Consumer knowledge and its implications for aspects of consumer purchasing behaviour in the case of information-intensive products

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ABSTRACT

The purpose of this research was to better understand consumer knowledge, its constituents, antecedents and consequences or implications for other consumer behaviours so as to assist wine marketers and marketers of other information-intensive products with their marketing strategy development. Wine is a complex product difficult for consumers to evaluate particularly prior to purchase but it is also a difficult product for marketers. Wine has a very large number of both intrinsic and extrinsic attributes. As a result of the numerous attributes and the multitude of combinations of these attributes there is a plethora of wine brands available making for a highly competitive industry and a complicated product for consumers. Consumer knowledge affects all aspects of consumer purchasing behaviour and is thus an important phenomenon for marketers to research and understand. Consumer knowledge also affects all aspects of the marketing strategy developed to satisfy target segments. Marketing decision makers need to understand consumers to be able to analyze and profile segments, choose target markets and develop marketing strategies that will best align with those target markets. Calls particularly for better understanding of different segments within the wine market provide justification for this research. The research problem was divided into three components: Consumer wine knowledge constituents, Antecedents of consumer wine knowledge and the Implications of consumer wine knowledge. The latter component of the research problem explored the
implications of consumer wine knowledge for segmentation, as well as the relationships between consumer wine knowledge and exploratory purchasing behaviour, variety-seeking behaviour and opinion leadership and opinion-seeking behaviours.

This study provides evidence of the existence of two distinct constituents of consumer knowledge i.e. what consumers know (objective knowledge) and what they think they know (subjective knowledge) and these constituents in the context of wine are significantly related. However it is also clear that these constituents are significantly different, with different antecedents and implications for other consumer behaviours. This study provides a visual depiction of a simplistic nomological map developed for the construct of consumer knowledge based on the studies reported in this thesis in the context of an information-intensive product such as wine. Objective knowledge is largely driven by demographic antecedents, specifically age, gender and education while subjective knowledge is mostly driven by, or affected by consumption. On the implications side of the map, objective knowledge significantly positively correlates with exploratory acquisition, and opinion leadership while subjective knowledge is positively related to opinion leadership and negatively to opinion-seeking behaviours. Theoretical implications as well as recommendations for wine marketers and researchers are provided.

Key words: Consumer knowledge, Objective knowledge, Subjective knowledge, Opinion leadership, Exploratory acquisition, Variety-seeking behaviour, Wine, Information-intensive products
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# Table of Contents

**Abstract** ................................................................................................................. i  
**Acknowledgements** ................................................................................................. iii  
**Chapter 1: Overview of the Research** ........................................................................ 1  

1.1 Introduction ........................................................................................................... 1  
   1.1.1 Components of the research problem ....................................................... 8  
   1.1.2 Framework for the thesis ........................................................................... 10  

1.2 Literature Review ................................................................................................... 13  
   1.2.1 Constituents of consumer wine knowledge ............................................ 13  
   1.2.2 Antecedents of consumer wine knowledge ............................................ 26  
   1.2.3 Implications of consumer wine knowledge ........................................... 30  

1.3 Methodology to address the research problem ...................................................... 57  
   1.3.1 Research design and approach ................................................................. 57  
   1.3.2 Sample selection and data collection methods ........................................ 59  
   1.3.3 Study 1 ....................................................................................................... 61  
   1.3.4 Study 2 ....................................................................................................... 69  
   1.3.5 Summary of the research methodology .................................................. 83  

1.4 Summary of the Research ....................................................................................... 87  
   1.4.1 Introduction ................................................................................................. 87  
   1.4.2 Summary of the research problem, its components and the research questions .................. 87  
   1.4.3 Overview of the Research Papers ............................................................. 89  

1.5 Chapter Conclusion ................................................................................................. 97
CHAPTER 2: THE INDIVIDUAL PAPERS ............... 101

2.1 Paper 1: Consumer Knowledge: a new basis for wine market segmentation? ................................................. 103
2.2 Paper 2: Knowing What They Know: A Managerial Perspective on Consumer Knowledge .................. 143
2.3 Paper 3: Knowledge Effects on the Exploratory Acquisition of Wine .............................................................. 167
2.4 Paper 4: Wine Knowledge Types and Variety-seeking Exploratory Behaviour ............................................. 211
2.5 Paper 5: Does Objective and Subjective Knowledge Vary between Opinion Leaders and Opinion Seekers? Implications for Wine Marketing. ...... 253

CHAPTER 3: SUMMARY, CONCLUSION, AND CONTRIBUTIONS ................................................................. 297

3.1 Introduction ................................................................. 297
3.2 Findings ........................................................................ 301
   3.2.1 Constituents of consumer wine knowledge ........................................................................... 301
   3.2.2 Antecedents of consumer wine knowledge ........................................................................... 303
   3.2.3 Implications of consumer wine knowledge ........................................................................... 309
3.3 Theoretical Contributions of the Thesis .............. 319
3.4 Managerial Implications ........................................... 331
3.5 Future Research ............................................................ 347
3.6 Conclusion ................................................................. 355
4. REFERENCE LIST .............................................. 357

LIST OF FIGURES

Figure 1.1 Framework for the Thesis .............................. 11
Figure 3.1 Consumer Wine Knowledge Types................... 322
Figure 3.2 Emerged Nomological Map of the Consumer Knowledge Construct as Investigated in this Thesis...... 328
Figure 3.3 Movement between the Consumer Wine Knowledge Types.................................................. 337

LIST OF TABLES

Table 1.1 Objective wine knowledge test (Study 1) ....... 63
Table 1.2 Subjective wine knowledge scale (Study 1) .... 65
Table 1.3 Test of objective wine knowledge (Study 2) ... 71
Table 1.4 Subjective wine knowledge scale (Study 2) .... 73
Table 1.5 Exploratory purchasing behaviour scale ......... 75
Table 1.6 Opinion leadership scale ............................... 77
Table 1.7 Opinion seeking scale ................................. 78
Table 1.8 Summary of the Research Methodology .......... 84
CHAPTER 1: OVERVIEW OF THE RESEARCH

1.1 Introduction

Wine brands are among the most prolific in the world. According to Mike Veseth (2011, p. 28), author of Wine Wars,

“There are clearly more choices for wine than for any other type of product, don’t you think? Look around. Beer? Lots of choices, but nothing like wine. Milk? Not even close. Breakfast cereals take up a lot of room and there are sure a lot of them to choose from, but the variety can’t compare to wine. What seemed to be an overwhelming variety of gourmet cheeses is nothing compared to the wine selection.”

With this vast array of wine brands the wine market globally is becoming increasingly competitive (Famularo, Bruwer, & Li, 2010). In the USA alone, for example, the number of competing brands and labels has seen steady growth; with estimates of more than 7000 brands not uncommon (see Mondavi, 2008 and http://www.wholeworldwines.com/challenge/us-wine-industry-info/). The Australian wine market has also been described as vastly competitive (e.g. Bianchi, Drennan, & Proud, 2012). The highly regarded wine industry statistical research firm, Gomberg, Fredrikson and Associates notes in its proprietary reports that it tracks over 15,000 wine SKUs worldwide (see for example: http://www.gfawine.com). There are
thousands of wine varietals (http://www.vinodiversity.com/wine-variety-table.html), and wine is grown in almost all the nations of the world, including countries in which it is officially forbidden, and others in which the growing conditions are probably not as ideal as they are in Bordeaux, Burgundy or Napa. Wines are made in hundreds of different styles, often in small quantities purely for home consumption, or in limited amounts by famous producers or in significant volumes by mass marketers. Wine consumers thus have a lot of choice (Velikova, Howell, & Dodd, 2015).

Wine is also considered a complicated product (Capitello, Agnoli, Begalli, Deacon, & Christofi, 2015; Johnson & Bruwer, 2007; Viot, 2012). Using Nelson’s (1970) classification of products as search versus experience products, wine is an experience product (Higgins, Wolf, & Wolf, 2014; Senecal & Nantel, 2004). Unlike search products, experience products can’t be easily evaluated before consumption. It is thus difficult for consumers to judge a wine just by looking at it (Barber, Dodd, & Kolyesnikova, 2009a; Barber, Taylor, & Strick, 2009b; Boatto, De Francesco, & Trestini, 2011). Experience goods need to be experienced to be evaluated (Nelson, 1974). Thus a consumer ideally needs to taste a wine to truly evaluate it. When tasting a wine, consumer’s use the intrinsic attributes of the wine to judge its quality. Intrinsic ques are the physical characteristics of the product itself (Schiffman, O'Cass, Paladino, & Carlson, 2014) such as its ingredients (Richardson, Dick, & Jain, 1994), taste, colour, texture, bouquet and aromatic
complexity, smoothness, drinkability (Charters & Pettigrew, 2007), level of aging, balance of flavours and bouquets (Verdú Jover, Lloréns Montes, & Fuentes Fuentes, 2004). However wine can often not be tasted prior to purchase (Lockshin & Hall, 2003) and in such cases consumers make purchase decisions on the basis of the numerous extrinsic cues (Schiffman et al., 2014). This is particularly so when wine is bought from retailers or online, as opposed to from wine farms where tasting is more common. Extrinsic cues are external to the product itself (Schiffman et al., 2014) and for wine include the brand name and image, packaging, vintage, aging ability (Charters & Pettigrew, 2007), label attractiveness, price (Lopes, Sagala, & Dodd, 2014; Viot, 2012), region, grape variety, wine maker (Lockshin, Jarvis, d’Hauteville, & Perrouty, 2006), alcohol level (Lopes et al., 2014), food/wine harmony and recommendations by others (Cohen, d’Hauteville, & Sirieix, 2009). These extrinsic attributes are described as being related to the product but not physically part of it (Olson, 1972). Many extrinsic attributes such as the region, grape varietal and winemaker interact to determine intrinsic cues such as the flavour (Lockshin et al., 2006). Extrinsic cues often simplify the buying decision (Lockshin & Albisu, 2006) reducing consumer’s perceived risk (Bruwer, Li, & Reid, 2002). So wine has a particularly large number of both intrinsic (Chocarro & Cortiñas, 2013) and extrinsic (Viot, 2012) attributes which consumers can use to evaluate the product (Bruwer & Buller, 2012). There is thus a lot of potential information about a bottle of wine. With all these sources of information, wine can be considered an
information-intensive product (Bruwer & Thach, 2013). Other information-intensive products include other beverage products (such as single malt whiskey), food products (such as cheeses), automobiles, art, high-tech offerings and the like.

The consumer’s knowledge of the product significantly affects their purchase behaviour processes (Lockshin & Hall, 2003; Veale & Quester, 2007a) as well as many other consumer behaviours (Barber, 2009). The richness of information on a product such as wine can change why it is purchased, when it is consumed, and how it is experienced. However, while a great deal of information exits about the product, this information must have meaning for the consumer, to influence their behaviour. They must possess knowledge with regards to the product and its attributes, the meaning of attributes, and their implications and relationships to other attributes. A consumer with limited wine knowledge may not know about wine growing regions or grape varietal used in the wine, let alone how these factors impact the taste, bouquet or drinkability. They may find the purchase decision challenging as a result (Higgins et al., 2014) and may thus make their decisions based purely on whether the wine label displays an award or comes with a wine expert recommendation. A wine connoisseur on the other hand, may possess deep and intricate knowledge related to many different attributes. It is highly likely that these differences in knowledge greatly affect how these different consumers behave. What the consumer ‘knows’ is important in every stage of the purchase decision-making process (Raju, Lonial, &
Mangold, 1995), from the time the individual recognises the need, through to defining the problem, searching for information, evaluating alternatives, making a purchase, and then consuming the product or service and entering the post-purchase phase.

From a consumer behaviour perspective, knowledge has been defined as “the information stored within memory” (cf. Engel, Blackwell, & Miniard, 1990, p. 281). A number of early consumer researchers (e.g. Engel et al., 1990; Howard & Sheth, 1969; Nicosia, 1966) sought to develop models of the consumer purchase decision-making process, and realised that this relied heavily on the notion of consumer knowledge. Consumer knowledge has been found to influence the extent of information search (Beatty & Smith, 1987; Moore & Lehmann, 1980; Veale & Quester, 2007a), and the types of information used in decision making (Brucks, 1985; C. W. Park & Lessig, 1981; Puthankurissi Raju et al., 1995). While consumer knowledge affects a wide variety of other issues including the size and composition of wine demand, there has been no comprehensive study of this topic (D. Marks, 2014) and various authors have called for research which includes consumer wine knowledge and its impacts as well as the differences in consumer wine knowledge levels between different segments (e.g. Famularo et al., 2010). As wine preferences are constantly evolving (Campbell, Cohen, Corsi, Lockshin, & Chen, 2014) research that provides better understanding of the basis and influences of these preferences is necessary.
From a marketing perspective, what a consumer knows about a product or service, i.e. their consumer knowledge, is crucial to how it is marketed. Consumer knowledge affects all aspects of the marketing strategy developed to satisfy target segments. Marketing decision makers need to understand consumers to be able to analyze and profile segments, choose target markets and develop marketing strategies that will best align with those target markets (Cravens & Piercy, 2009; Walker & Mullins, 2014). Knowing what consumers know about the product i.e. consumer knowledge is thus an important aspect of understanding consumers. Product differentiation, branding, labeling, distribution and promotional strategies all require adaptation depending on the amount of knowledge consumers possess (Famularo et al., 2010; Jenster & Cheng, 2008) thus understanding consumer knowledge in relation to wine is important to wine marketers (Velikova et al., 2015). With wine marketing being challenging and highly competitive (Thach & Olsen, 2006) Zalan and Lewis (2014) contend that the global wine industry needs to improve its management skills. One element of these management skills is the marketing management skills. This research aims to help address this need by better understanding consumer knowledge and its implications for marketers of wine.

In addition to the calls for research related to consumer knowledge and the need for studies investigating the implications of consumer knowledge for marketers as discussed above, studies of wine market consumer behaviour have often focused on
narrow segments of wine consumers e.g. fine wine consumers but there have been calls for research investigating differences between segments of wine consumers (e.g. Famularo et al., 2010; Yuan, So, & Chakravarty, 2005). Bruwer and Li (2007) state that wine consumer behaviour is challenging to understand. However, understanding different segments of wine consumers is critical for wine marketers as they often require different marketing strategies (Hollebeek, Jaeger, Brodie, & Balemi, 2007; T. Johnson & Bastian, 2015; T. Johnson & Bruwer, 2004; McGechan, 2011; Yuan et al., 2005). Bruwer and Li (2007, p. 21) contend that the mass marketing approach is rarely feasible today and it is an “ongoing challenge for academic researchers to find the segmentation basis that is ‘optimal’ for a specific market”. This research aims to fill this gap by understanding how wine consumers might differ in their knowledge of wine and how these consumer knowledge differences might affect other consumer behaviours.

Thus the research problem being addressed in this study is:

*Marketing scholars of information-intensive products such as wine, need to understand what constitutes consumer knowledge and the effects this has on other aspects of consumer purchasing behaviour.*

Understanding consumer knowledge with regards to a product as information-intense as wine, is not a simple task (Velikova et al., 2015). As with any complex phenomenon, understanding the phenomenon usually entails understanding its constituents, the factors
which affect it and its relationships with other constructs.

### 1.1.1 Components of the Research Problem

The research problem can thus be divided into three components which cover the seven research questions addressed in the study.

**A. Constituents of consumer wine knowledge**

This component of the broader research problem deals with the constituents of consumer knowledge and the relationships between these with respect to wine. The first research question addressed in the study is therefore:

**RQ1: Is there a link between objective and subjective consumer wine knowledge?**

**B. Antecedents of consumer wine knowledge**

This component deals with the factors that influence consumer wine knowledge. Here the research question is:

**RQ2: What are the antecedents of consumer wine knowledge and how do they affect it?**
C. Implications of consumer wine knowledge

This component of the research problem explores some of the implications of consumer wine knowledge. Specifically, the implications of consumer wine knowledge for segmentation and targeting, exploratory purchasing, and opinion leadership and seeking behaviours, are investigated.

In addressing the implications of consumer knowledge for segmentation and targeting two research questions emerge:

**RQ3:** When subjective and objective consumer wine knowledge are studied simultaneously, can they provide insight into market segmentation and target marketing?

**RQ4:** What managerial insights do consumer wine knowledge types provide?

The implications of consumer knowledge are also investigated in terms of the relationship between consumer knowledge and three relevant consumer behaviours; exploratory acquisition, opinion leadership and opinion-seeking behaviours. Thus the following specific research questions are investigated:

**RQ5:** What effect does consumer wine knowledge have on exploratory purchasing behaviour?
RQ6: What effect do consumer wine knowledge types have on variety-seeking behaviour?

RQ7: What is the relationship between consumer wine knowledge and opinion leadership and opinion-seeking behaviours?

1.1.2 Framework for the Thesis

Figure 1.1 below presents the framework for the thesis linking the key components of the research problem to the five papers in which the results of the research are presented.
Thus Paper 1 investigates the relationship between objective and subjective knowledge and the antecedents of consumer wine knowledge. A 2x2 grid representing different segments based on the combination of objective and subject knowledge is proposed. Thus Research questions 1, 2 and 3 are addressed in this paper.

Paper 2 specifically provides managerial insights to the consumer wine knowledge types identified in Paper 1 thus addressing Research question 4.
Paper 3 investigates the implications of consumer wine knowledge for exploratory purchasing behaviour thus addressing Research question 5.

