanc bottles might also be made available in retail stores which supports a previous suggestion made by Bruwer and Nam (2010), arguing the case of smaller wine packaging across various channels.

8.4. STUDY LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

The choice of the exploratory sequential mixed methods research design for this study was based on a similar product-specific approach, albeit outside the scope of wine. Previous research on wine consumers' risk perception was almost exclusively quantitative in nature. Although the sample was small ($n=8$) after point of saturation had been reached, the use of a qualitative phase in this study, emphasised the value of first-hand insight from the consumers' perspective. Although acceptable in qualitative studies, the small sample size and subjectivity of data saturation were argued in Chapter 4. A larger qualitative-only approach might, therefore, yield valuable results to develop risk-reducing strategies for Chenin blanc wine, or other varietals and/or regions of origin aiming to gain market share. Nonetheless, the qualitative results of this study certainly enhanced the validity of the quantitative measuring instrument and a similar approach should be considered in future studies. It can, however, be confirmed that the measurement of risk perception is complex, as described by previous researchers.

The wine varietal-specific construct measurement instrument resulted in a large number of variables, which could have caused respondent fatigue, and can be considered a limitation to the study. Therefore, subsets of the instrument might be used in similar future varietal-specific research endeavours. An explanatory qualitative phase could be incorporated to clarify the results. Also, it is recommended to test the different scales as separate entities on large samples to improve internal reliability. In this study, a total of 10 items were removed after reliability analysis. After removal of selected items based on a reliability analysis, Cronbach alpha values generally improved. Although not ideal, a minority of Cronbach alpha scores, which are acceptable in exploratory studies ($\alpha < 0.6 \leq 0.65$), were retained. Considering that this study was a pioneering effort following an exploratory sequential mixed methods approach to measure wine risk perception, it was judged acceptable to include items with Cronbach alpha values between 0.6 and 0.65. This is however a limitation to this study and re-testing and/or removal of items is recommended in future studies. It was also decided to retain the items to specifically portray the difficulties in measuring risk perception constructs as pointed out by previous researchers. I invite future researchers to re-test and improve the reliability of the scales.

Specifically, the two scales of white wine risk drivers and white wine importance, with low Cronbach alpha scores for risk-taking behaviour ($\alpha=0.49$) and time risk ($\alpha=0.50$), should be improved – another limitation to this study. However, for the purpose of this study, the items representing these aforementioned constructs were retained as it was pertinently aimed to

compare Chenin blanc variables to the white wine category and therefore corresponding variables in each of the categories were required. Following the P+I approach to measure perceived risk, time, was for example, identified as a relevant perceived risk in the qualitative data, while this risk dimension has previously been excluded in other risk perception studies. As the Cronbach alpha value for the corresponding probability of loss time risk dimension was acceptable (0.78), it was decided to retain the time risk dimension on the importance of loss scale.

Furthermore, after the removal of the items, a second-round CFA (SEM) was conducted. For the Chenin blanc risk driver, probability of loss and RRS scales, as well as the white wine importance of loss and overall perceived risk scales, all factor loadings were above the 0.5 threshold (Addendum B). Only in the case of the white wine risk driver scale, two items had factor loadings below the 0.5 threshold. The removal of the item with a factor loading of 0.33 would have resulted in a lower than acceptable Cronbach alpha value ($\alpha < 0.6$) for the self-confidence construct. Therefore, after careful consideration, the item was not removed. In some cases, items with loadings between 0.45-0.50 are considered fair and therefore, the item with a loading of 0.45 on the “importance of decision” construct, with a Cronbach alpha value > 0.7 , was not removed. Nonetheless, this construct was not reported on as part of the results discussion in Chapter 7 and it is recommended that the white wine risk driver scale be retested and improved.

The convenience sample of this study limits generalisability of results to the South African white wine consumer population. Although the sample is large and efforts have been exerted to include elements of representativeness, results of this study should be interpreted with caution. After numerous unsuccessful attempts to access the population of South African wine drinkers, a lesser preferred technique of snowball sampling was followed in this study. From personal experience, access to South African consumers is a serious barrier to researchers in academia. I suspect that South African post-graduate students will increasingly employ snowball sampling due the difficulty to access consumers coupled with limited funding, safety issues and time pressure. This is already the case and some, with no funding has few other options than snowball sampling. Being aware that accredited journals might not accept papers that used snowball sampling, access to consumers is of real concern to me, also for the greater cause of post-graduate students doing consumer/market research and quality of research in general. However, in this study, the sample drawn from the snowball technique at least shared some characteristics of the South African wine drinking population. Nevertheless, to aim for better representativeness, a second sampling technique was employed and the combined sample was judged fitting for the purpose of this study.

Due to the multiplicity of statistical tests that could have resulted in false positive/negative results in this study, it is recommended that future studies test only one or two hypotheses. In terms of the recommended risk-reducing strategies for Chenin blanc wine, future studies might specifically test the effectiveness of the strategies in observational and/or experimental designs amongst the consumer segments as identified in this study. Perhaps future research could focus exclusively on risk-reducing strategies for Chenin blanc amongst a larger sample of younger Black African and younger Coloured consumers. In this study, although identified a lucrative segment for Chenin blanc wine, younger Black African and younger Coloured respondents were a minority, which can furthermore be considered a limitation.

Furthermore, due to the complexity of risk perception constructs per se, this study did not consider or distinguish between unwooded and wooded white wines, which could provide an interesting perspective in future studies. Also, considering the length of the measurement instrument, only the four “main” white wines as identified from national sales statistics and interview data were included in this study. Nonetheless, it is believed that this study made a significant contribution, not only to the South African wine industry, but also to the international body of knowledge on wine risk perception.

8.5. CONCLUDING REMARKS AND CONTRIBUTIONS OF THIS STUDY

Although risk perception is regarded a key construct in wine research, this investigation of wine varietal perceived risk was an international first. This study, therefore, made a number of novel contributions. Theoretically, this study proposed an adapted consumer decision-making model, inclusive of risk perception constructs. This model could be used as theoretical basis for future research endeavours on high risk products and/or situations, also outside the scope of wine. The inclusion of risk perception constructs in a consumer decision-making model furthermore provided clarification on the cognitive and behavioural processes involved in risk perception, regarded as a complex, yet valuable phenomenon in consumer research.

Secondly, this study described the methodology to develop and test a varietal-specific perceived risk measurement instrument – an international first. The methodology and measurement instrument could be reproduced in future research investigating wine varietals/regions-of-origin which requires a larger market share. This study, furthermore, was the first in wine literature to identify and describe the use of a specific wine varietal, Sauvignon blanc, used as a risk-reducing strategy. Therefore, this study provided evidence that consumers might attach brand value to agricultural produce on varietal level. This is a significant finding and the measurement instrument could therefore be used, also outside the

scope of wine, to measure consumer risk perception of table grape varieties for example. Lastly, this study made recommendations to reduce Chenin blanc-specific risks and identified segments to target, without compromising Sauvignon blanc market share.

To gain the needed market share, Chenin blanc should firstly be differentiated from other white wine varieties, creating a distinct position while delivering consistent satisfying sensory experiences. It is essential to expose consumers to Chenin blanc through informal tastings and to associate Chenin blanc with occasions. Creating awareness through media sources without real exposure and experience with Chenin blanc wine, would not be as effective. Wine consumption habits and preferences are learnt over time, and wine consumers tend to buy what they know, not willing to risk potential dissatisfaction and disapproval of an unknown wine. Thus, in terms of a wine varietal, a process of learning is required, as in the case of Sauvignon blanc, which seemingly became a decision heuristic and the social norm amongst a number of consumers as a result of repetitive exposure and experience. It is therefore believed, in a country with large potential buying power and with new interest from the upcoming middle class, there is an opportunity to establish Chenin blanc as a brand – a safe choice and a crowd pleaser amongst young professional Black African and Coloured consumers.

8.6. REFERENCES

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ADDENDUM A

QUALITATIVE PHASE: CONSENT FORM AND INTERVIEW TRANSCRIPT EXAMPLE



UNIVERSITEIT • STELLENBOSCH • UNIVERSITY
jou kennisvenoot • your knowledge partner

**STELLENBOSCH UNIVERSITY
CONSENT TO PARTICIPATE IN RESEARCH**

Title of project: *Exploring consumers' risk perception in wine retail decision-making: insights for Chenin blanc.*

You are asked to participate in a research study conducted by Nadia van der Colff (PhD student) and Drr. H.H. Nieuwoudt & C.D. Pentz (supervisors) from the Institute for Wine Biotechnology and Department of Business Management, SU. You were selected as a possible participant in this study because you are a consumer of white wine/industry expert.

1. PURPOSE OF THE STUDY

We would like to know about your experiences and perception of South African white wine and Chenin blanc in particular. You will therefore be asked to participate in this research project by means of an interview.

2. PROCEDURES

If you volunteer to participate in this study, the following procedures will be taken:

- A **face to face personal interview** with the researcher to share your experiences and perception of South African white wine and Chenin blanc
- The interviews will take approximately 30 minutes and will be scheduled at a convenient time and place as mutually agreed on by yourself and the researcher prior to the interview
- The researcher will ask you questions about your experience and perception of South African white wine and Chenin blanc.
- The interview will be recorded to enable an analysis of consumers' experiences and perception of Chenin blanc
- No wine tasting will be involved and there are no sensitive questions related to consumption frequency
- There are no right or wrong answers and you cannot prepare for the interview as the purpose is to have a relaxed and dynamic discussion.

3. POTENTIAL RISKS AND DISCOMFORTS

We do not foresee any risks or discomforts to you, and we do not foresee any reason why we would terminate the study.

4. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

Insights gained from this research will contribute to scientific knowledge and the South African wine industry.

5. PAYMENT FOR PARTICIPATION

There will be no payment for participation in the study.