Paper 4 extends the research from Papers 2 and 3 by investigating the relationship between consumer wine knowledge types and variety-seeking exploratory behaviour, thus addressing Research question 6.

And finally Paper 5 investigates the relationship between consumer wine knowledge and opinion leadership and opinion-seeking behaviours thus addressing Research question 7.

The following section reviews literature relevant to the research questions within each of the three components of the research problem. The section is followed by a discussion of the research design and methodologies used to address the research questions. This chapter ends with an overview of each paper and then Chapter 2 presents the full papers. Chapter 3 presents the findings and conclusions of this study on consumer wine knowledge and its implications for consumer purchasing behaviour for an information-intensive product such as wine. Chapter 3 concludes with a discussion of the theoretical, managerial and research implications of this research.
1.2 LITERATURE REVIEW

This section reviews literature relevant to the research questions within each of the three components of the research problem.

1.2.1 CONSTITUENTS OF CONSUMER WINE KNOWLEDGE

In this section the phenomenon of consumer knowledge is investigated and literature on its constituents explored. Literature on consumer wine knowledge specifically is evaluated in order to justify the focus of this research on the first of the specific research questions addressed in the study:

RQ1: Is there a link between objective and subjective consumer wine knowledge?

CONSUMER KNOWLEDGE

Before the late 1980s consumer knowledge was treated as a unidimensional construct (Alba & Hutchinson, 1987) and many of the early attempts to model consumer behaviour failed to distinguish between the different kinds of knowledge and used considerably different measures of consumer knowledge (Brucks, 1985). Early measures of consumer knowledge included frequency of purchase, objective tests, formal training (Alba & Hutchinson, 1987), self-reports of knowledge, memory tests,
amount of purchasing and usage experience (Brucks, 1985).

Alba and Hutchinson (1987) proposed that consumer knowledge consisted of two components, familiarity and expertise however Brucks (1985) viewed consumer knowledge from three perspective: prior experience, objective and subjective knowledge where objective knowledge is what is actually known and subjective knowledge is “what individuals perceive they know, also indicated as perceived or self-rated knowledge” (Aertsens, Mondelaers, Verbeke, Buysse & Huyslenbroeck, 2011, p. 1356).

Familiarity has more to do with the consumer’s actual experience with a topic or product and has been referred to as the number of product-related experiences accumulated by a consumer (Rao & Monroe, 1988) or as representing the accumulated number of experiences with the product (Perrouty, d'Hauteville, & Lockshin, 2006) including information search and usage (Barber, 2009). “Familiarity accumulates naturally from any product-related encounter (whether its effects are beneficial or not)” (Alba & Hutchinson, 2000, p. 123). It may therefore be developed through exposure to product information in advertising and from sales people, and from purchasing and product usage (Alba & Hutchinson, 1987). This experience forms the basis of both objective and subjective knowledge (Alba & Hutchinson, 1987; Dodd, Laverie, Wilcox, & Duhan, 2005).
In simple terms, objective knowledge is the knowledge that the individual truly possesses, and can demonstrate for example by knowing facts about a topic such as wine, and being able to answer questions about it correctly. In contrast, subjective knowledge is when individuals believe or think they know about a particular topic and these perceptions may correctly or incorrectly reflect real knowledge (e.g. Brucks, 1985). These two types of knowledge are distinct and separable constructs (Flynn & Goldsmith, 1999) worthy of further discussion and research.

**Objective knowledge**

Objective knowledge is sometimes referred to as ‘real’ knowledge, or knowledge of the ‘truth’ and is “current, accurate information stored by individuals in their long-term memory” (Veale & Quester, 2007a, p. 2109). Objective product knowledge is thus the product-related information stored in memory, such as information about brands, products, attributes, evaluations, decision heuristics, usage situations (Marks & Olson, 1981) and price (Vanhuele & Drèze, 2002). It is the knowledge the consumer has stored in memory (Barber, Dodd, & Ghiselli, 2008a; Engel et al., 1990). Consumers develop product knowledge through search and use of information as well as through experience (Howard and Sheth 1969) acquired through “advertising exposures, information search, interactions with salespersons, choice and decision making, purchasing, and product usage in various
situations” (Alba & Hutchinson, 1987, p. 441). Veale and Quester (2007a) state that this knowledge is developed as a result of cognitive learning as well as credible experience. Pechtl (2008) explains that knowledge may develop intentionally or incidentally. Incidental knowledge may be due to mere exposure to stimuli, while intentional learning occurs when consumers make a conscious attempt to memorise information e.g. the price of a product. Barber et al. (2008a) explain that internal knowledge from memory is searched before external information search behaviour occurs when consumers seek information on which to make decisions.

Objective knowledge includes both the cognitive structures and processes that determine expertise (Alba & Hutchinson, 1987). It differentiates products in ways that are useful for decision making and includes both the factual knowledge as well as how accumulated knowledge is organised (Alba & Hutchinson, 1987). Cognitive structures are graded with prototypical members of a product category being learned first thus the cognitive structures of experts and novices are different. In fact, Aurier and Ngobo (1999, p. 569) report that “experts and novices differ in the amount, content and organisation of their knowledge”. When comparing the knowledge structures and processes of novices and experts, experts:

- Will be familiar with both prototypical and atypical brands while novices will only know the prototypical brands (Alba & Hutchinson, 1987;
Wirtz & Mattila, 2003). Experts thus have larger consideration sets (Wirtz & Mattila, 2003).

- Engage in a higher degree of search activity (Selnes & Troye, 1989).
- Seek more information (Johnson & Russo, 1984) because they are aware of the relevant attributes (Alba & Hutchinson, 1987).
- Restrict their search to information that is relevant and important and are thus more efficient in their information search (Alba & Hutchinson, 1987).
- Use more attributes when evaluating competitive options (Brucks, 1985).
- Possess more refined (Hughson & Boakes, 2009) and highly developed conceptual structures, and are thus “better equipped to understand the meaning of product information” (Alba & Hutchinson, 1987, p. 418) and thus less likely to be influenced by marketing misinformation (Cowley & Janus, 2004).
- Can achieve the same level of comprehension as novices, by using fewer resources and or less cognitive effort (Alba & Hutchinson, 1987) which enhances their ability to add new information to the knowledge structure with relatively little effort including adding new alternatives to the competitive set (Wirtz & Mattila, 2003), and appreciating consumption experiences better (Ballester, Patris, Symoneaux, & Valentin, 2008).
- Prefer information in different formats to novices for example more numerical than the graphical preference of novices (Park & Kim, 2009).
Alba and Hutchinson (1987, p. 412) argue that objective knowledge reduces the cognitive effort required in decision making and improves “a consumer's ability to analyze, elaborate on, and remember product information” (Alba & Hutchinson, 1987, p. 412). Later, Alba and Hutchinson (2000) explain that objective knowledge has to do with the accuracy of knowledge. Menguc and Uray (2015) explain that consumers with objective knowledge exhibit a richness of information and more sophisticated knowledge organisation which assists these consumers to process more complex information, presentations of information and in more complex learning environments. Individuals exhibit objective knowledge on a topic when they are able to give the correct answers to questions about that topic.

Subjective knowledge

Subjective knowledge in the consumer behaviour literature refers to self-assumed knowledge, or more simply, how much one thinks he or she knows about a topic. Flynn and Goldsmith (1999, p. 59) defined subjective knowledge as “a consumer’s perception of the amount of information they have stored in their memory”. According to Alba and Hutchinson (2000), confidence reflects subjective knowledge. Thus “purchase confidence reflects consumers’ subjective evaluations of their ability to generate positive experiences in the marketplace” (Barber et al., 2008a, p. 126). Some researchers argue that because
subjective knowledge reflects confidence, it provides a better understanding of decision making (Dodd et al., 2005; Park & Lessig, 1981; Raju et al., 1995). Selnes and Grønhaug (1986) and later Park, Mothersbaugh, and Feick (1994) found that subjective knowledge was a stronger motivation of purchase-related behaviours than objective knowledge. For example, Amyx, DeJong, Lin, Chakraborty and Wiener (1994) found subjective environmental knowledge to be a “better predictor of ecological purchasing intentions than objective knowledge” (cited in Barber et al., 2009b, p. 62) and Scholder Ellen (1994) found subjective knowledge to be positively associated with more environmental behaviours such as recycling, and political action behaviours than objective knowledge.

Self-perceived experts have been found to search for less information in some product decisions (e.g. Mishra & Kumar, 2011; Moore & Lehmann, 1980) but deem more attributes to be important than novices do (Viot, 2012). They are also likely to be less accurate in their interpretation on product information collected (Alba & Hutchinson, 1987). However as Packard and Wooten (2013, p. 1) assert, “people who believe they are knowledgeable about products tend to share product information more with others”.

Brucks (1985) found that consumers with low subjective knowledge are more likely to request dealer opinions than to ask for attribute information and Hadar and Sood (2014) found that when consumers lack subjective knowledge they are more likely to purchase when there is a wide choice of brands. They explain that the effect of the number of options in the
considered set on purchasing behaviour is moderated by subjective knowledge.

Consumer researchers have given considerable academic attention to subjective knowledge and experience in particular. However, far less attention has been devoted to how managers might know and understand consumer knowledge and the relationship between the two types of consumer knowledge and use this understanding in the formulation and implementation of marketing strategies.

The relationship between objective and subjective knowledge

As subjective knowledge reflects how much an individual *thinks* he or she knows about a topic, these perceptions may correctly or incorrectly reflect objective knowledge (e.g. Brucks, 1985). Alba and Hutchinson (2000) explain that objective knowledge reflects accuracy, subjective knowledge reflects confidence and calibration is the extent of correspondence between the two. Past research on the relationship between objective and subjective knowledge presents mixed results. Some studies have found objective and subjective knowledge to be at least moderately, but significantly correlated, with the correlation coefficient $R$ typically in the range between .30 and .60 (e.g. Brucks, 1985; Flynn & Goldsmith, 1999; Forbes, Cohen, & Dean, 2008; E. Goldsmith & Goldsmith, 1997; Mueller, Francis, & Lockshin, 2008; Raju et al., 1995). A meta-analysis by Carlson, Vincent, Hardesty, and Bearden (2009) found an
overall correlation of .37 providing evidence of a significant positive relationship, which when investigated specifically for experience goods was found to be .42. Such a positive correlation indicates that “confidence is generally a valid indicator of the accuracy of knowledge” (Alba & Hutchinson, 2000, p. 130). This is supported by Forbes et al. (2008) who state that as self-ascribe knowledge relates positively to actual knowledge, subjective knowledge may be used as an indicator of consumer knowledge.

Despite these findings of a positive relationship, Alba and Hutchinson (2000, p. 130) state that

“Perhaps the most robust finding in the calibration literature is that, unless the problems are very easy, the overall mean subjective probability is greater than the overall percent correct, indicating overconfidence”.

Thus consumers tend to overestimate their knowledge and believe that they know more than they actually do (Veale & Quester, 2007a). For example in relation to environmental knowledge, Scholder Ellen (1994) found that people who believe they are knowledgeable, i.e. have high subjective knowledge, may lack adequate real environmental knowledge. Flynn and Goldsmith (1999) emphasise the importance of treating the two constructs as distinct and separately measured constructs. Brucks (1985, p. 12) also cautions that despite finding a positive correlation between subjective and objective knowledge,

“While measures of subjective knowledge are undeniably easier to use, the result obtained
may not be a valid measure of knowledge actually stored in memory. Furthermore, subjective knowledge appears to affect information processing activities differently than objective knowledge.”

According to Barber, Taylor, and Dodd (2008b) the extent to which consumers overestimate how much they know depends on the respondent’s self-confidence when it comes to wine. With regards to the relationship between these two constructs, for the financial products market, attempts to increase objective knowledge for example through education programmes, were found to actually decrease subjective knowledge which in turn decreases investing behaviour (Hadar, Sood, & Fox, 2013). Famularo et al. (2010) indicate that more research is needed on the relationship between these two constructs. The links between objective and subjective knowledge are therefore worthy of being considered by marketing decision makers, in this case, specifically in relation to wine.

CONSUMER KNOWLEDGE IN RELATION TO WINE

Subjective and objective knowledge of wine has garnered the attention of wine marketing scholars. Research by Orth (2002), in a study in the Czech Republic, found that less knowledgeable wine consumers were more likely to utilise the medals displayed on bottles as cues or as indicators of good quality when purchasing wine. In particular, these consumers employed the medals attribute as a means
to conveniently and quickly identify those wines that were good value for money, implying that awards attained can be used by marketers to target less knowledgeable consumers to reduce the risk and uncertainty they experience in their wine purchases. More recently Wiedmann, Hennigs, Henrik Behrens, and Klarmann (2014) and Bruwer and Buller (2012) found that wine consumers lacking objective knowledge use more extrinsic cues e.g. wine labels in wine purchasing decisions. In New Zealand, Beverland (2003) considered consumer knowledge with regard to the specific class of wine, finding more knowledgeable consumers to be less likely to purchase at general liquor stores or supermarkets, and are more likely to spend on better, or more expensive wine. Wine connoisseurs, who therefore possess high levels of objective consumer wine knowledge, are more able to recognise wines as being typical to a particular category based on taste and smell alone (Ballester et al., 2008) and better able to match wines to descriptors (Hughson & Boakes, 2002). These authors, who conducted their research in France, explain that contrary to novices, experts have specific, similar, mental representations of wine categories suggesting that memory structures are more complex and specific than those of novices (Alba & Hutchinson, 1987). Wine experts are more inclined to visit wineries in off-peak seasons and need to be targeted with a different winery experience e.g. extended tours, access to more special wines etc. (Nella & Christou, 2014).
Research using subjective consumer wine knowledge measures, finds that consumers with less subjective knowledge, have a narrower vision of what branding represents in relation to wine (Viot & Passebois-Ducros, 2010), use fewer attributes in wine purchase decision making (Viot, 2012), use mostly extrinsic cues (Spielmann, 2014), rely more on personal sources of information such as recommendations by friends or others (Barber et al., 2008a; Dodd et al., 2005), trust brands less (Bianchi et al., 2012) and as a result have weaker buying intentions (Kim & Bonn, 2015) and ultimately like different wines to those liked by perceived experts (King, Johnson, Bastian, Osidacz, & Leigh Francis, 2012). In addition, novices tend to place greater value on wine quality signals such as region of origin, or awards than perceived experts do (Boatto et al., 2011; Perrouty et al., 2006). Perceived wine experts on the other hand, are more likely to rely on themselves and on impersonal sources of information such as guides and adverts than recommendations by others (Dodd et al., 2005) and have been found to exhibit “lower sensitivity to expert’s opinions” (Chocarro & Cortiñas, 2013, p. 240).

Mitchell and Hall (2001) interviewed a large sample of winery visitors in New Zealand and explored the relationship between subjective consumer wine knowledge and other wine behaviour variables such as wine consumption at home, wine club participation, and median monthly wine purchases. They report that subjective consumer wine knowledge is significantly correlated with all these behaviours. These authors further argue that this relationship implies that there is also a high level of objective consumer wine
knowledge. Barber et al. (2008a) found that subjective consumer wine knowledge is more closely related to past wine experience and consumption than it is to actual consumer wine knowledge.

Research on the relationship between objective and subjective consumer wine knowledge provides mixed results with some authors finding a positive relationship (e.g. Aurier & Ngobo, 1999; Forbes et al., 2008; Robson, Plangger, Campbell, & Pitt, 2014) while others find miscalibration between what people know and what they think they know about wine (e.g. Alba & Hutchinson, 2000; Veale & Quester, 2007a). Alba and Hutchinson (1987) for example, suggest that wine consumers overestimate what they know.

Thus the first research question this study sought to answer is: **Is there a link between objective and subjective consumer wine knowledge?**

The following section presents the second component of this research i.e. the antecedents of consumer wine knowledge.
1.2.2 Antecedents of Consumer Wine Knowledge

The second component of the research problem being investigated was the antecedents or factors affecting consumer wine knowledge. In this section the factors that affect consumer knowledge are explored. Literature on various antecedents of consumer wine knowledge is evaluated in order to justify the focus of this research on the specific research question:

RQ2: What are the antecedents of consumer wine knowledge and how do they affect it?

Despite the work of Forbes et al. (2008), less attention has been given to the impact of broader demographic and other antecedent factors, such as actual wine consumption, gender, education and age, on consumer wine knowledge. Research related to the impact of these factors on consumer knowledge is explored.

Consumption and Exposure to the Product

Familiarity is defined as the number of product-related experiences accumulated by a consumer (Rao & Monroe, 1988) and thus relates to consumption. Familiarity, or past consumption of, and experience with, the product, has been found to determine both objective and subjective knowledge (Alba & Hutchinson, 1987; Dodd et al., 2005; Raju et al., 1995) although Park et al. (1994), Flynn and Goldsmith (1999) and Pechtl (2008) found it to be more associated with subjective knowledge than
objective knowledge. Alba and Hutchinson (1987) argue that increased familiarity increases the consumer’s ability to categorise products and thus increases their ability to distinguish between brands (Alba & Hutchinson, 1987). However Hoch (2002) warns that experience is overrated and while necessary for knowledge, it is not sufficient. He (2002, p. 448) explains:

“In many consumption situations, people are too trusting of what they have learned through experience, seduced by the very real nature of an ongoing stream of activity. They believe they have learned more from product experience than they actually have, trusting themselves more than partisan marketing sources. And people are not adept at recognising the diagnosticity of their consumption experiences, confusing familiarity with actual product knowledge.”