6. CONFIDENTIALITY

Table 1. Interview transcript example (Interview 3)

Interviewer question	Participant answer
Tell me about the occasions when you enjoy a glass of white wine.	<i>“Definitely at social gatherings, with friends after a long day’s work and I’m in the entertainment business as well so wine will be part of a bigger...entertaining guests with food and wine and music. So, it’s part of my work as well, but socially it will just be with gatherings with friends and family and mostly enjoyed with food as well.”</i>
So let’s move to when you shop for wine. What makes you choose one bottle over the other? Let’s think white wine specifically.	<i>“Firstly I enjoy a drier white wine. So I’ll start there. I won’t go for anything that is very sweet. I enjoy an interesting white wine in terms of its taste...not necessarily...I enjoy a wooded white wine for instance and then mostly I’ll go for things I’ve tasted before and estates that I know is more known for specifically white wine and then I guess I’ll if I decided on a specific estate I’ll try and remember if I have any knowledge about which white wine or cultivar that the specific estate is known for. And...because I’ve tasted a few wines that I know the estate but then I went for a different white wine and I realised but no, they are definitely known for a specific cultivar of white wine. So, all of that will have an influence on my choice of which bottle I’ll buy and then off course you’ll look at the price range and what you think is a good bottle of wine for a good price as well.”</i>
So, if we can distinguish between those things inside the shop which would be...you have mentioned the brand on the label and the price. But what about the occasion?	<i>“Yes, I think the food or the meal that I planned will have a big influence on what I choose in the shop. So if I choose...if I know I’m going to have for instance meat or chicken and the weather as well will play a big role in terms of the wine I’ll go for. I will buy completely different wines in the summer than the winter for instance.”</i>
You also mentioned that it often goes with entertaining guests. How will that influence your choice?	<i>“Off course you will think about...if you have an idea of the preferences of your guests and if they will be able to appreciate the wines you actually serve to them. I think it is important to know your guests and give them something they will enjoy. So I will definitely have that in mind when shopping and again the amount of guests you will have to entertain will also have an influence on what I’m willing to spend. Do I need to buy ten bottles or two will have a big influence on what wine I go for?”</i>
Tell me how easy or difficult it is to choose a wine?	<i>“A big role or something that has an influence on that is variety that is available. So, if you are standing in front of a big variety then it is much easier for me to know what I would like. But if the variety is smaller and it is not necessarily good options, it is harder to make a good decision when you have something specific in mind.”</i>
Can you describe a bit of that emotion; what do you feel when it is difficult?	<i>“Especially with white wines...well, white and red. If it is more commercial wines, especially when it is more sweet wines and when that is the only thing available, it is difficult to make a good choice, so I guess you will just have to try and go for the best option.”</i>

Tell me when are you satisfied with a wine. What makes it a good choice?

"I think the first important thing is off course the taste. And if you have a wine with good taste or taste that suits your specific needs and it's a good price, good value for money then you'll buy more as well. For special occasions you will definitely look into specific wines or something special that you won't necessarily buy every day, but I'll buy more wine of something that I feel I can maybe have stash of in the fridge and I don't necessarily have an occasion in mind, but if there is something I will be able to take it out and enjoy it with friends."

Let's now take it to the other side. When the wine you bought is not a good choice or not living up to your expectations. Can you describe such a wine?

"The one I spoke about earlier, it is [REDACTED] estate that is very well known for its white wines and I think they have a white blend that I really enjoy: [REDACTED]. But then I bought their Sauvignon blanc and in taste it wasn't really the profile that I had in mind for a Sauvignon Blanc. So, I didn't enjoy that specific wine so I won't buy a Sauvignon Blanc of them again, but I will buy their blend."

So, mostly taste...and you felt disappointed, and what else? Let's maybe think about the price you paid...

"It's a bit more pricey white wine, so and again I think it's a very personal thing, because there might be people that really enjoy that specific wine. But for the occasion I bought it for, it didn't fit in, so I have a negative perception of that specific wine. So if I have to go shopping again, I will try a different estate."

And did you serve the wine to guests as well?

"Yes."

And how did you feel in that situation?

"I felt it's not a bad quality wine, so that was not necessarily the problem. I think it wasn't complimentary to the whole evening. I think we actually had that wine before we had our meal and I would have preferred something maybe...to me it was very dry to me and maybe with food it would have been a good choice, but just as an easy drinking sundowner, it didn't please me. But my guests, they were okay with it."

Let's say in general, if it's a bad wine that you serve to guests, how will that make you feel?

"There is nothing you can do about it in that moment, but I will make a mental note and make sure I don't buy that specific cultivar from that estate again. That happened now with the [REDACTED] wines. I really enjoyed their Pinot Noir, but their Merlot, according to me, was really not a good quality Merlot, so I won't actually buy any other wine from them again, except for the Pinot Noir, because I thought that ...and it is a bit more pricey...all their wines are a bit more pricey. So, I'll always try to think if it is something well spend...especially if you order, if you're not in front of...or not in the store, you want to order 6 or 12 bottles of something you must be sure that you really like this wine if you're going to have more than one bottle."

Now a more direct question, I think its perhaps a summary of what we covered.

"It can either be amazing or it can be something that you don't want to drink or serve your guests."

What are the risks when buying an unfamiliar wine?

In terms of taste and...and food?

"Yes, especially if you put in thought in terms of your menu and food you really want a wine that compliments whatever your serving. It doesn't necessarily have to be a very expensive wine or a wine that is matured, but it should complement what you're doing and please most of your guests. Even though it's not always possible to please a bigger crowd, not everyone enjoys the same wine, but most of the guests will be happy to drink that wine."

If you invite new friends or maybe colleagues, which white wine varietal would you serve?

Why?

"Sauvignon blanc."

"I think it's more well-known and in my opinion most people know what to expect if you tell them you are serving Sauvignon blanc as a white wine. As a Chardonnay and a Chenin blanc is not necessarily so well-known under non wine drinking families or friends. Especially a Chardonnay, I have seen people that not necessarily enjoy it, they'll say it's too heavy...its not to everyone's taste. In my opinion, Sauvignon blanc is just a crowd pleaser to serve it as white wine. And I think the restaurants also have a big role in that because most of them serve Sauvignon blanc as a house wine, a dry white – that will be a Sauvignon blanc and that is also something that is cultivating a market every day."

So in terms of a safe white wine, would that describe Sauvignon blanc?

"Yes, that is a good description."

Comparing Sauvignon, Chenin and Chardonnay, which would be the riskiest?

"I think actually the Chenin, because a lack of knowledge and that is the white wine that I've had the least experience with. I don't necessarily know...even though I've had a few Chenins and I enjoyed them, I still don't know what to expect about the taste."

We've spoken about the unfamiliar wines and now I want to link the two. What would be the risks of buying or serving Chenin blanc? If you think specifically...you said about the unfamiliar wines the taste...the food pairing ability, pleasing of your guests. If you think Chenin blanc, what are the specific uncertainties about?

"I don't know if I'm repeating myself, but again I'm unsure of what to expect in terms of taste. Recently again I had a Chenin blanc, and I don't even know...if it was a blind tasting if I would have thought it was I Chenin, I might have thought it was another cultivar. So, I enjoyed the wine, but I think it is difficult, and it might be because I don't have enough experience with Chenin, I don't necessarily know what to expect. It is a difficult white wine for me to pin down and describe to myself or to guests. It's easier for me to differentiate between a Sauvignon blanc and a Chardonnay."

So how would you describe a Sauvignon blanc?

"Light and fruity. Again a crowd pleaser."

And then your description of Chenin?

"It can be the same, but I think a bit more dry for one, so again you need a distinct white wine drinker to appreciate a white that is maybe a bit less easy drinking than a Sauvignon blanc."

Is that your perception that it is not so easy drinking?

“Yes, it might be a bit more complex and if you have enough experience and you really know your own taste buds as well how to please them, you can, with confidence order a Chenin. I’m sort of, in my personal opinion still unsure what I’m going to get and that is the part that is risky, not necessarily that I have a bad...”

And it’s mostly in terms of taste?

“Yes, everything is about taste. Because Chenin...white wines per se is cheaper to drink. So to buy a glass of white wine and it’s not that great is okay, but making the same mistake with a red might be R100/R200 that you didn’t get worth.”

So it’s not that big of a financial risk?

“No, no, but again I’m unsure about whose estates are well-known as well for Chenin. I know more about Chardonnays and Sauvignon blancs in terms of okay this is someone that is well-known for having a good Chardonnay or having a good Sauvignon blanc. I have no clue in the South African market who’s the Chenin experts and whose flagship is a Chenin blanc. So it’s also a lack of knowledge and not a lot of people are talking about Chenin as their go to white wine.”

Can you perhaps maybe comment on the availability of Chenin?

“Not really with surety.”

Well, comparing with Sauvignon blanc standing in front of the shelf?

“It’s, according to me, there will be the most Sauvignon blanc, then Chardonnay and there might be an odd Chenin here or there. So, again, you should be a very specific Chenin drinker to choose the Chenin. So in terms of the availability, standing in front of a selection, it’s only a small percentage of the available wines.”

And when comparing these wines, how much time does it take to choose a bottle of Chenin? Does it take more or less time than choosing a bottle of Sauvignon blanc?

“Definitely, because you have less knowledge. So, you should actually take time to quickly read up about what the region the wine is from, or maybe even looking at the tasting notes of the specific wine, if it can complement whatever you are planning for dinner, so you’ll take more time and effort to choose the Chenin.”

Your perception of the value for money or the price of Chenin?

“I don’t necessarily feel...I might be wrong, but I think it is somewhere in between a Sauvignon and a Chardonnay I’ll put the Chenin in terms of price range. It might be wrong, and again the wine market is huge and the variation available is big as well. I won’t necessarily pay more for a Chenin than a Chardonnay, then I would rather go for the Chardonnay.”

Why would that be?

“Again, I don’t think this is good answer to anyone else, but to me Chardonnay is a much more interesting and full bodied white wine and in terms of drinking wine in mostly summer or hot conditions, I enjoy red wines, therefore I enjoy a bit more heavy and complex white wine. According to me, that is a Chardonnay, wooded.”