In support of this statement, Vanhuele and Drèze (2002) found with regards to price knowledge specifically, that incidental knowledge, i.e. developed from exposure to or experience with prices, exhibits weaker and less permanent memory structures than intentional learning where the consumer consciously memorises the price, thus familiarity may not necessarily lead to objective knowledge. However, more exposure has been found to increase the amount of information stored in memory (Pechtl, 2008). Thus exposure to the product via various media such as advertising, blogs, websites etc. may be expected to increase objective knowledge.
Looking specifically at wine, past experience and wine consumption, aspects of familiarity, have been found to positively affect both subjective and objective consumer wine knowledge (Aurier & Ngobo, 1999) although the correlation is much stronger with subjective consumer wine knowledge (Barber et al., 2008a; Flynn & Goldsmith, 1999). More recently however, it has been found that wine consumption is not linked to consumer wine knowledge (Latour & Latour, 2010; Robson et al., 2014; Viot, 2012). Viot (2012, p. 220) states that “many of the traditional heavy consumers of wine [in France] really did not know much more than novice consumers”. Thus the impact of consumption on knowledge seems inconclusive and thus worthy of further research.

**GENDER**

High levels of objective consumer wine knowledge have been linked to gender, although results have been mixed. For example, Forbes et al. (2008) and Forbes (2012) report that men know more about wine, while Li, Jia, Taylor, Bruwer, and Li (2011) and Robson et al. (2014) found women to have higher objective consumer wine knowledge. Subjective consumer wine knowledge has been found to be significantly higher amongst males than females (Barber et al., 2008b; Bruwer & Johnson, 2010; Forbes, 2012).
EDUCATION AND AGE

Objective consumer wine knowledge has also been found to be influenced by education and age, with older and more educated wine consumers having more objective knowledge (Forbes et al., 2008; Robson et al., 2014). Older consumers also report greater subjective consumer wine knowledge (Alonso, Fraser, & Cohen, 2007; Chrysochou, Krystallis, Mocanu, & Leigh Lewis, 2012).

Subjective consumer wine knowledge has been found to be significantly higher amongst Generation X respondents than Millennials (Barber et al., 2008a). Chrysochou et al. (2012) found that Generation Y wine preferences are driven more by their subjective knowledge than their objective knowledge.

Thus the results related to the impact of demographics on consumer wine knowledge have often been contradictory (e.g. Forbes et al., 2008; Perrouty et al., 2006) hence there is a need for further research.

Research question 2 is thus: **What are the antecedents of consumer wine knowledge and how do they affect it?**

The final and largest component of this research, the Implications of consumer wine knowledge, is covered in the following section.
1.2.3 IMPLICATIONS OF CONSUMER WINE KNOWLEDGE

Having investigated the constituents of consumer wine knowledge, objective and subjective knowledge, and the antecedents of consumer wine knowledge, this section explores the implications or impact of consumer wine knowledge on other consumer behaviours. Several research questions are covered within this section as they relate to various implications of consumer wine knowledge. The specific implications investigated include:

- implications of consumer wine knowledge for marketing strategy and particularly segmentation of the wine market,
- the effect of consumer wine knowledge on exploratory acquisition,
- the effects of the consumer wine knowledge types on variety-seeking behaviour and,
- the relationships between consumer wine knowledge and opinion leadership and opinion-seeking behaviours.

These different implications are dealt with in separate sub-sections below. Within each subsection relevant literature on the key constructs is discussed and the specific research questions developed and justified.
IMPLICATIONS OF CONSUMER WINE KNOWLEDGE FOR MARKETING STRATEGY?

Successful marketing of consumer goods requires a deep understanding of consumers and the differences between segments of consumers. From a practical perspective, marketing decision makers need to understand consumers to be able to analyze and profile segments, choose target markets and develop marketing strategies that will best align with those target markets (Walker & Mullins, 2014). In this section, the implications of consumer wine knowledge and specifically the two types of consumer knowledge, i.e. objective and subjective knowledge are explored to determine their possible use as a basis for segmentation and thus market targeting. The section begins with a discussion of the literature covering the impact of consumer knowledge on various aspects of marketing strategy. As will be evident, much of the extant literature uses either objective or subjective knowledge as the basis of the investigation which lead to the research question:

RQ3: When subjective and objective consumer wine knowledge are studied simultaneously, can they provide insight into market segmentation and target marketing?
Consumer knowledge and implications for marketing strategy

What the consumer ‘knows’ is important in every stage of the purchase decision-making process, from the time the individual recognises the need, through to defining the problem, searching for information, evaluating alternatives, making a purchase, and then consuming the product or service and entering the post-purchase phase. Consumer knowledge has been linked to information search (Beatty & Smith, 1987; Moore & Lehmann, 1980), and to information used in decision making (Brucks, 1985; Puthankurissi Raju et al., 1995). However, often the distinction between objective and subjective knowledge is not made (Flynn & Goldsmith, 1999). Thus consumer knowledge, particularly when investigated in terms of both objective and subjective knowledge, is a largely overlooked aspect of consumer behaviour. Consumer’s differing levels and types of knowledge may well be a source of potential segment differences in consumer behaviour.

Once Brucks (1985) had made the clear distinction between the three kinds of knowledge, researchers began to uncover some interesting (and sometimes contradictory) relationships between objective knowledge and or subjective knowledge and other facets of consumer purchasing behaviour. Most research has focused on either objective, or subjective knowledge and its respective relationship to various other aspects of consumer behaviour. These relationships are now explored.
Looking firstly at studies measuring objective knowledge, experts, i.e. consumers with high objective knowledge, have been found to engage in a higher degree of search activity for product-related information and use a greater number of sources (Alba & Hutchinson, 1987; Johnson & Russo, 1984; Selnes & Troye, 1989); to consider a larger number of competitors in the consideration set (Wirtz & Mattila, 2003); to consider a greater number of attributes when searching for information (Brucks, 1985); to interpret cues such as endorsements differently (Biswas, Biswas, & Das, 2006); and to possess better ability to understand and recall product information (Alba & Hutchinson, 1987; Johnson & Russo, 1984) than novices. Objective knowledge reduces the cognitive effort required in decision making and frees up resources for other activities; it improves “a consumer's ability to analyze, elaborate on, and remember product information” (Alba & Hutchinson, 1987, p. 412). Experts search activities also tend to be more efficient and productive as they can comprehend information better, know what information is relevant and what is not, and use fewer resources in the processing (Alba & Hutchinson, 1987; Johnson & Russo, 1984). However Barber et al. (2008a) state that this is not always the case as the more information the consumer has in memory, i.e. the greater their objective knowledge, the less inclined they are to search externally for information. Beverland (2003) who considered consumer knowledge with regard to a specific class of wine found that place of purchase as well as willingness to pay differed according to consumer wine knowledge. More
knowledgeable consumers tended to buy at specialist wine stores or directly from estates rather than mass retailers and they were willing to pay more.

High subjective knowledge, i.e. what a person believes they know, has been found to decrease the extent of information search in some studies e.g. Mishra and Kumar (2011) in financial services and Moore and Lehmann (1980) with non-durable products such as bread. High subjective knowledge is said to decrease the accuracy of information interpretation (Alba & Hutchinson, 1987) but increase the number of attributes deemed important (Viot, 2012) and to alter the search locations to product locations consistent with that knowledge (Moorman, Diehl, Brinberg, & Kidwell, 2004). The latter authors explain for example, that if consumers believe they know about health, this increases “the likelihood that they will locate themselves proximate to stimuli associated with that knowledge—such as healthy places in the store” (p. 673). Brucks (1985) found that consumers with low subjective knowledge are more likely to request dealer opinions than to ask for attribute information and Hadar and Sood (2014) found that when consumers lack subjective knowledge they are more likely to purchase when there is a wide choice of brands. They explain that the effect of the number of options in the considered set on purchasing behaviour is moderated by subjective knowledge.

Some have argued that as subjective knowledge reflects the consumer’s confidence, it is a better construct for understanding decision-makers’ biases (e.g. Dodd et al., 2005; Park & Lessig, 1981). For
example, Amyx, et al. (1994) found subjective environmental knowledge to be a “better predictor of ecological purchasing intentions than objective knowledge” (cited in Barber et al., 2009b, p. 62). Selnes and Grønhaug (1986) and later Park et al. (1994) also found that subjective knowledge was a stronger motivation of purchase-related behaviours than objective knowledge. High subjective knowledge has been found to decrease the extent of information search (Mishra & Kumar, 2011) and the accuracy of information interpretation (Alba & Hutchinson, 1987); to alter the search locations (Moorman et al., 2004) but increase the number of attributes deemed important (Viot, 2012); and to determine the number of alternatives considered in the competitive set (Aurier, Jean, & Zaichkowsky, 2000).

Thus understanding both objective and subjective knowledge and being able to measure these knowledge types across different segments is likely to have important implications for marketers who need to understand different segments and chose target markets whose needs they can satisfy with their marketing mixes. If marketing strategists know about consumer knowledge they can use these insights to target customer groups effectively with every aspect of the marketing mix – product and branding decisions, pricing, distribution strategy, and effective messaging in mass media, online forums, and in personal selling.

The implications of consumer knowledge have been studied in many product contexts including environmentally friendly products (e.g. Aertsens, et al., 2011; Scholder Ellen, 1994), technology products.
Looking specifically at consumer wine knowledge

Consumer wine knowledge has been found to affect the attributes consumers consider important in wine selection. For example, “Aurier and N’Gobo (1999) identify three a priori ‘novice’ attributes – colour, price and bottle design – and seven a priori “expert” attributes – AOC [Appellation d’Origine Contrôlée], region of production, estate name, ‘Bottled at the estate’, year, ‘Aged in oak barrel’ and perceived quality” (Viot, 2012, p. 223). Thus wine novices consider fewer, and different attributes in wine choice. “The order in which the attributes are considered [also] differs between expert consumers and novice consumers. Indeed, according to a European study, experts first consider the origin (region of production) then the combined brand*region effect whilst novices favour price and then the region” (Perrouty et al., 2004 cited in Viot, 2012, p. 223). Wine experts also search for more, and more relevant information and are able to filter out irrelevant wine information (Alba & Hutchinson, 1987). Wine experts are more inclined to visit wineries in off-peak seasons and need to be
targeted with a different winery experience e.g. extended tours, access to more special wines etc. (Nella & Christou, 2014). Novice wine consumers on the other hand are more likely to use attributes such as price and brand name (Park & Lessig, 1981).

Consumer wine knowledge has been found to significantly influence store choice with more knowledgeable consumers purchasing from specialist wine stores or directly from wine estates while less knowledgeable consumers purchase from supermarkets (Beverland, 2003; Forbes et al., 2008). More knowledgeable consumers were also willing to pay more (Beverland, 2003).

Looking at subjective knowledge, in some contexts, e.g. environmentally friendly products, subjective knowledge has been found to be a better predictor of purchasing behaviour (e.g. Amyx et al., 1994). However in the context of wine purchasing, a significant negative relationship between subjective knowledge and wine purchasing behaviour was found in Barber et al.’s (2009) research. Mitchell and Hall (2001) interviewed a large sample of winery visitors in New Zealand and explored the relationship between subjective consumer wine knowledge and other wine behaviour variables such as wine consumption at home, wine club participation, and median monthly wine purchases. They report that subjective consumer wine knowledge is significantly correlated with all these behaviours. Perrouty et al. (2006) studied how the prestige of a wine region of origin that a brand belongs to added value to wine purchasers and found
that it was significantly moderated by other wine attributes. These attributes were significantly more important for consumers with higher subjective knowledge. Subjective consumer wine knowledge has also been found to significantly positively relate to product involvement (.66) (Flynn & Goldsmith, 1999) and to significantly influence the extent of information search and sources used (Barber et al., 2008a; Dodd et al., 2005).

From the above discussion it seems quite possible that consumers with different levels of both objective and subjective consumer wine knowledge may represent different segments requiring entirely different marketing strategies for reaching and satisfying their wine related needs. Marketers may be able to thus further refine their strategies with the incorporation of both types of consumer knowledge.

Therefore Research question 3 is: **When subjective and objective consumer wine knowledge are studied simultaneously, can they provide insight into market segmentation and target marketing?**

Related to this is, Research question 4 is: **What managerial insights do consumer wine knowledge types provide?**

In addition to investigating the impact of consumer wine knowledge differences across segments for marketing strategy in general, this research also sought to investigate the relationships between consumer wine knowledge and several specific
consumer behaviours as further consequences or implications of consumer wine knowledge. Thus consumer wine knowledge is investigated with respect to exploratory purchasing behaviour and specifically variety-seeking exploratory behaviour as well as opinion leadership and seeking behaviours. The following sections deal with these implications.

**CONSUMER WINE KNOWLEDGE AND EXPLORATORY PURCHASING BEHAVIOUR**

The second implication investigated in this study is the relationship between consumer wine knowledge and exploratory purchasing behaviour. Exploratory acquisition of wine by purchasers is important to wine marketers and yet a key marketing challenge. Wine marketers often face buyers who are afraid or resistant to try new varietals, wine brands, or wines from new regions (Orth & Bourrain, 2005). There are thousands of grape varietals (http://www.vinodiversity.com/wine-variety-table.html), and wines are made in hundreds of different styles, in different regions with different conditions, by different wine makers under different brands. Wine consumers thus have a lot of choice. Buyers willing to undertake exploratory behaviour are more likely to try new products and brands. They seek novelty, variety and change, and will often switch brands or purchase new offerings simply to fulfil their need for change in habitual consumption purchases (Orth & Bourrain, 2005). This has important consequences for a brand’s stability, market share and
loyalty. In this section, the literature on exploratory purchasing behaviour is explored as the basis of the investigation which lead to the research question:

**RQ5:** What effect does consumer wine knowledge have on exploratory purchasing behaviour?

**What is exploratory purchasing behaviour?**

Descriptions of consumer decision-making have ranged from the explanations based on the notion of the rational consumer from classical economics to the hierarchical information-processing models. These schools of thought suggest little need or incentive for consumers to switch brands once they have found offerings that satisfy their requirements. While many marketing theories (e.g. brand loyalty theories) and psychological theories (e.g. consistency theories such as cognitive dissonance and self-perception theories) propose that consumers act in a manner consistent with previous behaviours, there is also a large body of research suggesting that consumers seek variety in their decisions (Fishbach, Ratner, & Zhang, 2011). Van Trijp, Hoyer, and Inman (1996) explain that exploratory purchasing behaviour is a form of non-purposeful behaviour which does not fit the model of purchasing proposed by the traditional consumer decision-making models. Instead of being motivated by utilitarian motives, Holbrook and Hirschman (1982) proposed an alternative hedonistic model of consumer behaviour whereby consumers seek experiences that
go beyond the mere utilitarian properties of products and services. Van Trijp et al. (1996) describe exploratory purchasing behaviour as intrinsically motivated.

Raju (1980) distinguishes between risk-taking exploratory behaviour where choices are made between unfamiliar products versus variety-seeking behaviour where brand switching occurs between familiar alternatives. These behaviours are different to information-seeking exploratory behaviour which refers to “showing interest in knowing about various products and brands mainly out of curiosity” (Ruvio & Shoham, 2007, p. 708). These different components of exploratory behaviour are evident in the studies conducted on this construct. Research has found that exploratory purchasing behaviour is exhibited through risk taking in product choices (Cox, 1967), willingness to adopt new products and brands (Baumgartner & Steenkamp, 1996; Rogers & Shoemaker, 1971; Steenkamp & Baumgartner, 1992), variety and novelty seeking behaviour (Van Trijp et al., 1996) and curiosity-motivated information acquisition (Westbrook & Black, 1985). Exploratory behaviour has been found to be related to, but a distinct construct from, innovativeness (Baumgartner & Steenkamp, 1996). Van Trijp (1995, p. 9) defines exploratory behaviour as, "the biased behavioural response by some decision making unit to a specific item relative to previous responses within the same behavioural category, due to the utility inherent in variation per se, independent of the instrumental or functional value of the alternatives or items".
Exploratory purchasing behaviour is thus important for marketers as it can have consequences for both market share and brand loyalty (e.g. Bawa, 1990; Feinberg, Kahn, & McAlister, 1992). Exploratory purchasing behaviour has been researched in a wide variety of product categories including wine purchases (Mitchell & Greatorex, 1989) however relatively few studies have specifically investigated exploratory purchasing behaviour of wine. Dodd, Pinkleton, and Gustafson (1996) investigated the information search processes of variety wine seekers versus variety avoiders and found that variety-seeking exploratory wine purchasers seek information from a greater number of sources. Orth and Bourrain (2005) report that ambient scents do not directly influence exploratory behaviour in wine retail settings.