The quality of Chenin...compared to Chardonnay then?	<i>"Again, my exposure to Chenin isn't huge, so it's difficult to judge or make a good call on the differences between...because I've tasted like a few estates Chenin and then I'll know I'll order that again, but to make any generalisation about Chenin is really difficult, because my exposure isn't big on Chenin."</i>
The taste of Chenin? Your perception of the taste?	Hesitation... <i>"Crisp, dry...that is something I'll expect"</i>
How well does it go with food?	<i>"Well, I guess as well as any white wine would if you pair it with the right food and occasion, so I'm not of the opinion that Chenin will not be complimentary to a dish than another white wine. If it's a good quality wine, I think it will always pair well."</i>
What is your friends' liking or perception of Chenin blanc?	<i>"Next to nothing."</i>
Why do you think that?	<i>"I think in the bigger scheme of things, where I live, there is less information about white wines to start off with and okay then even less information about white wine cultivars that is not that well-known. So, it's a combination of things."</i>
Your confidence to buy a bottle of Chenin for a friend or to take to braai or dinner party.	<i>"That will depend on if I have any knowledge about that specific Chenin and estate. If I know they are well-known for that I will definitely give it a chance. Again, maybe just a random thought...again a lot of estates always have a huge range of wines. They will have three or four white wines and three or four red wines. And, if, depending on the region, you can buy with more confidence the white wines or the Chenin if you know from which valley or part of the region the vineyards are."</i>
Any recommendations to improve the sales of Chenin?	<i>"I think starting to focus on white wines just as much as red wines and then really giving people the words and exposure to understand the differences between white wines. So that if there is someone...Chenin fits their...the way they prefer to end of most days, they would need that exposure to taste Chenin to know that this is something they'll prefer to drink or buy. Again, if it's only a thing of just seeing a bottle or more bottles in the shop won't necessarily change the consumer's patterns. I think it will have to be promoted and sort of be categorised or characterised even though I haven't had a lot of Chenin blanc tastings, I don't know what Chenin blanc stands for in terms of its generalisation of what I know of Sauvignon blanc or Chardonnay, I don't necessarily have the right list with me, but I do have an expectation, but I do not necessarily have the same expectation or words or vocabulary or exposure to know what I'm going to taste or what I'm going to...with the Chenin."</i>

Any last comments on Chenin blanc?

"It comes down to a lack of knowledge, that is where the story starts. I have tasted different Chenins and they all taste completely different". Its Inconsistent. It's like walking past an unfamiliar restaurant...you don't know what to expect and how the food will taste".

ADDENDUM B

QUANTITATIVE PHASE: CONSENT FORM, MEASUREMENT INSTRUMENT, DESCRIPTIVE STATISTICS AND SECOND-ROUND CONFIRMATORY FACTOR ANALYSIS (CFA)



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STELLENBOSCH UNIVERSITY CONSENT TO PARTICIPATE IN RESEARCH

Exploring consumers' risk perception in wine retail decision-making

WELCOME

You are asked to participate in a research study conducted by Nadia van der Colff (PhD student) from the Institute for Wine Biotechnology (IWBT), Stellenbosch University. If you are a consumer of white wine, your participation will be highly appreciated. **You can participate even if you don't know a lot about white wine.**

PURPOSE OF THE STUDY

We would like to know about your perception and uncertainties during the purchase of **South African white wine** and different white wine varieties (e.g. Sauvignon blanc, Chardonnay and Chenin blanc) **sold per 750 ml bottles. This does NOT include sparkling/sweet or fortified wine.**



Results obtained will provide a) insight to consumers' perception and uncertainties about South African white wine and b) direction for the marketing of certain white wine varieties. It is aimed to publish the results of this study in peer-reviewed, scientific journals.

PROCEDURES

If you volunteer to participate in this study:

- Please complete the survey in your own time which will take approximately 25 minutes
- You can indicate your consent to participate in the study by selecting "Yes" in the first question of the questionnaire
- Please complete all the questions if you would like to be entered into a **lucky draw** and stand a chance to **win** your share of **wine** valued at **R5000**. Seven random lucky winners will be selected to receive **wine prizes of R1000 (x3) or R500 (x4)**.
- Participation in this study is completely voluntary and anonymous.
- You will be asked to answer questions about your a) demographic characteristics (e.g. age and gender); b) general white wine buying and enjoyment; c) the importance of factors/attributes that influence the white wine buying decision; d) uncertainties about a specific variety in the buying situation and e) strategies/information that help you choose a white wine.
- There are no right or wrong answers
- You may withdraw at any time without consequences of any kind.

POTENTIAL RISKS AND DISCOMFORTS

We do not foresee any risks or discomforts to you, and we do not foresee any reason why we would terminate the study. You will not be required to provide any sensitive information or to provide any information you are not comfortable with sharing. Should you feel uncomfortable or have the need to stop at any time during completion of the survey, please do not hesitate to do so.

CONFIDENTIALITY

At no point during the survey will you be asked to provide identifiable details. Any information obtained in connection with this study will be utilised for research purposes only and will remain confidential and will be disclosed only with your permission or as required by law. Strict precautionary measures have been put into place to ensure your privacy and the confidentiality of information. If the results are published, there will be no reference to individuals.

IDENTIFICATION OF INVESTIGATORS

If you have any questions or concerns about the research, please feel free to contact researcher and PhD student Nadia van der Colff (nvdc@sun.ac.za); Supervisor Dr. H.H. Nieuwoudt (hhn@sun.ac.za; 021 808 2748) or Co-Supervisor Dr. C.D. Pentz (cdpentz@sun.ac.za; 021 808 2224).

RIGHTS OF RESEARCH SUBJECTS

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject, contact Ms Maléne Fouché [mfouche@sun.ac.za; 021 808 4622] at the Division for Research Development.

INSTRUCTIONS

Instructions will be provided at the beginning of each section of the survey

Your participation is sincerely appreciated.

Kind regards,
Nadia van der Colff

This study has no deliberate intention to promote the increase of per capita alcohol consumption and supports the responsible use of alcoholic beverages

PLEASE READ HERE FIRST: This questionnaire is about **South African white wine** and **different white wine varieties** (e.g. Sauvignon blanc, Chardonnay and Chenin blanc) sold per **750 ml bottles**. This **does NOT include sparkling/sweet or fortified wine**.

This study has no deliberate intention to promote the increase of per capita alcohol consumption and supports the responsible use of alcoholic beverages.

***1. Are you 18 years or older?**

- Yes
- No

***2. Do you buy South African white wine at least occasionally?**

- Yes
- No

***3. Are you employed by the wine industry?**

- Yes
- No

***3.1. Is this the first time you complete this questionnaire?**

- Yes
- No

***4. Are you a South African citizen?**

- Yes
- No

***5. On a scale of 1-3, how would you rate your awareness of each of the following. Select one answer for each.**

	Heard of it but have not tasted		
	Never heard of it 1	it 2	Tasted it 3
Sauvignon blanc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chardonnay	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chenin blanc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
White blends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Section A

For questions 6-18, only select the most suitable (one) answer

*6. What is your gender?

- Male Female

*7. How old are you? (Type in number)

*8. Highest level of education

- High school completed or below
 Undergraduate degree or diploma
 Post-graduate qualification

*9. What is your home language?

- English
 IsiZulu
 Setswana
 IsiXhosa
 Afrikaans
 Sesotho
 Tshivenda
 Siswati
 Sepedi
 IsiNdebele
 Xitsonga
 Other

*10. In which province have you been living for the past five years?

- Gauteng
 KwaZulu-Natal
 Western Cape
 Eastern Cape
 Free State
 North-West
 Northern Cape
 Limpopo
 Mpumalanga

*11. How many adults (18 years +) live together in your household? (Type the number)

*12. To which ethnic group do you belong?

- Black African
 Caucasian (white)
 Coloured
 Indian/Asian
 Other

All questions to follow are about South African white wine per 750 ml bottle

13. On average, how much do you spend on a bottle of white wine that you buy? Select only one answer.

- Less than R50
- R50-R80
- R81-R100
- More than R100

14. On average, how often do you consume white wine? Select only one answer.

- Daily
- Four to six times per week
- Two to three times per week
- Once a week
- Once every two weeks
- Once a month
- Less than once a month

15. Where do you mostly buy your white wine? Select only one answer.

- Large national liquor retailer e.g. Makro, Ultra liquor, Pick n Pay liquor
- General supermarket/grocer e.g. Woolworths, Pick n Pay, Spar
- Speciality wine shop/deli
- Independent bottle store
- Direct from the cellar/producer
- Online
- Through wine clubs
- Other

16. Which wine style do you mostly prefer? Select only one answer.

- White
- Red
- Rosé
- Sparkling

17. Which type of wine do you mostly prefer? Select only one answer.

- Dry
- Sweet

18. How long have you been drinking white wine?

- Less than 1 year
- 1-5 years
- 6-10 years
- 11-15 years
- 16-20 years
- More than 20 years

19. Please select the white wine that you buy per 750 ml bottle on a scale of 1=never to 3=always. Select one answer for each of the four items.

	Never 1	Sometimes 2	Always 3
Chardonnay	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sauvignon blanc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chenin blanc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
White blends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Section B

All the questions in this section are about South African **white wine** per 750 ml bottle

20. Please indicate to what extent you agree or disagree with each of the following statements on South African white wine per 750 ml bottle. Select one answer per statement.

	1=Strongly disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly agree				
	Strongly disagree 1	2	Neutral 3	4	Strongly agree 5
Deciding which white wine to buy is an important decision to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is a large selection of white wines to choose from in South Africa	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often wonder if I have made the right white wine selection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I choose a white wine to match the occasion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to spend R75 or more on a white wine I have not tasted before	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are South African wine producers well-known for good quality white wines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel confident to choose white wine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I choose my white wine very carefully	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If considering to buy white wine, I will always choose a bottle that I am familiar with	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have doubts about the white wine purchase decisions I make	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer to choose a white wine from a large selection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy buying unfamiliar white wines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know where to find information about white wine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Which white wine I buy matters a lot	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Generally, there is a lack of information about white wine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are many white wine options available in the store where I usually buy wine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can easily find information about white wine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

21. The following questions are about South African **Chenin blanc wine**.

Please indicate to what extent you agree or disagree with the following statements on South African **Chenin blanc wine** per 750ml bottle. Select one answer per statement.