As discussed above, wine consumers have a lot of choice, and there are endless opportunities to explore new wines, in previously untried varietals or blends, and from different countries and regions. Indeed, the opportunities for consumers to explore and purchase a variety of new wines are enormous. Prior research related to wine has considered how exploratory wine purchasing behaviour is influenced by opinion-seeking behaviour as well as wine involvement (e.g. Goldsmith et al., 1997), but little has been done to understand how the combination of consumer objective and subjective consumer wine knowledge influences exploratory behaviour in wine purchasing.
Consumer wine knowledge and exploratory purchasing behaviour

Although Mitchell and Hall (2004) argue that knowledgeable wine tourists have a higher propensity for brand loyalty, Alba and Hutchinson (1987) suggest that in cognitive knowledge development, experts have more abstract categorisation than novices and “the failure of consumers to appreciate the more abstract levels of categorisation is likely to limit the number of products that are considered to be substitutive” (Alba & Hutchinson, 1987, p. 416). Thus consumers with greater objective consumer wine knowledge may be more inclined to engage in exploratory behaviour with regards to wines. This was certainly found to be the case with medical services and Wirtz and Mattila (2003, p. 658) concluded that higher objective knowledge might “induce switching and variety-seeking behaviours”. Alba and Hutchinson (1987, p. 416) also propose that the deeper category structures possessed by experts should enable them “to generalise specific product information appropriately (i.e., by neither overgeneralising nor undergeneralising)”. It may be ‘safer’ for experts to engage in exploratory behaviour than it is for novices because the chance of error for novices is greater. This argument is support by Wirtz and Mattila (2003). They argue that as expert’s category structures more accurately reflect the product or service category market conditions this enables more accurate distinguishing of alternatives in the market. In turn, this reduces the perceived risk and switching costs and may therefor lead to less brand loyalty. Wine
purchases have been described as highly risk-sensitive purchases involving functional, economic, social and psychological risks (Mitchell & Greatorex, 1988) thus if knowledge can reduce the perceived risk then it may be expected that a higher level of objective knowledge of wine would result in higher exploratory purchase behaviour of wine.

As was found in Paper 1, objective and subjective knowledge are not the opposite ends on a continuum but separate and distinct constructs that may be strongly or weakly correlated depending on the degree to which subjective knowledge correctly or incorrectly reflects objective knowledge. Moreover, Barber et al. (2008a) found that subjective consumer wine knowledge is more closely related to past wine experience and consumption than it is to actual consumer wine knowledge. Subjective knowledge has been closely linked to decision making (Dodd et al., 2005; Park & Lessig, 1981) and in the marketing of green products (Barber et al., 2009b) and organic vegetables (Aertsens et al., 2011) it has been found to be a better predictor of purchasing behaviour. Therefore it may be expected that a higher level of subjective knowledge of wine would result in higher exploratory purchase behaviour of wine. Thus Research question 5 was: **What effect does consumer wine knowledge have on exploratory purchasing behaviour?**

Given that consumer wine knowledge types exist as separate consumer segments with different characteristics, as established in Papers 1 and 2, the
next research question was Research question 6: **What effect do consumer wine knowledge types have on variety-seeking behaviour?**

In the following section, the literature on variety-seeking behaviour, a particular form of exploratory purchasing behavior, is explored as the basis of the investigation which led to the research question.

**CONSUMER WINE KNOWLEDGE TYPES AND VARIETY-SEEKING EXPLORATORY PURCHASING BEHAVIOUR**

The implication of consumer wine knowledge investigated in this section is the relationship between consumer wine knowledge types (established in Paper 1) and variety-seeking behaviour, a particular type of exploratory purchasing behaviour.

**Variety-seeking exploratory purchasing behaviour**

As mentioned above in relation to exploratory purchasing behaviour, variety-seeking behaviour is one aspect of exploratory acquisition behaviour (Van Trijp et al., 1996). Hoyer and Ridgway (1984, p. 114) explain that variety-seeking behaviour stems from the need for stimulation i.e. “as stimulation (complexity, arousal, etc.) falls below the ideal level, an individual becomes bored and attempts to produce more
stimulating input (through behaviours such as exploration and novelty seeking)".

It is important to differentiate this variety-seeking behaviour based on an inherent desire for variety, from induced variety-seeking behaviour where external factors such as a promotion or the stockout of a product induces switching (Kahn, Kalwani, & Morrison, 1986). Similarly, Van Trijp et al. (1996) note variety-seeking behaviour is different from derived variety behaviour, which is activated simply by the instrumental or functional value of the alternatives (Berné, Múgica, & Yagüe, 2001; Givon, 1984; McAlister & Pessemier, 1982). To give a simple example for wine: Derived variety behaviour would occur when a consumer of a brand of Italian Barbaresco red wine finds an alternative brand of Barbaresco from the same region that contains no sulphur at a similar price. Variety-seeking behaviour in the same instance would be when our Barbaresco consumer sees a new brand of a Spanish Tempranillo-Grenache blend and decides to purchase it because it is new, looks interesting and s/he has not tried it before. Raju (1980) distinguishes between variety-seeking behaviour where brand switching occurs between familiar alternatives, and risk-taking exploratory behaviour where choices are made between unfamiliar products.

Variety-seeking behaviour as a particular aspect of exploratory purchasing behaviour is defined as consumers switching between brands because of the utility derived from the switch itself (Kahn et al., 1986;
Meixner & Knoll, 2012). It is thus an intrinsic individual characteristic (McAlister & Pessemier, 1982) which reflects the need for diversity (Beldona, Moreo, & Das Mundhra, 2010), novelty, change and variety and often results in brand switching (Orth & Bourrain, 2005). Punj (2011, p. 745) explains that the variety-seeking construct is usually described as “low-effort, feeling-based behaviours with hedonic undertones”.

Ratner, Kahn, and Kahneman (1999) explain that variety-seeking behaviour is a social norm in individualistic cultures such as the US. This behaviour has also been found to be product-category specific (Kahn et al., 1986; Van Trijp et al., 1996). In other words, consumers may seek variety in their purchases of some types of products but not others. Not surprisingly, previous research on variety-seeking behaviour has indicated that people with a high need for variety are more likely to engage in variety-seeking behaviour than those with a low need for variety (e.g. Baumgartner & Steenkamp, 1996; Steenkamp & Baumgartner, 1992).

Marketing practitioners have sought to understand variety-seeking behaviour among their customers because of its negative implications for customer retention (Berné et al., 2001) and brand loyalty (Kahn et al., 1986; Shirin & Puth, 2011) but also because in many cases this can be a useful way of identifying segments in target markets (Michaelidou, 2012). Variety-seeking behaviour has been found to be a useful segmentation variable for the tourism industry (Legohérel, Daucé, & Hsu, 2012; Legohérel, Hsu, &
Daucé, 2015) and has been studied in relation to food (Grünhagen, Dant, & Zhu, 2012; Mak, Lumbers, Eves, & Chang, 2012), recreation (Borgers, Van Der Heijden, & Timmermans, 1989), holiday destinations (Gnoth et al., 2009), cars (Shirin & Puth, 2011), calculators (Ram & Jung, 2015), mobile app usage (Hoyer and Ridgway, 1984), transport (Schüssler & Axhausen, 2011), political conservativism (Fernandes & Mandel, 2014) and with regard to chronically indecisive consumers (Jeong & Drolet, 2014).

**Variety-seeking exploratory behaviour and wine**

Since variety-seeking behaviour is product-specific (Van Trijp et al., 1996) and has been found to be more pronounced for hedonic products (Inman, 2001) such as wine (Mantonakis, Galiffi, Aysan, & Beckett, 2013), it can be argued that understanding variety-seeking exploratory purchasing behaviour of wine by consumers is important for wine marketers and could provide valuable insight into brand stability, market share and consumer loyalty. Prior research related to wine has considered how exploratory wine purchasing behaviour is influenced by opinion-seeking behaviour as well as wine involvement (e.g. Goldsmith et al., 1997). A study by Hussain, Cholette, and Castaldi (2007) found that more knowledgeable wine consumers seek variety in their purchases however the study does not specify the measure of knowledge used. Johnson and Bruwer (2004) however found that while some knowledgeable wine consumers experiment and seek variety in their purchases, others are
conservative. Clarkson, Janiszewski, and Cinelli (2013) found that both novices and experts seek different kinds of novel consumption experiences with novices seeking to broaden the consumption knowledge in the category while experts seek to deepen their product-category knowledge. Thus relatively little has been done to understand how the combination of objective and subjective consumer wine knowledge influences variety-seeking exploratory behaviour in wine purchasing.

This study extends previous work by Vigar-Ellis, Pitt, and Caruana (2015) and Vigar-Ellis, Pitt, and Berthon (2015) to determine the impact of consumer wine knowledge types (experts, snobs, modests and neophytes) on variety-seeking behaviour. Knowledge types represent a combination of subjective and objective knowledge.

The final implication of consumer wine knowledge that is investigated in this study is the impact of consumer wine knowledge on opinion leadership and opinion-seeking behaviours. In the following section, the literature on these constructs is explored as the basis for the investigation which led to the final research question.
CONSUMER WINE KNOWLEDGE AND OPINION LEADERSHIP AND OPINION-SEEKING BEHAVIOURS

The final implication investigated in this study is the relationship between consumer wine knowledge and opinion leadership and opinion-seeking behaviours. As mentioned in the introduction to this chapter, wine is an experience good, difficult to evaluate prior to purchase, and thus consumers rely more heavily on the recommendations of others (Chocarro & Cortiñas, 2013). As a result, opinion leaders offer opinions about wine, and opinion seekers seek the views of others. Similarly, there are consumers who are very knowledgeable about wine, and also, consumers who just think they are knowledgeable about wine. Thus the final research question was:

RQ7: What is the relationship between consumer wine knowledge and opinion leadership and opinion-seeking behaviours?

Why do opinions matter?

Wine is a product for which opinions matter a lot. As mentioned above there are thousands of wine varietals and wine is grown in almost all the nations of the world, using different wine making styles. Wine is also an information-rich product. Unlike something as mundane as soap or salt, a lot can be said about a bottle of wine.

Wine is also an experience good, difficult to evaluate prior to purchase (Chocarro & Cortiñas, 2013), thus
increasing consumer’s perceived risk and their use of risk-reducing strategies (Johnson & Bruwer, 2007). One such strategy is more heavy reliance on the recommendations of others (Chocarro & Cortiñas, 2013). Wine can therefore also be described as a complicated product (Johnson & Bruwer, 2007) and as a result, opinion leaders offer opinions about wine, and opinion seekers seek the views of others. Similarly, there are consumers who are very knowledgeable about wine, and also, consumers who just think they are knowledgeable about wine. Yet the interplay between opinion leadership and opinion seeking on the one hand, and consumer wine knowledge, both objective and subjective, has received scant attention by wine marketing researchers.

**Opinion leadership**

Opinion leadership is something marketers care about because opinion leaders provide information about products and services, in the form of their opinions to others, and in doing so influence their decisions to purchase (Sarathy & Patro, 2013). Wine critics such as Robert Parker of The Wine Advocate, Janice Robinson of the Oxford Companion to Wine and Tasting Pleasure, Clive Coates of The Wine and Steve Tanzer of The International Wine Cellar can make or break wine sales (Chocarro & Cortiñas, 2013). Similarly sommeliers in restaurants have been found to have a significant impact on wine sales (Dewald, 2008). However opinion leaders need not be celebrities or trained experts.
Opinion leadership represents a specific form of word-of-mouth communication. It is the informal influence that one person (the opinion leader) has on the actions of opinion seekers or receivers (Schiffman et al., 2014). Ruvio and Shoham (2007, p. 704) define opinion leadership as the “behavioural tendency and ability to influence the purchase decisions of others”. Opinion leaders can provide communication that may be positive or negative, factual or subjective, experience-based opinions (Shoham & Ruvio, 2008). As a result they are perceived to be more credible (Allsop, Bassett, & Hoskins, 2007) and can reduce the perceived risk or anxiety that opinion seekers experience when undertaking complex purchases (Bruwer & Thach, 2013). Opinion leaders have been found to be particularly persuasive when their recommendations are based on experience attributes, especially if the product is complex (Jain & Posavac, 2001).

Given the personal influence attributed to opinion leaders, marketers and researchers often seek to better understand these consumers and their influences so as to effectively target them as a consumer segment (Corey, 1971). Opinion leadership research amongst social scientists dates back to 1948 with the early work by Lazarsfeld, Berelson, and Gaudet (1948), Katz and Lazarsfeld (1955) and the seminal innovation scholar, Rogers (1961). Rogers and Cartano (1962, p. 435) first defined opinion leaders as “individuals who exert an unequal amount of influence on the decisions of others”. Given its importance, opinion leadership has been studied in
diverse contexts that include: electronic word-of-mouth (e.g. Chen, Rubens, Anma, & Okamoto, 2012; Li & Du, 2011) fashion (e.g. Cho & Workman, 2011; Cowan & Dai, 2014), real estate (e.g. Sarathy, 2011), climate change (e.g. Nisbet & Kotcher, 2009) and brand communities (e.g. Kaufmann, Correia Loureiro, Basile, & Vrontis, 2012).

Moreover, opinion leadership has been found to be positively related to consumer innovativeness (Goldsmith & Hofacker, 1991; Sarathy, 2011; Shoham & Ruvio, 2008), market maveness (Ruvio & Shoham, 2007), exploratory behaviour (Goldsmith & d'Hauteville, 1998), and specifically the tendency to try new products, an aspect of exploratory purchasing behaviour (Ruvio & Shoham, 2007). Opinion leadership has also been found to be positively related to product knowledge (Cowan & Dai, 2014; Sarathy, 2011; Sarathy & Patro, 2013), multi-channel fashion shopping behaviour (Cho & Workman, 2011), blogging behaviour (Segev, Villar, & Fiske, 2012), stronger brand communities (Kaufmann et al., 2012) and the diffusion of information early in a new product’s life cycle (Ruvio & Shoham, 2007). Opinion leaders use different sources of information compared to opinion seekers (Shoham & Ruvio, 2008). They read more, are more knowledgeable of new product developments in a category and participate more in related consumer activities (Corey (1971). Opinion leadership is product or at least category specific (King & Summers, 1970; Ruvio & Shoham, 2007).

In the specific context of wine, opinion leaders have been found to be significantly heavier consumers of
wine than opinion seekers (Chaney, 2001; Goldsmith & d'Hauteville, 1998) and use wine reviews as an information source to a far greater extent than other consumers do. The experiential nature of wine makes it difficult for consumers to evaluate the product prior to purchase (Barber et al., 2009a). However, wine opinion leaders are known to have a strong effect or influence on opinion seekers decisions (Senecal & Nantel, 2004). It has been reported that, not only do opinion leaders influence wine purchase decisions but they also impact the sensory experiences of the wine among opinion seekers at the time of consumption (Siegrist & Cousin, 2009).

**Opinion seeking**

Opinion seeking has received less attention than opinion leadership in the marketing literature (Shoham & Ruvio, 2008). However, the very nature of opinion leadership suggests the existence of opinion seekers. Flynn, Goldsmith, and Eastman (1996, p. 138) define opinion seeking as occurring when “individuals search out advice from others when making purchase decisions”. Seeking information and advice from others is one way to reduce perceived purchase risk (Arndt, 1967). This is particularly relevant to wine purchases where, given the large array of products and brands on offer, a number of perceived risk types exist (Aqueveque, 2006; Bruwer & Lesschaeve, 2012; Bruwer & Rawbone-Viljoen, 2013; Mitchell & Greatorex, 1988). It is important to note that the two behaviours, opinion leadership and opinion seeking,
are not necessarily mutually exclusive. Research evidence however, is not unanimous on this point (Shoham & Ruvio, 2008). Some studies have found weak positive correlations between opinion leadership and opinion-seeking behaviour, e.g. in fashion (e.g. Bertrandias & Goldsmith, 2006; Clark, Zboja, & Goldsmith, 2007). In the fashion sector, Shoham and Ruvio (2008) suggest that this may be due to the high involvement of customers with such purchases. These authors hold “that the two are distinct constructs” (p289) and report a moderate but negative correlation with regards to purchases of computer and software. It is entirely possible for an individual to be both an opinion leader and an opinion seeker across different product categories (Engledow, Thorelli, & Becker, 1975) as opinion leadership has been reported to be domain or product-specific (Flynn et al., 1996; Ruvio & Shoham, 2007). Thus an opinion leader in a particular domain may seek out the opinions of others in a different domain.

Bruwer and Thach (2013) report that word-of-mouth, often obtained from opinion leaders, is the primary source of information used by visitors to a USA wine region while Aqueveque (2006) found that wine experts significantly reduced opinion seekers’ perceived risk and increased their intention to purchase wine. Young wine consumers, particularly those seeking the image or status of drinking the ‘right’ wine, are most likely to engage in opinion-seeking behaviour (Riviezzo, De Nisco, & Garofano, 2011).

Thus Research question Q7 was: What is the relationship between consumer wine knowledge
and opinion leadership and opinion-seeking behaviours?

The following section describes the research design and methods used to address the research problem.
1.3 Methodology to Address the Research Problem

This section outlines and justifies the methodology used to address the research problem.