	1= Strongly disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly Agree				
	Strongly disagree 1	2	Neutral 3	4	Strongly agree 5
There is a large selection of Chenin blanc wines to choose from in South Africa	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have doubts about Chenin blanc in a purchase decision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to spend R75 or more on a Chenin blanc I have not tasted before	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel confident to choose Chenin blanc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know where to find information about Chenin blanc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If considering to buy Chenin blanc, I will always choose a bottle that I am familiar with	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are South African producers well-known for good quality Chenin blanc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer to choose a bottle of Chenin blanc from a large selection of Chenin blanc wines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often wonder if I have made the right decision when buying Chenin blanc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy buying unfamiliar Chenin blanc wines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Generally, there is a lack of information about Chenin blanc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are many Chenin blanc options available in the store where I usually buy wine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can easily find information about Chenin blanc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

22. For which occasions are the choice of **white wine important? Please rank the following occasions in order of importance from 1=most important to 4=least important.**

When buying wine for everyday enjoyment with friends/family	<input type="text"/>
When buying wine for own consumption	<input type="text"/>
When buying wine for a special occasion	<input type="text"/>
When buying wine as a gift	<input type="text"/>

23. Please rank the **white wine varietals from best-worst choice for each occasion in questions 23.1-23.4**

23.1. Which **white wine would generally be the best choice to buy as a gift? Please rank the following white wines from 1=best choice to 4=worst choice.**

White blend	<input type="text"/>
Chardonnay	<input type="text"/>
Chenin blanc	<input type="text"/>
Sauvignon blanc	<input type="text"/>

23.2 Which white wine would generally be the best choice to buy for a special occasion? Please rank the following white wines from 1=best choice to 4=worst choice.

Sauvignon blanc	<input type="text"/>
Chardonnay	<input type="text"/>
White blend	<input type="text"/>
Chenin blanc	<input type="text"/>

23.3 Which white wine would generally be the best choice to buy for everyday enjoyment with friends/family? Please rank the following white wines from 1=best choice to 4=worst choice.

Chardonnay	<input type="text"/>
Chenin blanc	<input type="text"/>
White blend	<input type="text"/>
Sauvignon blanc	<input type="text"/>

23.4 Which white wine would generally be the best choice to buy for own consumption? Please rank the following white wines from 1=best choice to 4=worst choice.

Chenin blanc	<input type="text"/>
Sauvignon blanc	<input type="text"/>
Chardonnay	<input type="text"/>
White blend	<input type="text"/>

Please indicate the most suitable (one) answer on a scale 1=very poor to 5=very good for each of the following items. Select one answer per item.

24. What level of quality would you generally expect from the following South African **white wines**?

	1=Very poor 2 = Poor 3 = Average 4 = Good 5 = Very good				
	Very poor		Average		Very good
	1	2	3	4	5
Sauvignon blanc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chardonnay	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chenin blanc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
White blends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate the most suitable (one) answer on a scale 1=know nothing at all to 4=expert.

25. Compared to the average person, how much knowledge do you have about each of the following South African **white wines**?

	1=Know nothing at all 2=Know a little 3=Know a lot 4=Expert			
	Know nothing at all			Expert
	1	2	3	4
Sauvignon blanc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chardonnay	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chenin blanc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
White blends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please keep going!

Section C

All questions in section C are about South African white wine per 750 ml bottle and should be answered on a scale from 1=strongly disagree to 5=strongly agree

26. Please indicate to which extent you agree or disagree with each of the following about South African white wine per 750 ml bottle. Select only one answer per statement.

	1=Strongly disagree 2=Disagree. 3=Neutral 4=Agree 5=Strongly Agree				
	Strongly disagree 1	2	Neutral 3	4	Strongly agree 5
When I buy white wine, I am concerned that it will not meet my expectations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Buying white wine is risky	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I face a shelf of white wine, I feel uncertain to make my choice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Buying certain white wine varieties (e.g. Sauvignon blanc & Chardonnay) is riskier than others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Buying Chenin blanc is risky	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I face a shelf of white wine, I feel more uncertain about Chenin blanc than other white wines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

27. Please indicate to which extent you agree or disagree with each of the following about South African **white wine** per 750 ml bottle. Select one answer per statement.

	1=Strongly disagree 2=Disagree. 3=Neutral 4=Agree 5=Strongly Agree				
	Strongly disagree 1	2	Neutral 3	4	Strongly agree 5
Taste is an important factor when I buy white wine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is important that the wine I buy complements my food	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Buying white wine of consistent quality is important to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is important for me to know what to expect from a specific white wine varietal in terms of taste	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The price is an important factor when I buy white wine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When buying white wine, value for money is important to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to pay a higher price for a white wine of good quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
White wine should be reasonably priced	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I consider whether the white wine I buy might cause a headache/hangover	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I consider the chance of an allergic reaction to the white wine I buy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I consider the intoxicating effects of the white wine I buy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

28. Please indicate to which extent you agree or disagree with each of the following about South African **white wine** per 750 ml bottle.

Select one answer per statement.

	1=Strongly disagree 2=Disagree. 3=Neutral 4=Agree 5=Strongly Agree				
	Strongly disagree		Neutral		Strongly agree
	1	2	3	4	5
I worry that others will not enjoy the white wine I buy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I consider whether my friends/family will approve the white wine I buy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The white wine I buy should make a good impression	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I buy white wine that is popular among people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I consider whether the white wine I buy could be embarrassing when it is not appropriate for an occasion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A bad choice of white wine could harm my self-esteem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I buy the wrong white wine it could send a negative impression about me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I buy white wine, it should be quick to find information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Choosing white wine should not be time consuming	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is important to spend time to find an appropriate bottle of white wine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am pressed for time, I will NOT consider buying unfamiliar white wines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

29. Please indicate to which extent you agree or disagree with each of the following about South African **Chenin blanc** wine per 750 ml bottle.

Select one answer perstatement.

	1=Strongly disagree 2=Disagree. 3=Neutral 4=Agree 5=Strongly Agree				
	Strongly disagree 1	2	Neutral 3	4	Strongly agree 5
I like the taste of Chenin blanc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chenin blanc generally goes well with food	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The quality of Chenin blanc is consistent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know what to expect from Chenin blanc in terms of taste	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Buying Chenin blanc will be a bad way to spend my money	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Generally, Chenin blanc is reasonably priced	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chenin blanc is likely to be good value for money	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is a good chance that I will pay more for a high quality Chenin blanc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chenin blanc is likely to cause side effects such as a hangover or headache	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chenin blanc is likely to cause an allergic reaction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chenin blanc has fast intoxicating effects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

30. Please indicate to which extent you agree or disagree with each of the following about South African **Chenin blanc** wine per 750 ml bottle. Select one answer per statement.

	1=Strongly disagree 2=Disagree. 3=Neutral 4=Agree 5=Strongly Agree				
	Strongly disagree 1	2	Neutral 3	4	Strongly agree 5
People enjoy Chenin blanc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is likely that my friends/family will approve Chenin blanc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am hesitant to buy Chenin blanc because others might think it is a bad wine choice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chenin blanc is popular amongst people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chenin blanc is likely to cause feelings of embarrassment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chenin blanc might harm my self-esteem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I buy Chenin blanc it could send a negative impression about me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is quick to find information about Chenin blanc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Choosing Chenin blanc is time consuming	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would have to spend a lot of time to find an appropriate bottle of Chenin blanc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I am pressed for time, I will consider buying Chenin blanc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Almost done! Keep going!

Section D

All questions in this section are about South African white wine per 750ml bottle.

For all questions in this section, please indicate to which extent you agree or disagree with each of the statements. Select one answer per statement.

31. When I am unsure about making a South African **white wine** selection:

	1=Strongly disagree 2=Disagree. 3=Neutral 4=Agree 5=Strongly Agree				
	Strongly disagree 1	2	Neutral 3	4	Strongly agree 5
I choose wine from a well-known producer/farm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I buy wine that I have tasted before	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I ask a friend or family member for a recommendation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I buy from a trusted store	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I buy a bottle with attractive label artwork	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I ask for advice from a store assistant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a few favourite brands from which I usually buy my wine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I read an online expert review	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please indicate to which extent you agree or disagree with each of the statements. Select one answer per statement.

32. When I am unsure about making a South African **white wine** selection:

	1=Strongly disagree 2=Disagree. 3=Neutral 4=Agree 5=Strongly Agree				
	Strongly disagree 1	2	Neutral 3	4	Strongly agree 5
I buy Sauvignon blanc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use a mobile phone wine application (e.g. Vivino)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I buy based on price	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I read the front label	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I read the back label	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I buy based on the medals/awards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I buy a specific varietal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

33. What would be an effective way of promoting **Chenin blanc?**

Please indicate to what extent you agree or disagree with each of the statements. Select one answer per statement.

	1=Strongly disagree 2=Disagree. 3=Neutral 4=Agree 5=Strongly Agree				
	Strongly disagree 1	2	Neutral 3	4	Strongly agree 5
Information about how Chenin blanc is different from other varieties	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Friends recommending Chenin blanc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A wine club	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Article in popular Magazine/Newspaper e.g. Beeld/Drum	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Article in wine magazine/expert review	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Information on the front label	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tasting notes on the front label	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Technical information on the back label	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Recommendations from store personnel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Celebrity endorsers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Promotions at restaurants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cellar door promotions (on the wine farm)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More Chenin blanc from well-known wine estates to choose from in-store	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

34. What would be an effective way of promoting **Chenin blanc?**

Please indicate to what extent you agree or disagree with each of the statements. Select one answer per statement.

	1=Strongly disagree 2=Disagree. 3=Neutral 4=Agree 5=Strongly Agree				
	Strongly disagree 1	2	Neutral 3	4	Strongly agree 5
In-store tastings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Formal tasting events (tutored)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Informal tasting events (non-tutored)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chenin blanc events in my town	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Food pairing events	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Food pairing suggestions (information)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More advertising material in-store (no tastings)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discount price promotions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Small/sample bottles to buy (e.g. 250 ml)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Twitter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Facebook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
YouTube	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attractive packaging	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

35. Which three strategies would be the most effective to promote **Chenin blanc?** Please select three options from the list.

- Informal tasting events (non-tutored)
- Attractive packaging
- Chenin blanc events in my town
- Twitter
- Food pairing suggestions (information)
- Formal tasting events (tutored)
- In-store tastings
- Facebook
- More advertising material in-store (no tastings)
- Discount price promotions
- YouTube
- Food pairing events
- Small/sample bottles to buy (e.g. 250 ml)

36. Which three strategies would be the most effective to promote **Chenin blanc?** Please select three options from the list.