1.3.1 Research Design and Approach

Hair, Money, Samouel, and Page (2007, p. 151) advise that the principle of parsimony should apply in the selection of the research design and that “the researcher should choose a design that (1) will provide relevant information on the research questions / hypotheses, and (2) will complete the job most efficiently”. As this study sought to investigate the relationships between the constituents of consumer wine knowledge, the impact of antecedent variables on consumer wine knowledge and the relationships between consumer wine knowledge and various other consumer behaviours, a quantitative research approach was chosen. In quantitative research, structured methods of data collection enable the isolation of variables, the extraction of objective data which consists of numbers, and the use of empirical and inferential methods (Welman, Kruger, & Mitchell, 2005). Quantitative data can be statistically analysed and leads to relatively objective results (Hair et al., 2007). The quantitative approach is commonly used in research on the constructs relevant to this study. For example, quantitative designs have been used in the study of consumer knowledge (e.g. Bruwer & Buller, 2012; Flynn & Goldsmith, 1999; Mishra &
Kumar, 2011; Raju et al., 1995) and particularly when assessing the impact of various demographic factors on consumer knowledge (e.g. Brunner & Siegrist, 2011; Bruwer & Buller, 2012; Forbes, 2012; Lopes et al., 2014; Nuebling, Behnke, & Hammond, 2014). Studies of exploratory behaviour (e.g. Ruvio & Shoham, 2007; Van Trijp et al., 1996); variety-seeking behaviour (e.g. Fishbach et al., 2011; Meixner & Knoll, 2012; Olsen, Atkin, Thach, & Cuellar, 2014) and opinion leadership and seeking behaviours (e.g. Clark et al., 2007; Rogers & Cartano, 1962; Ruvio & Shoham, 2007; Sarathy & Patro, 2013; Van Trijp et al., 1996) have all used the quantitative approach.

Research design is the blueprint for fulfilling objectives and providing insight into the management dilemma (Blumberg, Cooper, & Schindler, 2008). The research design chosen to address this research problem was descriptive. Descriptive research design has two primary aims: firstly to explain phenomena and secondly to predict behaviour (Welman et al., 2005). Since the research aimed to better understand the consumer wine knowledge construct, in terms of its constituents, antecedents and relationships with other consumer behaviours, this research design was deemed appropriate. A descriptive research design allows a researcher to determine if relationships exist between the variables in question (Aaker, Kumar, & Day, 1998). In this research the variables were the constituents of consumer wine knowledge, the antecedents and the various other consumer behaviours such as exploratory purchasing, variety-
seeking, opinion leadership and opinion-seeking behaviours.

To address the seven research questions, two separate studies were conducted within the quantitative, descriptive research design. Study 1 sought to understand the constituents and antecedents of consumer wine knowledge. In Study 1, Research questions 1 to 4 were addressed. Study 2 focused on the relationships between consumer wine knowledge and other aspects of consumer behaviour thus addressing Research questions 5 to 7.

### 1.3.2 Sample Selection and Data Collection Methods

For both studies, data was collected using MTurk, Amazon.com’s online marketplace for respondents. Requesters (researchers) post tasks known as HITs (Human Intelligence Tasks), such as completing a questionnaire, rating ads, or taking part in experiments, and respondents or ‘workers’ (called Providers on MTurk) can then select tasks and complete them for a small monetary payment. In order to stratify samples, the researcher can stipulate that workers/respondents meet particular requirements before employing them, and can construct filters to verify these. They can also accept or reject the result sent by the worker, which reflects on the worker’s reputation, and means that they might or might not get more work in the future. While
respondents can have an address anywhere in the world, for this research samples were selected only from US residents. Respondents also had to be wine drinkers. The US wine market is the largest in terms of total volume, mass-market wine consumption and one of the fastest growing wine markets in the world (Bruwer & Thach, 2013; de la Hamaide, 2014) thus making it an ideal market in which to investigate consumer wine knowledge. Using MTurk to recruit subjects for social-science experiments has recently received considerable attention by scholars (e.g. Buhrmester, Kwang, & Gosling, 2011; Goodman, Cryder, & Cheema, 2013; Minton, Gurel-Atay, Kahle, & Ring, 2013; Paolacci, Chandler, & Ipeirotis, 2010). In the USA at least, the general conclusion is that the samples of respondents obtained through MTurk are not wildly inaccurate or skewed by comparison to USA population characteristics, are not more deficient than any other means of Internet-based surveys (and are in many ways better) and are probably at least comparable to traditional mail surveys. The cost of MTurk is also generally much lower than other means of conducting surveys. Respondents were offered $1 to complete the surveys.

At this point the two studies are discussed separately. For each study, the sample, questionnaire design and construct measures, data analyses performed and reliability and validity of each study are discussed.
1.3.3 STUDY 1

In Study 1, 218 consumers completed the survey within the predetermined two-day period. Data from 31 respondents were discarded due to evidence that they were not paying attention, or taking sufficient time while completing the survey. Questionnaires that were completed in less than three minutes (MTurk has a timing facility) were rejected because this was not possible to do if the respondent read each item carefully. As a result, a usable sample of 187 respondents was retained.

QUESTIONNAIRE DESIGN AND CONSTRUCT MEASURES

Consistent with the quantitative, descriptive research design, a questionnaire was designed to measure the relevant constructs. The questionnaire consisted of three sections measuring objective and subjective wine knowledge and information related to the potential antecedent variables which included age, gender, number of wine blogs regularly read, education level, and number of bottles of wine consumed in an average two-week period.

Increased attention paid to consumer knowledge has lead consumer researchers to develop measures of both types of knowledge. A general conclusion from the consumer knowledge research is that it is easier to measure subjective knowledge than objective
knowledge (Brucks, 1985). Whereas the measurement of objective knowledge requires the setting up of a test with right and wrong answers that is robust enough to distinguish the genuinely more knowledgeable consumer from the less knowledgeable, it is possible to construct a more generic scale to measure subjective knowledge that can be applied across a range of different product and service categories.

**Objective knowledge**

Objective or ‘real’ knowledge is knowledge that the individual truly possesses, and is able to demonstrate, for example by knowing facts about a topic such as wine, and being able to answer questions about it correctly. It can be measured by tests to which there are correct answers and by definition can be objectively scored. While other measures of objective wine knowledge have been developed (e.g. Veale & Quester, 2007a), the more recent measure by Forbes et al. (2008) was used. The items in this measure adopt a multiple-choice format where each question is assessed as either correct (one mark) or incorrect (zero marks) and summed across the five questions, meaning that the lowest score possible was zero marks and the highest, five marks. The scale items are presented in Table 1.1 below.
### Table 1.1 Objective wine knowledge scale (Forbes et al., 2008)

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer Choices</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Which of the following is a red wine?</td>
<td>Riesling, Chardonnay, Merlot, Sauvignon Blanc, Don’t know</td>
</tr>
<tr>
<td>2. A peppery character is most associated with which wine?</td>
<td>Merlot, Shiraz/Syrah, Semillion, Pinot Noir, Don’t know</td>
</tr>
<tr>
<td>3. Which grapes are never used to make Champagne?</td>
<td>Chardonnay, Riesling, Pinot Noir, Pinot Meunier, Don’t know</td>
</tr>
<tr>
<td>4. Which is not a famous French wine region?</td>
<td>Bordeaux, Champagne, Rheingau, Alsace, Don’t know</td>
</tr>
<tr>
<td>5. Which is the name of New Zealand’s famed Sauvignon Blanc region?</td>
<td>Kapiti, Hawkes Bay, Waipara, Marlborough, Don’t know</td>
</tr>
</tbody>
</table>
Subjective knowledge

Subjective knowledge scales require respondents to indicate their perceptions of how much they know (or don't know) about a particular product or service category, and as such, have no ‘right’ or ‘wrong’ answers. Flynn and Goldsmith (1999, p. 59) defined subjective knowledge as “a consumer’s perception of the amount of information they have stored in their memory”. In a rigorous scale development process, following the approach suggested by Churchill (1979), these authors constructed a self-report measure of a consumer’s perceptions of their own subjective knowledge on a topic that can be adapted to various contexts. The scale has been demonstrated to be unidimensional whereby scores on individual items can be summed to produce a composite measure of subjective knowledge about a topic. The measure is also free from methodological confounds and is easy to use. It exhibits Cronbach alpha coefficients of reliability that have ranged from .80 (Forbes et al., 2008) through .82 (Bruner, James, & Hensel, 2001) to .89 (Flynn and Goldsmith, 1999). Evidence for aspects of internal validity is provided in Flynn et al. (1996) with high positive correlations reported between subjective knowledge and opinion leadership, innovativeness and product involvement (Bruner et al., 2001).

While other measures of subjective knowledge have been developed (e.g. Perrouty et al., 2006), adaptations of the Flynn and Goldsmith (1999) scales are the most commonly used in wine-related research (e.g. Barber et al., 2008a; Johnson & Bastian, 2015;
Viot, 2012; Viot & Passebois-Ducros, 2010). A nine-item scale adapted for wine directly from the Flynn and Goldsmith’s (1999) general measure of subjective consumer knowledge was therefore used to measure subjective wine knowledge. Table 1.2 below presents the items in this scale below.

**Table 1.2 Subjective wine knowledge scale (Flynn & Goldsmith, 1999)**

<table>
<thead>
<tr>
<th>I know pretty much about wine.</th>
</tr>
</thead>
<tbody>
<tr>
<td>I know how to judge the quality of a bottle of wine.</td>
</tr>
<tr>
<td>I think I know enough about wine to feel pretty confident when I make a purchase.</td>
</tr>
<tr>
<td>I do not feel very knowledgeable about wines. (R)</td>
</tr>
<tr>
<td>Among my circle of friends, I’m one of the ‘experts’ on wines.</td>
</tr>
<tr>
<td>I have heard of most of the new wines that are around.</td>
</tr>
<tr>
<td>Compared to most other people, I know less about wines. (R)</td>
</tr>
<tr>
<td>When it comes to wine, I really don’t know a lot. (R)</td>
</tr>
<tr>
<td>I can tell if a bottle of wine is worth the price or not.</td>
</tr>
</tbody>
</table>

*Note: All scale items measured using 7-point Likert scales anchored by Strongly Disagree and Strongly Agree. (R) = Reverse scored*
The presentation of items within each scale was randomised to reduce order effects. Several questions measuring respondent attention were included to ensure reliability of the resulting data (for example, a simple instruction that read, “In response to this question, simply tick ‘3’ on the scale provided”).

**DATA ANALYSIS**

It is to be noted that in the case of objective knowledge a single score for each respondent was computed on the number of correctly answered questions from the five multiple-choice items that made up the measure. A factor analysis of the subjective wine knowledge scale revealed that it loaded onto a single factor thus the scores on the items could be added together to result in a total score of ‘subjective wine knowledge’ for an individual.

To investigate the relationship between the constituents of consumer wine knowledge, and thus address **RQ1: Is there a link between objective and subjective consumer wine knowledge?**, correlations between objective and subjective wine knowledge scores were calculated.

To investigate the predictive ability of the antecedents on wine knowledge, and thus address **RQ2: What are the antecedents of consumer wine knowledge and how do they affect it?**, a regression analysis was performed. Hair et al. (2007) explain that regression analysis is probably the mostly widely used
analytical technique for investigating linear relationships between two or more variables. It allows the researcher to investigate the predictive ability of the independent variables on the dependent variable (Pallant, 2010). The possible antecedent variables investigated in this study included subjective wine knowledge, age, gender, number of wine blogs regularly read, education level, and number of bottles of wine consumed in an average two-week period.

Finally, in order to explore segments based on both objective and subjective knowledge possessed by the respondents, and thus address RQ3: When subjective and objective consumer wine knowledge are studied simultaneously, can they provide insight into market segmentation and target marketing? and RQ4: What managerial insights do consumer wine knowledge types provide?, the sample was split into four groups, based on their levels of subjective and objective wine knowledge. A median split on both facets of knowledge was used in order to create ‘Low’ and ‘High’ divisions on subjective and objective knowledge. The median score on the objective knowledge test was 2, and on the subjective knowledge scale, 34, so that respondents who scored below these medians were rated ‘Low’, and those who scored above, ‘High’.

This made it possible to identify four ‘wine knowledge types’: those who scored low on both facets, labeled ‘Neophytes’; those who scored high on subjective knowledge, but low on objective knowledge, labeled ‘Snobs’; those who scored low on subjective knowledge, but high on objective knowledge, labeled
'Modests’; and those who score high on both facets, labeled ‘Experts’. A wine knowledge type grid was thus developed.  

**RELIABILITY AND VALIDITY**  

Several questions measuring respondent attention were included to ensure reliability of the resulting data (as mentioned above for example, a simple instruction that read, “In response to this question, simply tick ‘3’ on the scale provided”). The subjective wine knowledge scale recorded an alpha coefficient (Cronbach, 1951) of .93, which suggests very good internal consistency reliability for the scale (Pallant, 2010).  

To investigate the validity of the measures the nine items of the subjective knowledge scale, as well as the overall objective wine knowledge score were subjected to a principal component factor analysis followed by a varimax rotation. Factor analysis uses the correlations in the data collected for the different measures to determine a set of common underlying dimensions, known as factors. A varimax rotation presumes that the constructs are primarily orthogonal. The results indicate that the items for the different constructs load separately and distinctively onto the two factors that correspond to the two constructs in the study providing support for convergent and discriminant validity.
DATA PRESENTATION

The results of this study are reported in Papers 1 and 2.


The full papers are presented in Chapter 2.

1.3.4 Study 2

As mentioned above, the second study investigated the relationships between consumer wine knowledge and various other consumer behaviours thus addressing Research questions 5 to 7. For the second study, the survey was closed once 300 responses had been submitted. This took just under three days and of the 300 submitted questionnaires we were able to use 225, for a useable response rate of 75%. Because we paid all 300 respondents, our cost per usable response was around $1.33 each.
QUESTIONNAIRE DESIGN AND CONSTRUCT MEASURES

Again consistent with the quantitative, descriptive research design, a questionnaire was designed to measure the relevant constructs. The questionnaire consisted of six sections measuring objective and subjective consumer wine knowledge, exploratory purchasing, and opinion leadership and seeking behaviours and information on four demographic variables, namely: age, gender, education and average wine consumption (in bottles) per week.

Objective knowledge

In this study objective knowledge was operationalised by adapting the Forbes et al. (2008) multiple-choice objective wine test, with each question only having a single correct answer. Five questions relevant to the US wine industry were added to create a ten-item scale. This meant that the maximum score a test-taker could obtain was ten and the minimum zero. Table 1.3 below presents the items used in this test.
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer Choices (Correct choice in <em>italics</em>)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Which of the following is a red wine?</td>
<td>Riesling Chardonnay  <em>Merlot</em> Sauvignon Blanc Don’t know</td>
</tr>
<tr>
<td>A peppery character is most associated with which wine?</td>
<td>Merlot  <em>Shiraz/Syrah</em> Semillion Pinot Noir Don’t know</td>
</tr>
<tr>
<td>Which grapes are never used to make Champagne?</td>
<td>Chardonnay  <em>Riesling</em> Pinot Noir Pinot Meunier Don’t know</td>
</tr>
<tr>
<td>Which is not a famous French wine region?</td>
<td>Bordeaux Champagne  <em>Rheingau</em> Alsace Don’t know</td>
</tr>
<tr>
<td>Which is the name of New Zealand’s famed Sauvignon Blanc region?</td>
<td>Kapiti Hawkes Bay Waipara  <em>Marlborough</em> Don’t know</td>
</tr>
<tr>
<td>Which state in the USA grows more Riesling than any other and is home to the world's largest Riesling producer, Chateau Ste. Michelle?</td>
<td>California Oregon  <em>Washington</em> New York Don't know</td>
</tr>
<tr>
<td>Question</td>
<td>Options</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Which of the following red wine grapes originated in South Africa and is used to make red wine there? | Tempranillo  
Nebbiolo  
Cabernet Franc  
**Pinotage**  
Don't know |
| What red wine grape is Chile most famous for?                           | Malbec  
**Carmenere**  
Zinfandel  
Syrah  
Don't know |
| When grapes are affected by Botrytis Cinerea, the wines that are made from them are | Very dry  
Spoiled  
**Very sweet**  
Very high in alcohol  
Don't know |
| Who is the largest producer of wine in the USA?                         | **E&J Gallo**  
Robert Mondavi  
Opus One  
Kendall-Jackson  
Don't know |

**Subjective knowledge**

Subjective wine knowledge was measured using an eight-item scale adapted from Flynn & Goldsmith’s (1999) scale. As subjective knowledge scales require respondents to indicate their perceptions of how much they know (or don't know) about a particular product or service category, there are no ‘right’ or ‘wrong’ answers. Table 1.4 presents the items in this scale.
Table 1.4 Subjective wine knowledge scale (adapted from Flynn & Goldsmith, 1999)

<table>
<thead>
<tr>
<th>Item</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel quite knowledgeable about wine</td>
<td></td>
</tr>
<tr>
<td>Among my friends, I’m one of the “experts” on wine</td>
<td></td>
</tr>
<tr>
<td>I rarely come across a wine that I haven’t heard of</td>
<td></td>
</tr>
<tr>
<td>I know pretty much about wine</td>
<td></td>
</tr>
<tr>
<td>I do not feel very knowledgeable about wine (R)</td>
<td></td>
</tr>
<tr>
<td>Compared to most other people, I know less about wine (R)</td>
<td></td>
</tr>
<tr>
<td>When it comes to wine, I really don't know a lot (R)</td>
<td></td>
</tr>
<tr>
<td>I have heard about most of the new wines that are around</td>
<td></td>
</tr>
</tbody>
</table>

Note: All scale items measured using 7-point Likert scales anchored by Strongly Disagree and Strongly Agree. (R) = Reverse scored