- Cellar door promotions (on the wine farm)
- Article in wine magazine/expert review
- Celebrity endorsers
- Article in popular Magazine/Newspaper e.g. Beeld/Drum
- More Chenin blanc from well-known wine estates to choose from in-store
- Tasting notes on the front label
- A wine club
- Friends recommending Chenin blanc
- Recommendations from store personnel
- Information on the front label
- Information about how Chenin blanc is different from other varieties
- Technical information on the back label
- Promotions at restaurants

Do you want to participate in the lucky draw?

- Yes
- No

You are done! Thank you for taking the survey.

Please share the link to this survey with all your colleagues/friends/family that enjoy wine.



Table 1. Descriptive statistics of inclusion criteria

Inclusion criteria	N	Yes (%)	No (%)	
18+	2554	0	100	
Do you buy South African wine at least occasionally?	2540	93	7	
Are you employed by the wine industry?	2410	95	5	
Is this the first time you complete this questionnaire?	2381	97	3	
Are you a South African citizen?	2345	94	6	
How would you rate your awareness of:	N	1 (%)	2 (%)	3 (%)
Sauvignon blanc	2231	2	7	91
Chardonnay	2231	2	8	89
Chenin blanc	2231	6	12	81
White blends	2231	6	14	80

1=Never heard of it 2=Heard of it but have not tasted it 3 Tasted it

Table 2. Descriptive statistics of respondents' socio-demographic and consumption characteristics

Socio-demographic variable	N	%
Gender	1971	
Female	1074	56
Male	843	44
Age mean=46.5 SD=15	1909	
20<	34	2
21-30	276	14
31-40	437	23
41-50	375	20
51-60	392	21
61-70	293	15
70>	100	6
Adults in household mean = 2.28 SD=1.11		
Highest level of education		
<i>Post-graduate qualification</i>	925	48
<i>Undergraduate degree or diploma</i>	694	36
<i>High school completed or below</i>	292	15
Home language		
<i>Afrikaans</i>	872	46
<i>English</i>	770	40
<i>African languages</i>	252	13
<i>Other</i>	15	1
Province		

<i>Gauteng</i>	868	45
<i>Western Cape</i>	565	30
<i>KwaZulu Natal</i>	178	9
<i>North-West</i>	90	5
<i>Eastern Cape</i>	63	3
<i>Free State</i>	56	3
<i>Mpumalanga</i>	41	2
<i>Limpopo</i>	34	2
<i>Northern Cape</i>	14	1
Ethnicity		
<i>Caucasian</i>	1422	75
<i>Black African</i>	263	14
<i>Coloured</i>	137	7
<i>Indian/Asian</i>	56	3
<i>Other</i>	25	1
Wine consumption variable		
Spend on bottle of wine +		
<i>Less than R50</i>	260	14
<i>R50-R80</i>	894	47
<i>R81-100</i>	489	26
<i>More than R100</i>	259	14
Consumption frequency		
<i>Daily</i>	152	8
<i>Four to six times per week</i>	184	10
<i>Two to three times per week</i>	427	22
<i>Once a week</i>	372	20
<i>Once every two weeks</i>	282	15
<i>Once a month</i>	257	14
<i>Less than once a month</i>	227	12
Place of purchase (off-consumption)		
<i>General supermarket</i>	911	48
<i>Large national retailer</i>	542	29
<i>Direct from the cellar/producer</i>	143	8
<i>Independent bottle store</i>	153	8
<i>Speciality wine shop</i>	48	3
<i>Through wine clubs</i>	48	2
<i>Online</i>	38	2
<i>Other</i>	15	1
Wine style preference		
<i>Red</i>	832	44
<i>White</i>	774	41

<i>Rosé</i>	191	10
<i>Sparkling</i>	100	5
Wine type preference		
<i>Dry</i>	1423	75
<i>Sweet</i>	474	25
Years drinking wine		
<i>Less than 1 year</i>	43	2
<i>1-5 years</i>	277	15
<i>6-10 years</i>	329	17
<i>11-15 years</i>	248	13
<i>16-20 years</i>	202	11
<i>More than 20 years</i>	798	42

* South African Rand

Table 3. Descriptive statistics of respondents' perceived risk drivers

	N	Mean ± SD	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)
Deciding which white wine to buy is an important decision to me	1863	3.99 ± 0.92	2	4	18	44	32
There is a large selection of white wines to choose from in South Africa	1863	4.39 ± 0.73	1	2	6	41	50
I often wonder if I have made the right white wine selection	1863	3.11 ± 1.12	8	24	26	33	9
I choose a white wine to match the occasion	1863	3.53 ± 1.08	5	13	25	39	18
I am willing to spend R75 or more on a white wine I have not tasted before	1864	3.35 ± 1.19	7	22	17	38	16
There are South African wine producers well-known for good quality white wines	1864	4.48 ± 0.64	0	0	6	39	55
I feel confident to choose white wine	1863	4.04 ± 0.88	1	5	16	45	33
I choose my white wine very carefully	1862	3.38 ± 0.88	1	6	23	49	21
If considering to buy white wine, I will always choose a bottle that I am familiar with	1863	3.42 ± 1.01	2	21	25	40	13
I have doubts about the white wine purchase decisions I make	1864	2.41 ± 0.97	16	44	25	13	2
I prefer to choose a white wine from a large selection	1863	3.48 ± 0.91	2	13	32	43	10
I enjoy buying unfamiliar white wines	1859	3.09 ± 1.02	5	25	32	32	7
I know where to find information about white wine	1861	3.54 ± 1.07	4	15	20	43	17
Which white wine I buy matters a lot	1856	3.62 ± 0.92	2	10	28	45	15
Generally, there is a lack of information about white wine	1861	2.73 ± 0.99	10	33	36	17	4

There are many white wine options available in the store where I usually buy wine	1863	4.06 ± 0.77	0	5	10	58	27
I can easily find information about white wine	1862	3.68 ± 0.94	2	11	24	46	18
There is a large selection of Chenin blanc wines to choose from in South Africa	1826	3.69 ± 0.81	0	7	30	48	15
I have doubts about Chenin blanc in a purchase decision	1826	2.81 ± 0.99	9	30	36	22	3
I am willing to spend R75 or more on a Chenin blanc I have not tasted before	1826	3.01 ± 1.14	10	27	26	29	9
I feel confident to choose Chenin blanc	1826	3.39 ± 1.01	4	15	31	38	12
I know where to find information about Chenin blanc	1826	3.46 ± 1.01	4	14	28	41	13
If considering to buy Chenin blanc, I will always choose a bottle that I am familiar with	1826	3.32 ± 0.96	3	19	31	38	9
There are South African producers well-known for good quality Chenin blanc	1826	3.88 ± 0.82	0	3	28	45	24
I prefer to choose a bottle of Chenin blanc from a large selection of Chenin blanc wines	1826	3.51 ± 0.86	2	9	37	42	10
I often wonder if I have made the right decision when buying Chenin blanc	1826	2.86 ± 0.97	8	29	38	23	4
I enjoy buying unfamiliar Chenin blanc wines	1826	2.99 ± 1.03	8	24	36	27	6
Generally, there is a lack of information about Chenin blanc	1826	2.77 ± 0.92	8	29	44	16	3
There are many Chenin blanc options available in the store where I usually buy wine	1826	3.59 ± 0.85	1	10	30	48	12
I can easily find information about Chenin blanc	1862	3.49 ± 0.93	2	12	33	41	12

1=Strongly disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly agree

Table 4. Descriptive statistics of respondents' overall white wine and Chenin blanc perceived risk

Overall risk	N	Mean ± SD	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)
When I buy white wine, I am concerned that it will not meet my expectations	1747	2.88 ± 1.04	8	31	30	25	5
Buying white wine is risky	1747	2.22 ± 0.95	22	47	20	10	1
When I face a shelf of white wine, I feel uncertain to make my choice	1747	2.52 ± 1.06	15	42	21	18	4
Buying certain white wine varieties (e.g. Sauvignon blanc & Chardonnay) is riskier than others	1747	2.59 ± 1.06	15	38	23	21	3
Buying Chenin blanc is risky	1747	2.49 ± 0.99	14	41	28	13	3
When I face a shelf of white wine, I feel more uncertain about Chenin blanc than other white wines	1747	2.66 ± 1.10	15	35	25	21	5

1=Strongly disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly agree

Table 5. Descriptive statistics of importance of loss (white wine) risk dimensions

Please indicate to which extent you agree or disagree with each of the following about South African white wine per 750 ml bottle. Select only one answer per statement.	N	Mean ± SD	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)
Taste is an important factor when I buy white wine	1735	4.48 ± 0.66	0	1	4	40	55
It is important that the wine I buy complements my food	1735	3.38 ± 0.88	1	5	25	45	23
Buying white wine of consistent quality is important to me	1735	4.26 ± 0.68	0	1	8	55	36
It is important for me to know what to expect from a specific white wine varietal in terms of taste	1735	4.07 ± 0.74	0	3	13	57	27
The price is an important factor when I buy white wine	1735	3.75 ± 0.90	2	7	24	49	18
When buying white wine, value for money is important to me	1735	3.96 ± 0.82	1	5	15	54	24
I am willing to pay a higher price for a white wine of good quality	1735	4.07 ± 0.78	1	3	13	53	29
White wine should be reasonably priced	1735	3.97 ± 0.73	1	2	18	58	21
I consider whether the white wine I buy might cause a headache/hangover	1735	2.97 ± 1.32	16	26	19	24	15
I consider the chance of an allergic reaction to the white wine I buy	1735	2.39 ± 1.23	29	31	19	14	7
I consider the intoxicating effects of the white wine I buy	1735	2.53 ± 1.19	23	32	21	18	6
I worry that others will not enjoy the white wine I buy	1723	2.91 ± 1.09	10	29	28	28	6
I consider whether my friends/family will approve the white wine I buy	1723	3.06 ± 1.12	9	25	23	35	7
The white wine I buy should make a good impression	1723	3.53 ± 1.02	5	11	24	46	14
I buy white wine that is popular among people	1723	3.17 ± 1.02	6	21	30	37	7
I consider whether the white wine I buy could be embarrassing when it is not appropriate for an occasion	1723	2.68 ± 1.14	16	32	25	21	6
A bad choice of white wine could harm my self-esteem	1723	2.24 ± 1.12	30	35	19	12	4
If I buy the wrong white wine it could send a negative impression about me	1723	2.22 ± 1.09	30	36	19	12	3
When I buy white wine, it should be quick to find information	1723	3.55 ± 0.92	4	8	31	47	11
Choosing white wine should not be time consuming	1723	3.73 ± 0.83	1	7	23	55	14
It is important to spend time to find an appropriate bottle of white wine	1723	3.42 ± 0.92	3	13	34	42	9
When I am pressed for time, I will NOT consider buying unfamiliar white wines	1723	3.62 ± 1.05	3	15	18	44	19