Exploratory purchasing behaviour

A number of measures have been developed to assess exploratory purchasing behaviour. The six-item Exploratory Consumer Tendencies (ECT) scale developed by Van Trijp et al. (1996) measures
respondents’ need for variety or willingness to make exploratory purchases, with regard to wine. This is essentially a shortened version of the consumer-specific Exploratory Acquisition of Products (EAP) scale of Baumgartner and Steenkamp (1996) that purports to gauge a consumer's “tendency to seek sensory stimulation in product purchase through risky and innovative product choices and varied and changing purchase or consumption experiences” (Baumgartner and Steenkamp, 1996, p. 6). Van Trijp (1995, p. 7) states that the EAP-derived scale “bears high similarity with our concept of variety-seeking tendency” and is therefore a good alternative to the VARSEEK scaled developed specifically for variety-seeking behaviour with regards to foods. Van Trijp et al. (1996) report a unidimensional structure and an alpha coefficient (Cronbach, 1951) of .79 for their ECT scale. The items in this scale are presented in Table 1.5 below.
Table 1.5 Exploratory purchasing behaviour scale (Van Trijp et al., 1996)

<table>
<thead>
<tr>
<th>I would rather stick with a wine brand I usually buy than to try something I am not sure of (R)</th>
</tr>
</thead>
<tbody>
<tr>
<td>When I buy wine in a wine store, I feel it is safer to buy wines that I am familiar with (R)</td>
</tr>
<tr>
<td>If I like a wine brand, I rarely switch from it just to try something different (R)</td>
</tr>
<tr>
<td>I am very cautious in trying new or different wines (R)</td>
</tr>
<tr>
<td>Even though certain wine brands make wines from a number of different grapes, such as merlot, cabernet sauvignon and shiraz, I tend to buy the same wine each time (R)</td>
</tr>
<tr>
<td>I enjoy taking chances in buying unfamiliar wines just to get some variety in my purchases</td>
</tr>
</tbody>
</table>

Note: All scale items measured using 7-point Likert scales anchored by Strongly Disagree and Strongly Agree. (R) = Reverse scored

Opinion leadership

Rogers and Cartano (1962, p. 435) conceptualise opinion leaders as “individuals who exert an unequal amount of influence on the decisions of others”. These authors used this conceptualisation to propose the first
scale that sought to measure opinion leadership that later became recognised as the King and Summers (1970) opinion leadership scale. Childers (1986) built on this work to develop a self-report version of the scale for use in a marketing context. However, Flynn et al. (1996) pointed out that this measure had internal validity challenges and rather than measure opinion leadership (or the influencing of others), it instead captures a personal tendency to engage in social communication. In short, they argue that the measure captures the ‘talking’ or communicating aspect rather than the actual influence of opinion leaders. Flynn et al. (1996) contend that opinion leadership occurs when individuals try to influence the purchasing behaviour of other consumers in specific product fields. They therefore adopted the process suggested by Churchill (1979) and proceeded to develop a psychometrically sound measure of opinion leadership. Their instrument consists of 11 items with a reported coefficient alpha (Cronbach, 1951) of .86, and a unidimensional factor structure. In subsequent applications of the scale, it has been shortened to six items (see Bruner et al., 2001, p. 396). This six-item scale was used in the questionnaire for this study. Table 1.6 presents the items of this scale.
Table 1.6 Opinion leadership scale (Flynn et al., 1996)

<table>
<thead>
<tr>
<th>My opinion on wine seems not to count with other people (R)</th>
</tr>
</thead>
<tbody>
<tr>
<td>When they choose a wine, people do not turn to me for advice (R)</td>
</tr>
<tr>
<td>Other people rarely come to me for advice about choosing wine (R)</td>
</tr>
<tr>
<td>People that I know pick wine based upon what I have told them</td>
</tr>
<tr>
<td>I often persuade other people to buy the wine that I like</td>
</tr>
<tr>
<td>I often influence other people’s opinions about wine</td>
</tr>
</tbody>
</table>

Note: All scale items measured using 7-point Likert scales anchored by Strongly Disagree and Strongly Agree. (R) = Reverse scored

**Opinion seeking**

There have been a number of attempts to measure opinion-seeking behaviour (e.g. Beatty & Smith, 1987; Moschis, 1976; Reynolds & Darden, 1971). Reviewing these measures, Flynn et al. (1996, p. 139) note that these studies fail to distinguish conceptually between “true opinion seeking, whereby advice or influence is sought, and simple product-related social
communication”. In addition, these authors note that the measures exhibit low reliability and poor face and construct validity. They therefore used the approach recommended by Churchill (1979) to propose an six-item measure of opinion seeking as an individual difference variable. The resultant measure is unidimensional and has a reported alpha coefficients of .87 to .93 (Flynn et al., 1996; Girardi, Soutar, & Ward, 2005), and was thus used in the questionnaire. The items in the opinion seeking scale are presented in Table 1.7 below.

**Table 1.7 Opinion seeking scale (Flynn et al., 1996)**

<table>
<thead>
<tr>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>When I consider buying wine I ask other people for advice</td>
</tr>
<tr>
<td>I do not need to talk to others before I buy a wine (R)</td>
</tr>
<tr>
<td>I rarely ask other people what wine to buy (R)</td>
</tr>
<tr>
<td>I like to get others’ opinions before I buy a wine</td>
</tr>
<tr>
<td>I feel more comfortable buying a wine when I have gotten other people’s opinions on it</td>
</tr>
<tr>
<td>When choosing wine, other people’s opinions are not important to me (R)</td>
</tr>
</tbody>
</table>
DATA ANALYSIS

To address **RQ5: What effect does consumer wine knowledge have on exploratory purchasing behaviour?**, the data was first analysed to determine the distribution of responses. It is to be noted that in the case of objective knowledge the single score for each respondent was computed on the number of correctly answered questions from the 10 multiple-choice items that make up the measure. The scores on this test ranged from zero to a perfect 10. An inspection of the histogram for the overall scores showed normally distributed data. Reliability and validity measures (see section below) indicate that the respondent’s scores on the items making up the scales separately could be summed to produce overall scores of a respondents’ tendency to purchase wine exploratively and of their subjective wine knowledge. These two constructs together with objective wine knowledge could therefore be used to further investigate their linkages.

To investigate the effects of objective and subjective knowledge of wine on exploratory purchasing a multiple regression was used where the measures for objective and subjective knowledge were treated as independent variables while exploratory purchasing was treated as a dependent variable.
Given that consumer wine knowledge types exist as separate consumer segments with different characteristics, as established in Papers 1 and 2, the next research question was **RQ6: What effect do consumer wine knowledge types have on variety-seeking behaviour?** Using the same procedure as used in Study 1, to classify the wine knowledge types, median splits on both the objective and subjective knowledge measures were calculated thus classifying respondents scoring above the median on each measure as ‘high’ and those below, as ‘low’. Thus within the sample, the knowledge types of ‘Neophytes’ (Low Objective-Low Subjective), ‘Snobs’ (Low Objective- High Subjective), ‘Modests’ (High Objective-Low Subjective), and ‘Experts’ (High Objective-High Subjective) were identified. Then a simple ANOVA using the statistical package JMP with wine knowledge type as the predictor- and variety-seeking behaviour as the criterion variable was performed. (Note that a low score on the EAP means high variety-seeking behaviour and vice-versa).

To investigate whether objective and subjective knowledge vary between opinion leaders and opinion seekers, and thus address **RQ7: What is the relationship between consumer wine knowledge and opinion leadership and opinion-seeking behaviours?**, a correlation analysis was undertaken.
RELIABILITY AND VALIDITY

MTurk is a very effective platform for verifying the quality of responses. In order to determine that our respondents at least took enough time to read the questionnaire carefully, rather than just rushing off a series of identical responses to all the questions, or just answering randomly, two checks were implemented. First, respondents were timed. If a respondent completed the questionnaire in less than five minutes, this response was removed from the sample. The reason for this decision was that anyone taking less than five minutes to answer could not be reading each question carefully. For the second quality check a few items were interspersed into the instrument where the instruction was simply “Answer 4 for this item on the 7-point scale provided”, so that respondents who were not reading carefully, and for example, scoring all items with a 7, or just answering randomly, could also be identified and eliminated from further analysis. MTurk enables researchers to rate each respondent on the quality of their work and to report those who either cheat or do not answer carefully by not reading questions. These respondents can then be highlighted for exclusion in future work by other researchers, so the platform provides an incentive for respondents to work diligently and honestly.

In addition, computation of Cronbach alphas provided values of .91 for subjective knowledge and .92 for exploratory purchasing behaviour that exceed the 0.7 threshold (Nunnally, 1978), providing support for the reliability of the measures. The alpha score for
objective knowledge cannot be computed as this consists of a single item score, composed of questions to which there are absolute correct or incorrect answers.

To investigate the validity of the measures the 15 items making up the constructs of exploratory purchasing behaviour (six items), subjective knowledge (eight items), as well as the overall objective wine knowledge score were subjected to a principal component factor analysis followed by a varimax rotation. The results show that the items for the different constructs loaded separately and distinctively onto three factors that correspond to the three constructs in the study. Only the third item of the subjective knowledge measure exhibited some concurrent loading on the objective knowledge factor. However, given the literature support for the measure, it was decided to retain the item as part of the overall subjective wine knowledge measure. These findings provide support for convergent and discriminant validity in that the items that should load together did so and those that belong to separate constructs also loaded together but separately. These results confirm that the measures are indeed capturing three distinct and separate constructs as intended by the study.

**DATA PRESENTATION**

The results of this study are reported in Papers 3, 4 and 5.


The full papers are presented in Chapter 2.

1.3.5 **SUMMARY OF THE RESEARCH METHODOLOGY**

Table 1.8 below presents a summary of the research design and methods used to address the seven research questions.
Marketing scholars of information-intensive products such as wine, need to understand what constitutes consumer knowledge and the effects this has on other aspects of consumer

<table>
<thead>
<tr>
<th>Research problem</th>
<th>Research Problem Components</th>
<th>Research questions</th>
<th>Research design</th>
<th>Study</th>
<th>Method of data Analysis</th>
<th>Papers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Components of Consumer wine knowledge</td>
<td>RQ1: Is there a link between objective and subjective consumer wine knowledge?</td>
<td>Quantitative &amp; descriptive using online surveys with existing or adapted scales for the constructs under investigation.</td>
<td>1</td>
<td>Correlation analysis</td>
<td>Paper 1</td>
<td></td>
</tr>
<tr>
<td>Antecedents of consumer wine knowledge</td>
<td>RQ2: What are the antecedents of consumer wine knowledge and how do they affect it?</td>
<td></td>
<td></td>
<td>Regression analysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implications of consumer wine knowledge</td>
<td>RQ3: When subjective and objective consumer wine knowledge are studied simultaneously, can they provide insight into market segmentation and target marketing?</td>
<td></td>
<td></td>
<td>Grid construction using median splits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Question</td>
<td>Methodology</td>
<td>Paper</td>
<td></td>
<td></td>
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<tr>
<td>-----------------------------------------------</td>
<td>---------------------------------------------------------------</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RQ4: What managerial insights do consumer wine knowledge types provide?</td>
<td></td>
<td>Paper 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RQ5: What effect does consumer wine knowledge have on exploratory purchasing behaviour?</td>
<td>Multiple regression analysis</td>
<td>Paper 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RQ6: What effect do consumer wine knowledge types have on variety-seeking behaviour?</td>
<td>Grid construction using median splits ANOVA</td>
<td>Paper 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RQ7: What is the relationship between consumer wine knowledge and opinion leadership and opinion-seeking behaviours?</td>
<td>Correlation analysis</td>
<td>Paper 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The following section presents a summary of the research linking the research questions within the three components of the research to the five papers in which the research is published.
1.4 Summary of the Research

1.4.1 Introduction

This section summarises the research questions proposed and justified in the sections above. It also provides an overview of the five papers in which the research addressing these questions is presented.

1.4.2 Summary of the Research Problem, its Components and the Research Questions

The main research problem for this study is that marketers, and especially marketers of information-intensive products such as wine, need to understand what constitutes consumer wine knowledge and the effects this has on other aspects of consumer purchasing behaviour.

As discussed above this research problem can be broken down into three components each of which contains one or more research questions:

A. Consumer wine knowledge constituents
   RQ1: Is there a link between objective and subjective consumer wine knowledge?

B. Antecedents of consumer wine knowledge
   RQ2: What are the antecedents of consumer wine knowledge and how do they affect it?
C. Implications of consumer wine knowledge

RQ3: When subjective and objective consumer wine knowledge are studied simultaneously, can they provide insight into market segmentation and target marketing?

RQ4: What managerial insights do consumer wine knowledge types provide?

What is the effect of consumer wine knowledge on other consumer behaviours?

RQ5: What effect does consumer wine knowledge have on exploratory purchasing behaviour?

RQ6: What effect do knowledge types have on variety-seeking behaviour?

RQ7: What is the relationship between consumer wine knowledge and opinion leadership and opinion-seeking behaviours?
1.4.3 Overview of the Research Papers

As mentioned above, this section provides a brief overview of each of the research papers. The primary focus is on the purpose of the research and its key contributions.

Paper 1: Consumer Knowledge: A New Basis for Wine Market Segmentation?


This paper addresses Research questions 1, 2 and 3.

Purpose: This research aimed to better understand the constituents as well as the antecedents of consumer knowledge and to test the belief of Alba and Hutchinson (1987) that consumers are overconfident.

The objectives in the study were therefore threefold:

1. To confirm the significant positive link between objective and subjective knowledge in general, and especially with regard to consumer wine knowledge as established by Forbes et al. (2008) in another national market (New Zealand).

2. To determine the effects of age, gender, wine consumption, education, and also the number of wine blogs read, on objective consumer wine knowledge, and
3. To explore whether, as Alba and Hutchinson (1987) suggest, wine consumers do indeed overestimate what they know, and to construct a typology of consumers based on the two facets of knowledge, objective and subjective, that might be useful in market segmentation.

**Contribution:** Understanding consumers and what affects their behaviours is critical for marketers. Successful marketing of consumer goods requires a deep understanding of consumers as well as the differences between segments of consumers. This understanding is necessary to be able to analyze and profile segments, choose target markets and develop marketing strategies that will best align with those target markets (Walker & Mullins, 2014). Consumers however vary in what they really know (objective knowledge) versus what they think they know (subjective knowledge). What the consumer ‘knows’ is important in every stage of the purchase decision-making process, from the time the individual recognises the need, through to defining the problem, searching for information, evaluating alternatives, making a purchase, and then consuming the product or service and entering the post-purchase phase. Surprisingly little is known about the relationship between objective and subjective consumer knowledge, or about the variables that impact this knowledge: especially in the area of information-intensive products. In this study, the significant positive correlation between objective and subjective knowledge was confirmed although a weak covariance
indicates that they don’t necessarily move in the same direction and the constructs are mostly independent.

Age, gender and education were found to be significant antecedents of objective consumer wine knowledge. While other research has studied either objective or subjective knowledge, and some have investigated the relationship between them, this study’s major contribution was to investigate wine consumer segments on the basis of the combination of objective and subjective consumer knowledge. A consumer knowledge type grid was developed and the managerial implications of the different types of consumer discussed.

PAPER 2: KNOWING WHAT THEY KNOW: A MANAGERIAL PERSPECTIVE ON CONSUMER KNOWLEDGE


This paper addresses Research questions 3 and 4.

Purpose: The purpose of this paper was to examine how managers might know and understand consumer knowledge in terms of both subjective and objective knowledge, and use this understanding in the formulation and implementation of marketing strategies aimed at different knowledge segments.
**Contribution:** In this paper the four ‘consumer wine knowledge types’ are discussed: those who scored low on both objective and subjective knowledge, labeled ‘Neophytes’; those who scored high on subjective knowledge, but low on objective knowledge, labeled ‘Snobs’; those who scored low on subjective knowledge, but high on objective knowledge, labeled ‘Modests’; and those who score high on both facets, labeled ‘Experts’. The managerial implications for marketers targeting each knowledge type are discussed. The paper also provides marketing managers with advice on possible strategies for moving consumers from one quadrant in the grid to another.

**PAPER 3: KNOWLEDGE EFFECTS ON THE EXPLORATORY ACQUISITION OF WINE**


This paper addresses Research question 5.

**Purpose:** The paper aimed to determine whether exploratory wine purchasing behaviour is affected by consumers’ wine knowledge and whether age, gender, weekly wine consumption and education affect this behaviour.
**Contribution:** Exploratory acquisition of wine by purchasers is important to wine marketers and yet a key marketing challenge. Wine marketers often face buyers who are afraid or resistant to try new varietals, brands, or wines from new. Buyers willing to undertake exploratory behaviour are more likely to try new products and brands. They seek novelty, variety and change, and will often switch brands or purchase new offerings simply to fulfil their need for change. This has important consequences for a brand’s stability, market share and loyalty. Of course, an important question facing both wine marketing scholars and practitioners is which wine consumers are more likely to engage in exploratory purchasing? Exploratory purchasing behaviour was significantly related to wine consumption, with those consuming less wine being less likely to make exploratory purchases than those who consumed more. Similarly subjective consumer wine knowledge was found to be significantly affected by wine consumption with those consuming more wine believing that they know more about wine than those who consume less. Demographic factors were not found to affect either of these constructs. In the case of objective consumer wine knowledge, older respondents and those who consume more scored significantly higher on the objective consumer wine knowledge test. This paper identifies the characteristics of consumers in terms of consumer wine knowledge, consumption and demographics most likely to exhibit this behaviour and provides support for the need for marketers to identify these consumers and adapt their marketing activities targeting them.
A further contribution of this study was to determine the effects of objective and subjective knowledge of wine on exploratory purchasing behaviour. Exploratory wine purchasing behaviour was also found to be positively related to objective consumer wine knowledge but not related to subjective consumer wine knowledge. This finding is important as it indicates that wine connoisseurs are more likely to try new wines.

**PAPER 4: WINE KNOWLEDGE TYPES AND VARIETY SEEKING EXPLORATORY BEHAVIOUR**

**Citation:** Vigar-Ellis, D. & Mattison Thompson, F. [2015]. The Effects of Wine Knowledge Type on Variety Seeking in Wine Purchasing. Journal of General Management, details forthcoming.

This paper addresses Research question 6.

**Purpose:** With the huge amount of variety and the sheer number of wine brands available to consumers, this study set out to determine which type of wine consumer will be more likely to engage in variety seeking in their wine purchasing behaviour, and to what extent the nature of their knowledge of wine will drive this behaviour.

**Contribution:** The study shows that ‘consumer wine knowledge type’ – a combination of an individual's subjective and objective knowledge of wine - is a significant predictor of product specific (wine) variety-
seeking behaviour. The study shows that ‘Snobs’ and ‘Experts’ i.e. consumers high in subjective consumer wine knowledge are significantly more likely to engage in variety-seeking exploratory behaviour than the other two consumer wine knowledge types. These consumer believe they know a lot about wine and are thus confident about their decisions and therefore experience less perceived risk associated with variety-seeking behaviour. Understanding the impact of consumer wine knowledge types on the variety-seeking exploratory purchasing behaviour with regards to wine is important, as it can assist with market segmentation, better targeting and the better building of loyalty strategies.

PAPER 5: DOES OBJECTIVE AND SUBJECTIVE KNOWLEDGE VARY BETWEEN OPINION LEADERS AND OPINION SEEKERS? IMPLICATIONS FOR WINE MARKETING.


This paper addresses Research question 7.

Purpose: Being an information-intensive, experience product where a large number of product choices exist, wine is a complicated product where differences exist between the knowledge levels of consumers. This gap
in knowledge leads to some people seeking opinions and others giving them. The purpose of this paper was to explore the relationships between opinion leadership and opinion-seeking among wine consumers, and to investigate whether objective and subjective knowledge varies between opinion leaders and seekers.

**Contribution:** Opinion leadership is of tremendous importance to wine marketers because wine is such a heterogeneous, information-rich offering, in a market in which there is a plethora of brands. The success of wine critics such as Robert Parker (e.g. McCoy, 2005) and Jancis Robinson (e.g. Robinson, 1997) and wine magazines such as *Wine Spectator* and *Decanter* attests to the wine consuming public’s desire to seek the opinions of leaders on the subject of wine. The study contributes to our understanding of the relationship between consumer knowledge and opinion leadership and seeking behaviours by firstly finding that those who tend to seek opinions about wine tend not to have high objective knowledge of wine, as may be expected. On the other hand, opinion leaders think they know about wine, and generally are objectively knowledgeable. Thus their influence on others is not only based on communication, but on fact, representing a valuable source of influence for wine marketers. Understanding target consumers’ wine knowledge levels can potentially impact every aspect of wine marketing strategy.
1.5 CHAPTER CONCLUSION

This chapter introduced the overall research problem which was to better understand consumer knowledge, its constituents, antecedents and consequences or implications for other consumer behaviours so as to assist wine marketers and marketers of other information-intensive products with their marketing strategy development. Wine is a complex product difficult for consumers to evaluate particularly prior to purchase but it is also a difficult product for marketers. Wine has a very large number of both intrinsic and extrinsic attributes. As a result of the numerous attributes that make up wine and the multitude of combinations of these attributes there is a plethora of wine brands available making for a highly competitive industry and a complicated product for consumers. Consumer knowledge affects all aspects of consumer purchasing behaviour and is thus an important area of phenomenon for marketers to research and understand. Consumer knowledge affects all aspects of the marketing strategy developed to satisfy target segments. Marketing decision makers need to understand consumers to be able to analyze and profile segments, choose target markets and develop marketing strategies that will best align with those target markets. Calls particularly for better understanding of different segments within the wine market provide justification for this research. Understanding consumer knowledge with regards to a product as information-intense as wine, is not a simple task. As with any complex phenomenon,
understanding the phenomenon usually entails understanding its components or constituents, the factors which affect it and its relationships with other constructs. The research problem was thus divided into three components:

A. **Consumer wine knowledge constituents**
   This component of the broader research problem dealt with the constituents of consumer knowledge and the relationships between these with respect to wine.

B. **Antecedents of consumer wine knowledge**
   This component dealt with the factors that influence consumer wine knowledge.

C. **Implications of consumer wine knowledge**
   This component of the research problem explored some of the implications of consumer wine knowledge. Specifically the implications of consumer wine knowledge for segmentation were investigated as well as the relationships between consumer wine knowledge and exploratory purchasing behaviour, variety-seeking behaviour and opinion leadership and opinion-seeking behaviours.

Due to the linear nature of this research topic, the chapter was structured in terms of the components of the research problem outlined above (constituents, antecedents and implications). Within each section relevant literature was discussed to broaden our understanding of the component of this phenomenon and to justify the development of the specific research questions developed for this component of the study. Each research question was investigated within one of
the five papers making up this full study. An explanation and justification of the methodology used to address the specific research question(s) was provided for each research question. Each section ended with an identification of the research papers in which the research outcomes are presented. The chapter concluded with an overview of the five papers linking them to the specific research questions and outlining their purpose and contribution. The full papers are presented in the following chapter.
CHAPTER 2: THE INDIVIDUAL PAPERS

The actual papers are excluded from this document due to copyright agreements of the specific journals.
CHAPTER 3: SUMMARY, CONCLUSION, AND CONTRIBUTIONS

3.1 INTRODUCTION

With wine being complex (Capitello et al., 2015; Johnson & Bruwer, 2007), experiential (Higgins, Wolf, & Wolf, 2014; Senecal & Nantel, 2004) and information-intensive (Bruwer & Thach, 2013) as well as highly prolific in terms of the options available to consumers (Velikova et al., 2015), understanding what consumers know, and think they know and how this knowledge affects other behaviours is not only of importance to academics, but vital for the wine marketer. Consumer knowledge is a critical but mostly overlooked aspect of consumer behaviour (Marks, 2014). This knowledge, for the wine marketer represents critical information because consumer knowledge influences all aspects of the consumer decision making process (Raju et al., 1995) from the time the individual becomes aware of a need, through defining their problem, searching for information, evaluating alternatives, making a purchase, and then consuming the product or service and entering the post-purchase phase. As such, understanding consumer knowledge and its impact on consumer behaviour affects all aspects of marketing strategy, from the identification of segments with different knowledge profiles, to every aspect of the marketing mix aimed at satisfying targeted consumers (Famularo et al., 2010). This research thus sought to investigate the research problem:
Marketing scholars of information-intensive products such as wine, need to understand what constitutes consumer knowledge and the effects this has on other aspects of consumer purchasing behavior.

Understanding consumer knowledge with regards to a product as information-intense as wine, is not a simple task (Velikova et al., 2015). As with any complex phenomenon, understanding the phenomenon usually entails understanding its components, the factors which affect it and its relationships with other constructs.

This research problem can be broken down into three components each of which contains one or more research questions:

**A. Consumer wine knowledge constituents**

RQ1: Is there a link between objective and subjective consumer wine knowledge?

**B. Antecedents of consumer wine knowledge**

RQ2: What are the antecedents of consumer wine knowledge and how do they affect it?

**C. Implications of consumer wine knowledge**

RQ3: When subjective and objective consumer wine knowledge are studied simultaneously, can they provide insight into market segmentation and target marketing?
RQ4: What managerial insights do consumer wine knowledge types provide?

What is the effect of consumer wine knowledge on other consumer behaviours?

RQ5: What effect does consumer wine knowledge have on exploratory purchasing behaviour?

RQ6: What effect do knowledge types have on variety-seeking behaviour?

RQ7: What is the relationship between consumer wine knowledge and opinion leadership and opinion-seeking behaviours?

In order to answer these questions empirical research was designed, executed and presented in the five papers included in the previous chapter. As the focus was on understanding relationships between variables, the studies were quantitative descriptive studies.

The following section is structured in terms of the three components of the research and seeks to provide answers to the research questions. Evidence of the answers to the questions is provided through the findings from the relevant papers.
3.2 FINDINGS

The following sections present the summary of the findings in relation to the three components of the research problem and the research questions relevant to each component.

3.2.1 CONSTITUENTS OF CONSUMER WINE KNOWLEDGE

This component of the broader research problem dealt with the constituents of consumer knowledge, objective and subjective knowledge, and the relationships between these with respect to wine. This section deals with research question 1.

FINDINGS IN RELATION TO RESEARCH QUESTION 1

RQ1: Is there a link between objective and subjective consumer wine knowledge?

While early consumer researchers treated consumer knowledge as a unidimensional construct (Alba & Hutchinson, 1987), today consumer knowledge is understood to be multidimensional comprising both objective and subjective knowledge, as well as a separate construct of familiarity (Brucks, 1985). Familiarity is to do with the number of accumulated product-related experiences (Barber, 2009; Perrouty et al., 2006; Rao & Monroe, 1988) but the two knowledge components include what is objectively stored and retrievable from memory (Barber et al.,
2008a; Veale & Quester, 2007b) i.e. objective knowledge but also what the consumer thinks they know, i.e. subjective knowledge (Flynn & Goldsmith, 1999). This component of consumer knowledge is said to reflect to large extent, the consumer’s confidence in their knowledge (Alba & Hutchinson, 2000; Barber et al., 2008a; Dodd et al., 2005).

The research presented in Paper 1 confirms that of others’ (e.g. Flynn & Goldsmith, 1999) i.e. that these constructs are distinct constituents of consumer knowledge. Principle component analyses across all the papers found that the constructs loaded separately and distinctively onto two factors. Consumer knowledge research has tended to use one component or the other, sometimes assuming they are the same and even using the terms interchangeably, however fewer studies have investigated the relationship between these constituents of consumer knowledge. Of studies that have investigated the relationship between these constituents, some have found a positive correlation (Carlson et al., 2009; Flynn & Goldsmith, 1999) and even indicated that subjective knowledge is a valid indicator of objective knowledge (Forbes et al., 2008). Others have found miscalibration between real and perceived knowledge (e.g. Scholder Ellen, 1994; Veale & Quester, 2007a). For example, Alba and Hutchinson (2000) and Veale and Quester (2007a) state that consumers are overconfident reflecting higher levels of perceive knowledge than actual knowledge. They think they know more than they do.

Determining the relationship between objective and subjective consumer wine knowledge was a specific objective of Paper 1. To investigate the relationship
between the two measures, the correlation between them was calculated. It was found that a correlation between subjective and objective consumer wine knowledge of 0.293 exists and this was significant at the 0.01 level (2-tailed).

The second component of this research was to understand the antecedents of consumer wine knowledge.

### 3.2.2 Antecedents of Consumer Wine Knowledge

The second component of the research problem was the antecedents or factors affecting consumer wine knowledge. Despite the work of Forbes et al. (2008), less attention has been given to the impact of broader demographic and antecedent factors, such as actual wine consumption, gender, education and age, on consumer wine knowledge. This section deals with the findings in relation to research question 2.

**FINDINGS IN RELATION TO RESEARCH QUESTION 2**

**RQ2: What are the antecedents of consumer wine knowledge and how do they affect it?**

To address Research question 2, the variables that predicted a respondent’s objective knowledge were explored in Paper 1. These included subjective consumer wine knowledge, age, gender, number of wine blogs regularly read, education level, and number
of bottles of wine consumed in an average two-week period. Together these six variables explained a significant proportion of variance in objective consumer wine knowledge ($R^2 = 0.508$, $F(6, 186) = 10.424$, $p < 0.000$).

Looking at the antecedents separately, familiarity has been referred to as the number of product-related experiences accumulated by a consumer (Rao & Monroe, 1988) and has been found in past research to determine both objective and subjective knowledge (Alba & Hutchinson, 1987; Dodd et al., 2005; Raju et al., 1995) although it is often associated more with subjective than objective knowledge (Flynn & Goldsmith, 1999; Park et al., 1994; Pechtl, 2008). Consumption is one way of developing familiarity. Paper 1 reports the investigation of the predictors of objective consumer wine knowledge specifically. In this paper, wine consumption is used as a measure of familiarity. It is acknowledged that consumption is only a partial measure of familiarity. Consumption was not found to significantly predict objective consumer wine knowledge. This finding supports Hoch (2002) and Vanhuele and Drèze (2002) who propose that familiarity or experience is not sufficient to ensure real knowledge. The finding also supports those of several recent wine studies which also failed to establish a significant relationship between wine consumption and knowledge (Latour & Latour, 2010; Viot, 2012). Heavy wine consumption therefore may not lead to greater real knowledge. This may be explained by the distinction between incidental and intentional knowledge. Pechtl (2008) explains that incidental knowledge may be due to mere exposure to stimuli, as may occur with consumption, while intentional learning
occurs when consumers make a conscious attempt to memorise information. Vanhuele and Drèze (2002) found with regards to price knowledge, that incidental knowledge exhibits weaker and less permanent memory structures than intentional learning. Thus mere exposure to wine through consumption may be insufficient to develop real knowledge. Such knowledge would possibly require a more active attempt by the consumer to gain knowledge and learn about wine for example by attending wine courses or tastings.

In the study conducted for Paper 3 however, where wine consumption was measured using number of bottles of wine consumed per week and the 10 item objective knowledge scale used, an ANOVA test found wine consumption to be significantly positively related to objective consumer wine knowledge. Those who consume three to four, or more than four bottles of wine per week score significantly higher on the objective consumer wine knowledge test than those who consume two or fewer bottles per week. This contradictory finding may be due to methodological differences in the two studies but does support various previous studies finding a positive relationship between familiarity and objective knowledge (e.g. Aurier & Ngobo, 1999). Thus for the research overall the study found mixed results in terms of the impact of wine consumption on objective knowledge.

Paper 3 also found that weekly wine consumption is statistically significantly related to subjective consumer wine knowledge, with those consuming more (between three and four, or more than four bottles per week) believing that they know more about
wine than those who consume less. This supports the findings of Barber et al. (2008a), Flynn and Goldsmith (1999) and Hussain et al. (2007).

Wine blog readership was also found not to be a significant predictor of consumer wine knowledge. Alba and Hutchinson (2000) contend that familiarity accumulates through exposure to product information and from product usage and this experience forms the basis of both objective and subjective knowledge (Alba & Hutchinson, 1987; Dodd et al., 2005) but as discussed above, familiarity alone does not seem to be sufficient to gain real knowledge. Objective knowledge is the knowledge that the individual truly possesses, and can demonstrate and it includes both the cognitive structures and processes that determine expertise (Alba & Hutchinson, 1987). It is the knowledge the consumer has stored in memory (Barber et al., 2008a; Engel et al., 1990). Thus it appears that while exposure to wine blogs may increase familiarity, it may not actually be enough to develop consumer wine knowledge structures in memory i.e. objective consumer wine knowledge.

With regards to demographic antecedents of knowledge, past research has surfaced contradictory results. For example with regards to gender, while some studies have found men to know more about wine (e.g. Forbes, 2012; Forbes et al., 2008) other have found women to have greater real consumer wine knowledge (J.-G. Li et al., 2011; Robson et al., 2014). In the study reported in Paper 1 it was found that gender was a significant predictor of consumer wine knowledge with women exhibiting greater objective consumer wine knowledge than men. This may be
because they are more interested in the facts about wine, because they buy wine more frequently and are thus exposed to information about wine more often, or simply because they have better memories for consumer products. Gender was not found to be statistically related to subjective consumer wine knowledge.

The study also found age to be a significant predictor of objective consumer wine knowledge with knowledge increasing with age. This finding was confirmed in Paper 3. This is consistent with other studies (e.g. Barber et al., 2008; Forbes et al., 2008). Thus older consumers tend to know more about wine than younger consumers. This may be because they have consumed wine for longer and thus have learned from this accumulated experience, or perhaps older consumers are simply more interested in wine. Contrary to other studies (e.g. Barber et al., 2008a) age was not found to affect subjective consumer wine knowledge.

As may be expected, consumer wine knowledge was also found to be significantly predicted by education level with more educated respondents knowing more about wine. This finding supports those of Forbes et al. (2008) and Robson et al. (2014) and was confirmed in Paper 3. Education helps develop conceptual structures which better equips consumers to restrict processing of information to relevant and important information (Johnson & Russo, 1984) and thus may help more educated consumers to understand and retain product specific wine information better. However this might also be because level of education is positively related to income and income allows these
consumers to buy and consume a greater variety of wines, thus developing their objective knowledge. Education was not found to significantly affect subjective knowledge.