1=Strongly disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly agree

Table 6. Descriptive statistics of probability of loss perceived (Chenin blanc) risk dimensions

30. Please indicate to which extent you agree or disagree with each of the following about South African Chenin blanc wine per 750 ml bottle. Select only one answer per statement.	N	Mean ± SD	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)
I like the taste of Chenin blanc	1707	3.68 ± 0.96	3	8	27	43	19
Chenin blanc generally goes well with food	1707	3.62 ± 0.86	1	4	29	51	15
The quality of Chenin blanc is consistent	1707	3.41 ± 0.84	2	10	41	39	8
I know what to expect from Chenin blanc in terms of taste	1707	3.62 ± 0.86	1	8	28	50	12
Buying Chenin blanc will be a bad way to spend my money	1707	2.27 ± 0.99	23	42	24	9	3
Generally, Chenin blanc is reasonably priced	1707	3.57 ± 0.68	1	4	40	50	6
Chenin blanc is likely to be good value for money	1707	3.57 ± 0.69	1	4	40	50	6
There is a good chance that I will pay more for a high quality Chenin blanc	1707	3.53 ± 0.93	3	10	32	43	12
Chenin blanc is likely to cause side effects such as a hangover or headache	1707	2.57 ± 0.89	13	30	45	10	2
Chenin blanc is likely to cause an allergic reaction	1707	2.31 ± 0.89	20	35	39	4	1
Chenin blanc has fast intoxicating effects	1707	2.45 ± 0.88	15	33	44	6	1
People enjoy Chenin blanc	1695	3.57 ± 0.72	1	4	40	48	8
It is likely that my friends/family will approve Chenin blanc	1695	3.58 ± 0.79	1	7	32	51	8
I am hesitant to buy Chenin blanc because others might think it is a bad wine choice	1695	2.36 ± 0.94	18	42	28	11	1
Chenin blanc is popular amongst people	1695	3.35 ± 0.76	1	10	47	37	5
Chenin blanc is likely to cause feelings of embarrassment	1695	2.11 ± 0.89	27	41	26	4	1
Chenin blanc might harm my self-esteem	1695	1.95 ± 0.87	35	39	21	4	0
If I buy Chenin blanc it could send a negative impression about me	1695	1.93 ± 0.87	36	40	20	4	1
It is quick to find information about Chenin blanc	1695	3.29 ± 0.85	3	10	47	33	6
Choosing Chenin blanc is time consuming	1695	2.57 ± 0.85	9	37	41	11	1
I would have to spend a lot of time to find an appropriate bottle of Chenin blanc	1695	2.64 ± 0.94	10	37	36	14	3
When I am pressed for time, I will consider buying Chenin blanc	1695	3.14 ± 1.03	7	18	37	31	7

1=Strongly disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly agree

Table 7. Descriptive statistics of respondents' white wine category risk-reducing strategies

When I am unsure about making a South African white wine selection:	N	Mean ± SD	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)
I choose wine from a well-known producer/farm	1686	3.82 ± 0.86	1	7	20	52	19
I buy wine that I have tasted before	1686	3.78 ± 0.89	1	10	16	55	18
I ask a friend or family member for a recommendation	1686	3.46 ± 1.02	4	17	21	47	12
I buy from a trusted store	1686	3.82 ± 0.83	2	5	19	57	17
I buy a bottle with attractive label artwork	1686	3.14 ± 1.04	5	22	34	30	9
I ask for advice from a store assistant	1686	2.66 ± 1.11	16	34	24	23	4
I have a few favourite brands from which I usually buy my wine	1686	3.96 ± 0.79	1	5	13	60	21
I read an online expert review	1686	2.97 ± 1.13	11	24	27	31	7
I buy Sauvignon blanc	1686	3.80 ± 1.08	5	9	15	44	27
I use a mobile phone wine application (e.g. Vivino)	1678	2.26 ± 1.17	28	41	13	11	6
I buy based on price	1678	3.35 ± 0.96	4	15	30	43	7
I read the front label	1678	3.76 ± 0.85	2	8	15	61	13
I read the back label	1678	3.70 ± 0.95	3	10	16	55	15
I buy based on the medals/awards	1678	3.24 ± 1.03	5	19	30	37	8
I buy a specific varietal	1678	3.55 ± 0.94	3	11	28	45	13

1=Strongly disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly agree

Table 8. Descriptive statistics of respondents' recommendations for Chenin blanc

What would be an effective way of promoting Chenin blanc?	N	Mean ± SD	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)
In-store tastings	1675	3.85 ± 0.94	3	6	17	51	23
Formal tasting events (tutored)	1675	3.92 ± 0.88	2	5	19	49	25
Informal tasting events (non-tutored)	1675	3.74 ± 0.89	2	8	23	50	17
Chenin blanc events in my town	1675	3.69 ± 0.94	3	8	23	49	17
Food pairing events	1675	3.91 ± 0.89	2	5	17	51	25
Food pairing suggestions (information)	1675	3.85 ± 0.88	2	5	20	52	21
More advertising material in-store (no tastings)	1675	3.29 ± 1.00	4	16	34	36	10
Discount price promotions	1675	3.73 ± 0.91	2	8	24	48	18
Small/sample bottles to buy (e.g. 250 ml)	1675	3.48 ± 1.15	7	15	20	40	19
Twitter	1675	2.72 ± 1.08	14	27	37	16	6
Facebook	1675	3.03 ± 1.11	11	20	33	27	9
YouTube	1675	2.82 ± 1.08	13	25	37	19	7
Attractive packaging	1675	3.43 ± 1.01	4	13	32	37	14
Information about how Chenin blanc is different from other varietals	1670	3.59 ± 0.84	2	8	32	48	11
Friends recommending Chenin blanc	1670	3.69 ± 0.79	1	6	27	55	11
A wine club	1670	3.59 ± 0.88	3	7	30	49	12

Article in popular Magazine/Newspaper e.g. Beeld/Drum	1670	3.41 ± 0.96	4	13	31	43	9
Article in wine magazine/expert review	1670	3.55 ± 0.95	3	9	29	45	13
Information on the front label	1670	3.65 ± 0.83	2	7	27	53	11
Tasting notes on the front label	1670	3.66 ± 0.87	2	8	26	51	13
Technical information on the back label	1670	3.59 ± 0.90	2	9	28	48	13
Recommendations from store personnel	1670	3.29 ± 1.01	6	16	31	39	8
Celebrity endorsers	1670	2.77 ± 1.07	14	25	36	20	5
Promotions at restaurants	1670	3.75 ± 1.01	2	6	20	58	13
Cellar door promotions (on the wine farm)	1670	2.77 ± 1.07	2	4	23	55	16
More Chenin blanc from well-known wine estates to choose from in-store	1670	3.29 ± 1.01	1	4	25	53	16

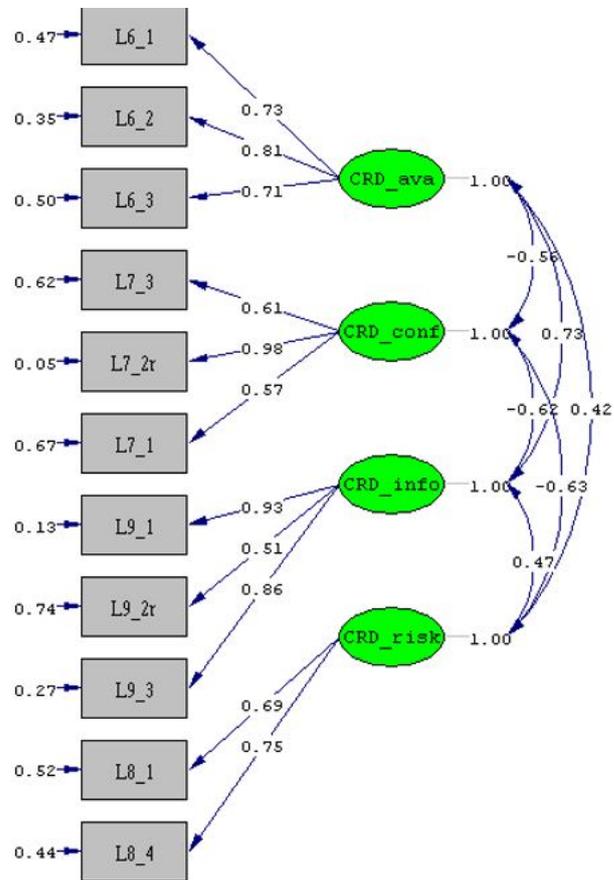
1=Strongly disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly agree

Table 9. Descriptive statistics of respondents' ranking of recommendations to promote Chenin blanc

What would be an effective way of promoting Chenin blanc?	N	Mean ± SD	Rank (%) #0	Rank (%) #1	Rank
In-store tastings	1887	0.53 ± 0.49	47	53	1
Formal tasting events (tutored)	1887	0.29 ± 0.45	71	29	4
Informal tasting events (non-tutored)	1887	0.19 ± 0.39	81	19	5
Chenin blanc events in my town	1887	0.19 ± 0.39	81	19	5
Food pairing events	1887	0.35 ± 0.48	65	35	3
Food pairing suggestions (information)	1887	0.18 ± 0.39	82	18	7
More advertising material in-store (no tastings)	1887	0.08 ± 0.27	92	8	9
Discount price promotions	1887	0.37 ± 0.48	63	37	2
Small/sample bottles to buy (e.g. 250 ml)	1887	0.26 ± 0.44	74	26	5
Twitter	1887	0.01 ± 0.12	99	1	11
Facebook	1887	0.07 ± 0.25	93	7	11
YouTube	1887	0.01 ± 0.10	99	1	10
Attractive packaging	1887	0.11 ± 0.31	89	11	8
Information about how Chenin blanc is different from other varieties	1887	0.33 ± 0.47	67	33	2
Friends recommending Chenin blanc	1887	0.27 ± 0.45	73	27	3
A wine club	1887	0.21 ± 0.41	79	21	5
Article in popular Magazine/Newspaper e.g. Beeld/Drum	1887	0.16 ± 0.37	83	17	8
Article in wine magazine/expert review	1887	0.15 ± 0.35	85	15	10
Information on the front label	1887	0.17 ± 0.38	83	17	8
Tasting notes on the front label	1887	0.22 ± 0.42	78	22	4
Technical information on the back label	1887	0.10 ± 0.30	90	10	12
Recommendations from store personnel	1887	0.13 ± 0.34	83	13	11
Celebrity endorsers	1887	0.06 ± 0.24	94	6	13
Promotions at restaurants	1887	0.45 ± 0.49	55	45	1

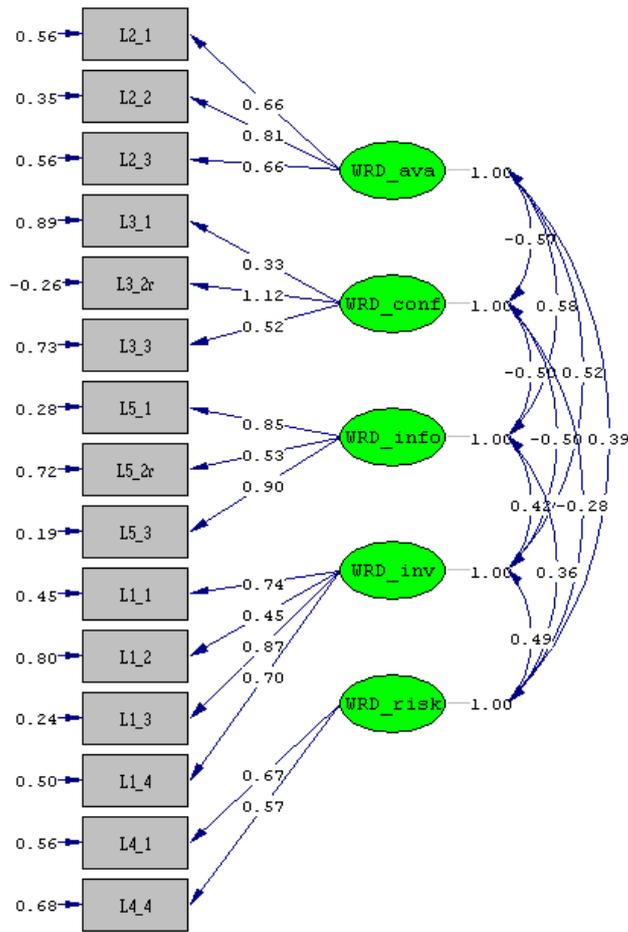
Cellar door promotions (on the wine farm)	1887	0.18 ± 0.38	82	18	7
More Chenin blanc from well-known wine estates to choose from in-store	1887	0.19 ± 0.39	80	20	6

Figure 1. Confirmatory factor analysis with structural equation modelling of Chenin blanc risk driver scale



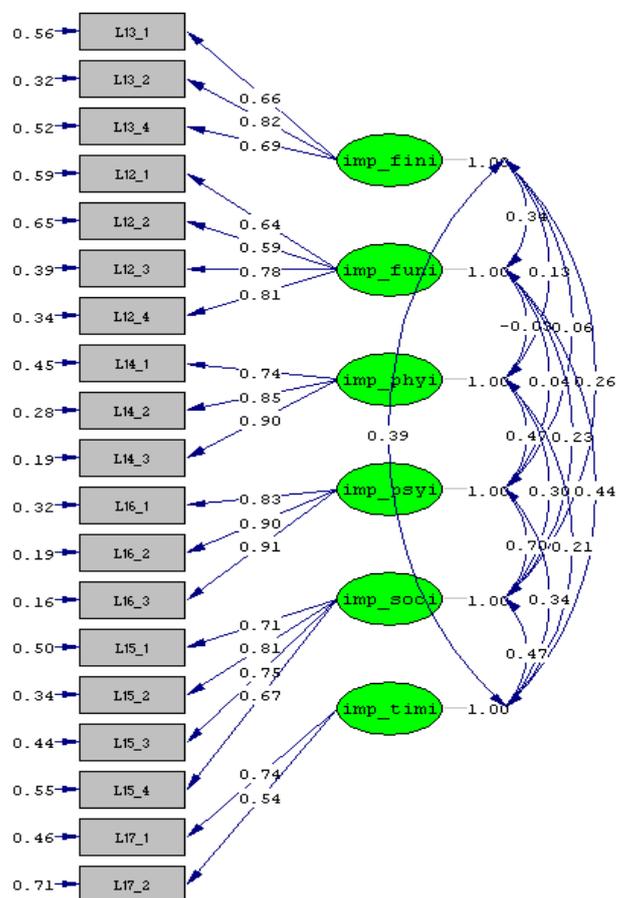
Chi-Square=660.36, df=38, P-value=0.00000, RMSEA=0.099

Figure 2. Confirmatory factor analysis with structural equation modelling of white wine risk driver scale



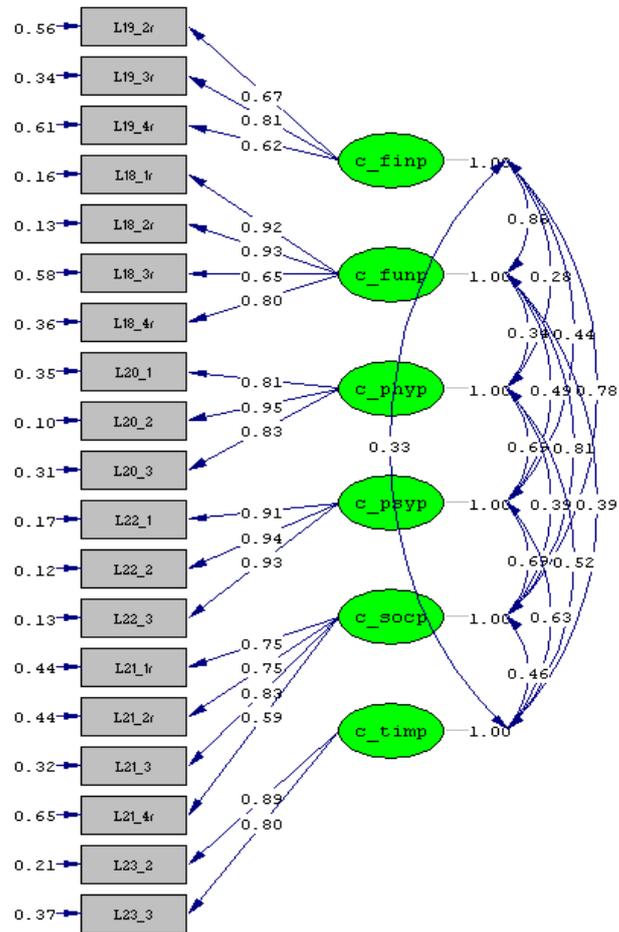
Chi-Square=963.39, df=80, P-value=0.00000, RMSEA=0.081

Figure 3. Confirmatory factor analysis with structural equation modelling of white wine importance of loss scale



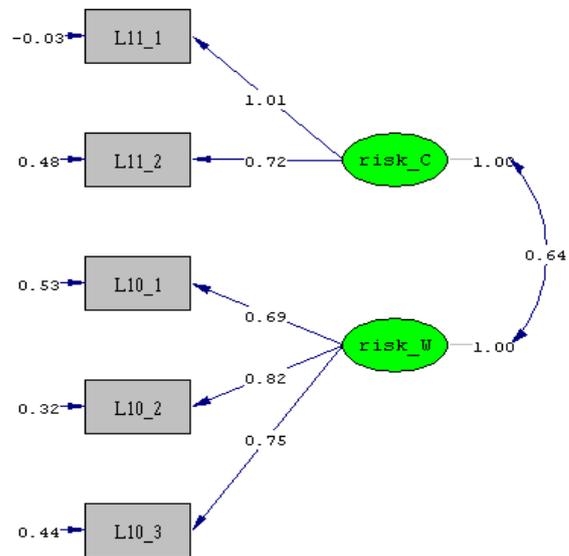
Chi-Square=951.40, df=137, P-value=0.00000, RMSEA=0.060

Figure 4. Confirmatory factor analysis with structural equation modelling of Chenin blanc probability of loss scale



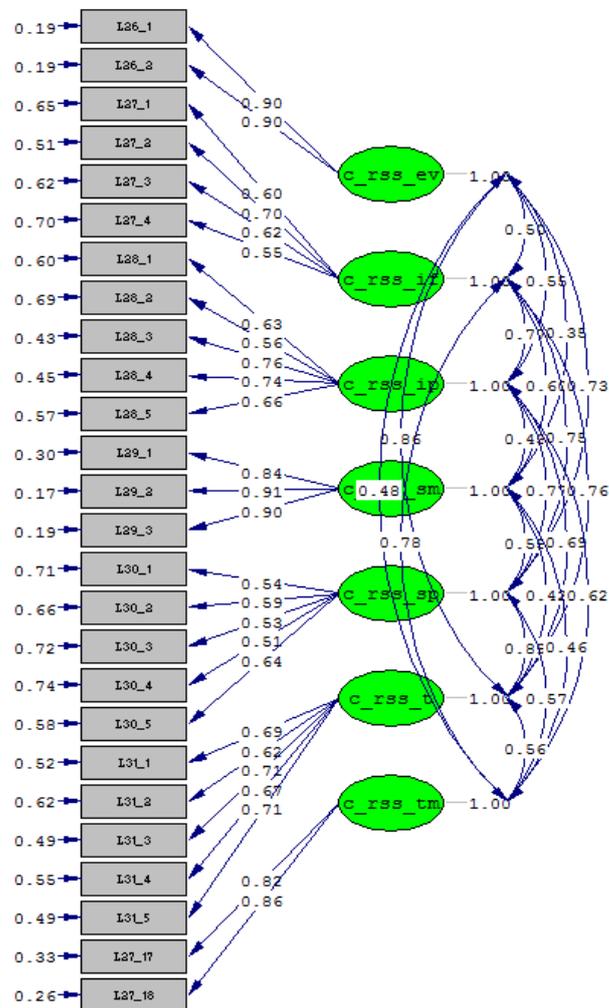
Chi-Square=1253.69, df=137, P-value=0.00000, RMSEA=0.070

Figure 5. Confirmatory factor analysis with structural equation modelling of overall risk scale



Chi-Square=21.52, df=4, P-value=0.00025, RMSEA=0.051

Figure 6. Confirmatory factor analysis with structural equation modelling of Chenin blanc RRS scale



Chi-Square=2486.08, df=278, P-value=0.00000, RMSEA=0.069

ADDENDUM C

AUTHORS' GUIDELINES

Management Dynamics

EDITORIAL POLICY

Management Dynamics publishes managerially-based scholarly articles in all business-related disciplines including strategic management, marketing, operations, human resources, organisational behaviour, consumer behaviour, research methods, information systems, customer satisfaction, business education, and electronic commerce. Besides being multidisciplinary, the journal strives to be both national and international in scope. Its purpose is to serve as a medium through which those with research interests can exchange ideas and keep abreast of the latest developments in the field of Management Sciences. Its focus is best-practice in management and it strives to be relevant to the business world in the majority of its articles by encouraging both basic and applied research.

Academics as well as industry practitioners are encouraged to submit articles. No particular research ideology is preferred, and quantitative, qualitative, managerial, and behavioral approaches are all welcome.

Management Dynamics is not just about empirical research. Well-crafted review papers are welcome but

must go beyond a laundry list of references. Theoretical papers will be considered, as long as they produce new and managerially valuable conclusions. Applications of sophisticated management practice, written by managers, will also be considered for publication. Qualitative case studies are also welcome but must demonstrate its contribution to management science.

The procedures guiding the selection of articles for publication in the journal require that no manuscript be accepted until it has been reviewed in a double blind review process and sent to at least two reviewers. The editor's decision to publish a manuscript is influenced to a large extent by the judgments of these reviewers, who are experts in their respective fields. It is journal policy to remove the author's name and credentials prior to forwarding a manuscript to a reviewer to maximise objectivity and ensure that manuscripts are judged solely on the basis of their content.

Articles of any length will be considered, as long as the contribution-to-length ratio remains high.

No manuscript will be reviewed that is under review elsewhere. The journal views multiple submissions of the same manuscript to different journals as an unethical practice.

Once accepted for publication the copyright reverts to the Southern African Institute for Management Sciences (SAIMS).

The editor reserves the right to make minor editorial changes to manuscripts to comply with the conventions of the journal.

The editor and reviewers, in the judgment of a manuscript, use four principal criteria:

- does it make a significant and substantive contribution to the literature/subject knowledge?
- is the contribution of value to managers?
- were sound research methods used?
- does it convey its message clearly and concisely?

In other words, the criteria of being rigorous (scientific/scholarly) and managerially relevant (provides important conclusions for management) are paramount.

GUIDELINES FOR SUBMISSION OF MANUSCRIPTS

Every manuscript should contain at least the following:

- Abstract
- Introduction
- Literature review
- Purpose/objectives of the study/article
- Problem investigated
- Research objectives and/or hypotheses
- Research methodology
- Results
- Conclusions
- Managerial implications/recommendations

Manuscripts should be typed in one-and-a-half spacing, including references. Do not use double-spacing anywhere.

Page numbers are to be placed in the upper right-hand corner of every page.

Do not use any tab indents for paragraphs.

Do not number paragraphs.

The text must preferably be limited to three levels. Main headings are presented in capitals (bold); sub-headings in lower case (bold), and sub-subheadings in normal text, lower case. For instance:

METHODOLOGY

Sampling procedure

Composition of sample

Manuscripts should be typed or printed on one side of the paper only with a left margin of at least 2 cm.

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A 12-point font, preferably Times New Roman or Arial, should be used.

Submit four (4) copies of each manuscript. The author's name should not appear anywhere except on the cover page. The author should keep an extra, exact copy for future reference.

What goes where?

First page – Name of author(s) and title; author(s) note, including present position, postal and physical address, telephone and fax numbers, and e-mail address.

Second page – Title of paper (without author's name) and a brief abstract of no more than 150 words substantively summarising the article. This should be informative, giving the reader an overview of the article and should be in the same language as the rest of the article.

Body text

The text, with both major headings and subheadings should be flush with the left margin.

For first submissions all tables and figures should be in their correct positions in the manuscript itself. If the manuscript is accepted for publication and a final version

submitted, each table and figure should be prepared on a separate page and grouped together at the end of the manuscript. The preferred position of each Table and Figure should then be indicated with:

[INSERT TABLE 2 HERE]

The data in tables should be arranged so that columns of like materials read down, not across. Non-significant decimal places in tabular data should be omitted, preferably no more than 2 decimal points.

Tables should be typed flush with the left-hand margin and have proper labeling of axes, column headings and other notations. The table number and title should be typed on separate lines, in capital letters.

Figures and artwork must be of a high quality and camera ready, such as clean, black-and-white laser printouts. Each figure of accepted manuscripts should appear on a separate page. Please avoid the use of gray-scale shading.

Additional details (such as the source or exceedance probabilities) should be footnoted under the table, not in the title. In the text, all illustrations and charts should be referred to as figures.

Mathematical notations should be clearly explained within the text. Equations should be centered in the page. If equations are numbered, type the number in parentheses flush with the right margin. Unusual symbols and Greek letters should be identified. For equations that may be too wide to fit in a single column, indicate appropriate breaks.

A non-refundable administration fee of R100, payable to "Management Dynamics", must be included with the first submission of manuscripts for consideration.

If approved, the article will be returned in page proof format to the authors. After final corrections the page proofs must be returned, accompanied by an amount of page fees, determined as follows:

SAIMS members: R 250 x number of pages Non-SAIMS members: R300 x number of pages

Preference in the placing of contributions accepted will be given to those manuscripts submitted by members of the Southern Africa Institute for Management Scientists (SAIMS). SAIMS members must indicate their membership number on the accompanying letter. Contributions submitted by a non-member will however, also be considered.

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Management Dynamics uses an adapted version of the Harvard referencing method. There are, however, slight deviations, such as the presentation of conference papers and access dates of websites, while the ampersand (&) is not used. The journal places a high premium on consistency.

- **Citations within the text**

Citations in the text should include the author's last name and year of publication enclosed in parentheses, for example (Jones, 2015). If a particular page, section or equation is cited, it should be placed within the parentheses, for example

(Jones, 2015: 221), with a space between the year of publication and page number.

For multiple authors, use the first time cited in full, irrespective of the number of authors. For subsequent citations of two authors and more use '*et al.*' (italicised). For example:

(Jones, Smith and Johnson, 2015), and afterwards (Jones *et al.*, 2015)

If the same authors published another work in the same year, a distinction must be made by using a lower case a or b. For example:

(Jones, Smith and Johnson 2015b).

In the case of multi-authors and different dates of publication, list them in order of the latest publication first, separating the authors with a semi-colon. For example:

(Jones, 2015; Benson and Cone, 2008; Williams, 2000).

- **References list:**

Examples of books (under editorship) and books that are republished:

House, R.J. Hanges, P.J. Javidan, J. Dorfman, P.W. and Gupta, V. 2004 (eds). *Culture, leadership and organisations: The globe study of 62 societies*. Thousand Oaks, CA: Sage Publications.

Bryman, A. and Bell, E. 2007. *Business research methods* (2nd ed.). Oxford: Oxford University Press.

Note that there should be **no spaces** between the initials of the authors, and that book editions and editors are abbreviated as (2nd ed.) for editions, and (eds.) for editors.

An example of research journals:

Martin, S. and Scott, J.T. 2000. The nature of innovation market failure and the design of public support for private innovation. *Research Policy*, 29(1): 437-447.

Examples of websites (with author/s and author/s unknown):

Williams, M.T.N. 2005. Marketing on the internet. *BizzCommunity* (Online). Available: <http://www.BizzCommunity.com> [Accessed: 12 April 2010] - (author known)

Guidelines for using charts and graphs. 2005 (Online). Available: <http://sandhills.edu/wordguide/chartadvice.html> [Accessed: 12 February 2015] - author unknown.

When citing websites, books and academic journals are italicised, but not the title of the article or the website home address itself. Titles of articles should be indicated in lower case, and the overuse of capital letters should be avoided.

Examples of a published conference papers, dissertations or theses:

Loebbecke, C., Bartscher, P, Weiss, T. and Weniger, S. 2010. *Consumers' attitudes to Digital Rights Management (DRM) in the German trade ebook market*. Paper read at the International Conference on Mobile Business (ICBM) and Global Mobility Roundtable. Athens, Greece. June.

VandenBoogart, M.R.V. 2006. *Uncovering the social impacts of Facebook on a college campus*. Master's thesis. Manhattan: Kansas State University.

Note that unpublished papers or unpublished theses and dissertations are not italicised.

More examples of the Harvard referencing method and the general house style of Management Dynamics can be obtained from the journal's administrative assistant, Michele.boshoff@adept.co.za.

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International Journal of Wine Business Research: Manuscript requirements

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FOOD QUALITY AND PREFERENCE

A journal devoted to sensory, consumer and behavioural research in food and non-food products.

AUTHOR INFORMATION PACK

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GUIDE FOR AUTHORS

Aims and Scope

Food Quality and Preference publishes original research, critical reviews, and short communications in sensory and consumer science, and sensometrics. In addition, the journal publishes special invited issues on important timely topics and from relevant conferences. These are aimed at bridging the gap between research and application, bringing together authors and readers in consumer and market research, sensory science, sensometrics and sensory evaluation, nutrition and food choice, as well as food research, product development and sensory quality assurance. Submissions to *Food Quality and Preference* are limited to papers that include some form of human measurement; papers that are limited to physical/chemical measures or the routine application of sensory, consumer or econometric analysis will not be considered unless they specifically make a novel scientific contribution in line with the journal's coverage as outlined below

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