To conclude, real or objective consumer wine knowledge is affected by demographic factors such as age, gender and education level with older, more educated and female wine consumers exhibiting higher levels of real consumer wine knowledge. It seems that both time and education dimensions are important for consumers to learn from accumulated experience i.e. knowledge may be built over time, with age and education, rather than from high volume consumption or vicariously (at least from blogs) although the latter results were not conclusive. Familiarity, at least in terms of consumption appears to have a greater impact on subjective knowledge. The more people drink the more they think they know about wine. Wine marketers should not assume that if someone consumers a lot of wine, that they will know more about wine. It can also be concluded that segments which vary demographically are likely to exhibit different levels of consumer wine knowledge and thus may require different marketing strategies to attract and retain them as wine consumers.
3.2.3 Implications of Consumer Wine Knowledge

Having investigated the constituents of consumer wine knowledge, objective and subjective consumer wine knowledge, and the antecedents of consumer wine knowledge, this section explores the implications or impact of consumer wine knowledge on other consumer behaviours. Several research questions are covered within this section as they relate to various implications of consumer wine knowledge. The specific implications investigated include:

- implications of consumer wine knowledge for marketing strategy and particularly segmentation of the wine market,
- the effect of consumer wine knowledge on exploratory acquisition,
- the effects of the consumer wine knowledge types on variety-seeking behaviour and,
- the relationships between consumer wine knowledge and opinion leadership and opinion-seeking behaviours.

These different implications are dealt with in separate sub-sections below.
FINDINGS IN RELATION TO RESEARCH QUESTION 3

Successful marketing of consumer goods requires a deep understanding of consumers and the differences between segments of consumers. Marketing decision makers need to understand consumers to be able to analyze and profile segments, choose target markets and develop marketing strategies that will best align with those target markets and ultimately achieve customer satisfaction and organisational goals (Walker & Mullins, 2014). Understanding the profiles of different segments is important for marketing decision makers for all types of products but particularly information-intensive products such as wine, cars and IT products where large amounts of information exist and may affect consumers’ behaviour. Research question 3 addresses the first of the implications of consumer wine knowledge investigated in the study.

**RQ3: When subjective and objective consumer wine knowledge are studied simultaneously, can they provide insight into market segmentation and target marketing?**

To answer Research question 3, consumer’s differing levels and types of knowledge were investigated as a source of potential segment differences. The sample was split into four groups, based on their levels of subjective and objective consumer wine knowledge. Thus four consumer wine knowledge types were identified: those who scored low on both facets, termed ‘Neophytes’; those who scored high on subjective knowledge, but low on objective-, termed ‘Snobs’; those who scored low on subjective knowledge, but high on objective-, termed ‘Modests’;
and those who score high on both facets, termed ‘Experts’.

In the study reported in Paper 1, the majority of the respondents were ‘neophytes’. They had low scores on both objective and subjective knowledge tests in other words, they knew little about wine, and also believed they knew little about wine. A neophyte is a novice, or a beginner or “a person who has just started learning or doing something” (Merriam-Webster Dictionary) and thus this term fits this group accurately. Still with low scores on the objective knowledge test, the second largest group was labeled ‘Snobs’. This is the segment supporting Alba and Hutchinson’s (1987) prediction that consumers overestimate what they really know about wine. Looking at respondents who scored high in objective knowledge, there is a small group of ‘Modests’ in this sample. These respondents know more than they think they do. Finally, there is a group of respondents who not only think they know a lot about wine, but actually do. This group is labeled the ‘Experts’.

This consumer wine knowledge typology is a potentially useful market segmentation strategy for wine marketers. In fact, while the consumer knowledge categories constructed have been identified with specific regard to wine, this typology may well be applicable to all information-intensive products.

Although this research was exploratory and more research would need to be done, the typology may provide wine, and other information-intensive product marketers, with a new framework for understanding, and segmenting the wine market and thus for
developing marketing strategies to better satisfy target markets. Thus to conclude with regards to Research question 3, by incorporating both objective and subjective knowledge it is possible to construct a typology of customers based on knowledge: those who have an accurate perception of their knowledge about a given product (be this knowledge high e.g. for experts, or low as for neophytes) and those who have an inaccurate or distorted perception of their knowledge about a given product (be this actual knowledge high as in the case of modests, or low as for snobs). Subjective and objective knowledge taken together can provide marketers with a new and useful way for segmenting the wine market but potentially other information-intensive product markets too.

As a follow-on to Research question 3, Research question 4 dealt with the managerial implications of the knowledge type grid.

**FINDINGS IN RELATION TO RESEARCH QUESTION 4**

**RQ4: What managerial insights do consumer wine knowledge types provide?**

The research presented in Paper 1 indicates possible distinctions between the different consumer wine knowledge types and thus provides a basis for discussing preliminary implications for marketers targeting these different segments. It can be concluded that the consumer knowledge type grid does provide managerial insights into different knowledge segments: those who have an accurate perception of
their knowledge about a given product (be this knowledge high or low) and those who have an inaccurate or distorted perception of their knowledge about a given product (be this knowledge high or low). These insights were elaborated on in Paper 2 but are discussed below in relation to the managerial implications.

**FINDINGS IN RELATION TO RESEARCH QUESTION 5**

The second implication investigated in this study was the relationship between consumer wine knowledge and exploratory purchasing behaviour. Exploratory purchasing behaviour of wine by purchasers is important to wine marketers and yet a key marketing challenge. Wine marketers often face buyers who are afraid or resistant to try new varietals, wine brands, or wines from new regions (Orth & Bourrain, 2005). With the literally thousands of grape varietals, wines made in different styles, in different regions with different conditions, by different wine makers and under different brands, wine consumers thus have a lot of choice (Velikova et al., 2015). Buyers willing to undertake exploratory behaviour are more likely to try new products and brands. They seek novelty, variety and change, and will often switch brands or purchase new offerings simply to fulfil their need for change in habitual consumption purchases (Orth & Bourrain, 2005). This has important consequences for a brand’s stability, market share and loyalty. In this section, the findings in relation to Research question 5 are discussed.
RQ5: What effect does consumer wine knowledge have on exploratory purchasing behaviour?

In simple terms, exploratory purchasing behaviour is important to wine marketers for two reasons. On the positive side, exploratory buyers will be more likely to look for new products and therefore be more open to trying the innovations and the numerous new offerings of wine marketers. However, on the negative side, exploratory buyers may also be more prone to brand switching and be less loyal, so that wine marketers might have to exert extra effort to keep these consumers more faithful to their brands. The results presented in Paper 3 indicate that exploratory purchasing behaviour is moderately, but significantly driven by objective consumer wine knowledge. Those who possess more ‘real’ knowledge of wine are those who will also seek variety and may be less brand loyal. This can have positive effects. Knowledgeable wine drinkers may act as opinion leaders and provide useful information and guidance to novices who seek personal recommendations to reduce their perceived risk of trying new wine products (Barber et al., 2008b; Dodd et al., 2005) especially in the absence of an opportunity to taste the wine (Mitchell and Greatorex, 1989).

While this is good news for some wine marketers, especially of new wines, or established wines entering new markets, Capitello et al. (2015) stress the need for wine marketers to understand wine consumers behaviour given the emergence of new markets (such as the Far East countries) and new segments (such as young people or neophyte consumers). However for
existing wine brands where brand loyalty is considered important, these findings do present a challenge. Various brand loyalty strategies may be employed to limit or deter exploratory behaviour. These have been well documented in the literature but may include providing incentives, loyalty schemes, rewards, wine clubs, discussion fora, etc., all aimed at building an engaged community of loyal consumers. The important message however, is that loyalty will not occur without such efforts. Wine makers and marketers need to work hard to keep their brands innovative and to keep customers coming back.

FINDINGS IN RELATION TO RESEARCH QUESTION 6

With the huge variety that exists in wines both in terms of the plethora of combinations of intrinsic and extrinsic attributes as discussed in chapter 1, and the sheer number of wine brands available, some wine consumers may be enticed to alter their usual purchasing behaviour and seek more variety in their acquisition of wine, while others may be resistant to try new combinations of attributes, wine brands or wines from new regions (Orth & Bourrain, 2005). There is little information on which type of wine consumer will more in variety-seeking behaviour in their wine purchasing behaviour, and to what extent the nature of their knowledge of wine will drive this behaviour. This this section deals with the findings associated with Research question 6:

RQ6: What effect do consumer wine knowledge types have on variety-seeking behaviour?
Using the consumer wine knowledge grid established by calculating median splits on both the objective and subjective knowledge measures, respondents were classified as ‘Neophytes’ (Low Objective-Low Subjective), ‘Snobs’ (Low Objective-High Subjective), ‘Modest’ (High Objective-Low Subjective or ‘Experts’ (High Objective-High Subjective). A simple ANOVA with consumer wine knowledge type as the predictor-and variety-seeking behaviour as the criterion variable revealed that consumer wine knowledge type accounts for around 21% of the variation in variety-seeking behaviour, and that Experts and Snobs exhibit significantly higher variety-seeking behaviour with regard to wine than do Modests and Neophytes F = 19.70, p<0001). The results indicate that consumer wine knowledge type is a significant predictor of wine variety-seeking behaviour. Snobs and Experts are more likely to engage in variety-seeking wine purchasing behaviour than Modests and Neophytes. Thus it appears that consumers perceiving to know everything that matters about a specific product category, in our case wine, feel more confident and perceive less risk in making new buying decisions than consumers low in subjective knowledge. This supports findings by Cox (1967) and (Matsusaka & Sbordone, 1995).

**FINDINGS IN RELATION TO RESEARCH QUESTION 7**

With wine being a heterogeneous, information-rich offering, with a plethora of brands in the market, knowledge of wines amidst such diversity
understandably varies. In addition, some offer opinions on wine while others seek them. Yet the interplay between opinion leadership and opinion seeking on the one hand, and consumer wine knowledge, both objective and subjective, has received little attention by wine marketing researchers. This section deals with the findings associated with Research question 7:

**RQ7: What is the relationship between consumer wine knowledge and opinion leadership and opinion-seeking behaviours?**

To investigate whether objective and subjective knowledge vary between opinion leaders and opinion seekers a correlation analysis was undertaken. The results indicate that opinion-seeking behaviour shows no statistically significant correlation with opinion leadership nor with objective consumer wine knowledge. On the other hand, opinion seeking is significantly negatively correlated with subjective knowledge.

Opinion leadership is significantly correlated with objective consumer wine knowledge as well as subjective knowledge. Objective consumer wine knowledge is also significantly correlated with subjective knowledge. Stated differently, those who tend to seek opinions about wine tend not to be opinion leaders, and do not have high objective or ‘real’ knowledge of wine, and the less they think they know, the more likely they are to seek opinions. On the other hand, opinion leaders in wine think they know about wine, but more importantly, generally do know about it in the real sense.
3.3 Theoretical Contributions of the Thesis

This studies in this thesis broaden our understanding of the consumer knowledge construct particularly as it applies to information-intensive products such as wine. This broader understanding of the construct includes its constituents, objective and subjective knowledge and the relationships between these, its antecedents and its effects on other relevant consumer behaviours.

The Constituents of Consumer Knowledge are Related

The first study sheds light on our understanding of the relationship between the constituents of consumer knowledge in the context of the information-intensive product: wine. Although what consumers know (objective knowledge) and what they think they know (subjective knowledge) are significantly related the correlation is weak to moderate. In addition, the covariance is weak, indicating that they don’t always move in the same direction. Thus while in a significant number of cases there appears to be calibration between individuals’ objective and subjective knowledge, there may be some segments of consumers that exhibit miscalibration between their objective and subjective knowledge, thus as discussed below, segmentation of the wine market on the basis of a combination of objective and subject knowledge is considered.
DEMOGRAPHICS AFFECT REAL CONSUMER WINE KNOWLEDGE

Various antecedents such as gender, education, age, consumption and exposure to wine blogs were considered as possible antecedents to consumer wine knowledge. Age, gender and education where all found to significantly influence objective consumer wine knowledge, while consumption was found to significantly influence subjective knowledge. The findings suggest that real or objective consumer wine knowledge is affected by demographic factors such as age, gender and education level with older, more educated and female wine consumers exhibiting higher levels of real consumer wine knowledge. It seems that both time and education dimensions are important for consumers to learn from accumulated experience i.e. knowledge may be built over time, with age and education, rather than from high volume consumption or vicariously (at least from blogs). Overall the study found mixed results for the impact of consumption on objective knowledge with 1 study finding a positive relationship and the other no significant relationship with objective knowledge. Investigation of possible reasons for these different results indicates similar sample profiles except for age where in the study finding no impact of consumption on objective knowledge a greater proportion of the sample were younger. However with similar consumption profiles across the samples it isn’t clear why this difference may have occurred. The shorter version of the objective knowledge test was used in the study finding no relationship so this may have had an impact.
Further research would be needed to determine if the test length could have affected the outcomes. Both tests have been used extensively in previous studies. What is clear however, is the role of demographic factors in objective knowledge. Demographic factors are antecedents to objective knowledge and thus demographic segmentation may be useful in the wine market. Wine experts are likely to be demographically different to novices and this can have major implications for the marketing of wines.

Familiarity, at least in terms of consumption, does however have a significant impact on subjective knowledge. The more people drink in terms of number of bottles of wine per week, the more they think they know about wine. Wine marketers should be cautious about assuming that if someone consumes a lot of wine, that they will know more about wine. They may think they do but may in fact lack real knowledge. It can also be concluded that segments which vary demographically are likely to exhibit different levels of consumer wine knowledge and thus may require different marketing strategies to attract and retain them as wine consumers.

**Knowledge Types Provide a Useful New Basis for Wine Market Segmentation**

The consumer wine knowledge types grid developed in Paper 1 provides a new and useful way of segmenting the wine market and may have broader applicability to
other information-intensive product-markets. Figure 3.1 below presents this grid.

**Figure 3.1: Consumer Wine Knowledge Types**

![Consumer Wine Knowledge Types Grid](image)

The consumer wine knowledge types grid has proved to be valuable in assessing the relationships with other consumer behaviours as seen in Paper 4 where it was used to investigate the relationships between the consumer wine knowledge types and variety-seeking behaviours. Both objective and subjective knowledge have been used extensively across many product contexts and both constructs have been found to offer valuable insights into consumer behaviour. However, it is believed that the consumer wine knowledge types
grid conceptually provides a useful way of better incorporating what others have investigated separately, into one tool which has significant opportunities for research into consumer behaviour particularly as it relates to consumer knowledge. While further testing and validation is necessary, the knowledge types grid is believed to be a major theoretical contribution of this study. Its implications for management and for further research are discussed below.

**CONSUMER KNOWLEDGE IMPACTS EXPLORATORY PURCHASING BEHAVIOUR**

Exploratory purchasing behaviour (the tendency of a wine consumer to explore or try new wines), was significantly related to wine consumption, with higher consumption associated with a greater tendency to purchase exploratively. In terms of consumer wine knowledge, exploratory wine purchase behaviour was found to be moderately, but significantly driven by objective consumer wine knowledge but not related to subjective consumer wine knowledge. This finding is important as it indicates that wine connoisseurs are more likely to try new wines. This may be because their cognitive knowledge structure (how the knowledge is categorised and layered) allows them to extract relevant information on the wine more easily and accurately than novices (who may rely on information such as the brand name) (Alba and Hutchinson, 1987) and thus they can place more trust in their exploratory decisions making their exploratory behaviour less risky. This is a significant finding for
our broader understanding of the implications of consumer knowledge and particularly differences between objective and subjective knowledge. Those who possess more ‘real’ knowledge of wine are those who will also seek variety and may be less brand loyal. The implications for brand loyalty and stability are important for marketers and are discussed in more detail below.

**CONSUMER WINE KNOWLEDGE TYPES AFFECT VARIETY-SEEKING BEHAVIOUR**

As mentioned above, the consumer wine knowledge types grid seems to have major potential for investigating the effects of consumer knowledge on other consumer behaviours. As the knowledge types grid combines a respondent’s objective and subjective knowledge, it provides a useful and novel way of investigating the implications of consumer knowledge. In this particular study (Paper 4), the knowledge types are investigated in terms of their impact on variety-seeking behaviour. Variety-seeking behaviour is a particular type of exploratory purchasing behaviour which is distinct from other forms like risk taking behaviour (Raju et al., 1995) and information seeking exploratory behaviour (Ruvio & Shoham, 2007).

The study indicates that consumer wine knowledge type accounts for around 21% of the variation in variety-seeking behaviour, and that Experts and Snobs exhibit significantly higher variety-seeking behaviour with regard to wine than do Modests and Neophytes. These results indicate that consumer wine knowledge
type is a significant predictor of wine variety-seeking behaviour and provide support for the knowledge typology being a useful basis for researching the effects or implications of consumer wine knowledge.

**Consumer Knowledge Impacts Opinion Leadership and Opinion-seeking Behaviours**

Opinion leadership and seeking behaviours are important behaviours for consumer researchers to understand. The study reported in Paper 5 sought to determine the impact, if any, of consumer wine knowledge on opinion-seeking and leadership behaviours. Results indicate as may be expected that low subjective knowledge is linked to greater opinion-seeking behaviour. This finding supports that of Flynn and Goldsmith (1999) who found a weak but negative relationship between subjective consumer wine knowledge and opinion-seeking behaviour.

Opinion leadership has long been of interest to marketers because opinion leaders play an important role in many successful marketing strategies and are a key influence on the decision-making processes of others. An important finding of this research is that, in the case of wine, opinion leaders not only think they are knowledgeable, but that they generally are, and so their influence on others is not only based on communication, but on fact. This finding concurs with those reported by Sarathy and Patro (2013) in relation to real estate and Cowan and Dai (2014) in relation to fashion with both studies finding a high correlation.
between product knowledge and opinion leadership. Thus consumer knowledge can be a useful variable in understanding and predicting opinion leadership and seeking behaviours.

**Concluding Comments on the Consumer Wine Knowledge Construct**

The studies in this thesis provide compelling evidence of the existence of two distinct constituents of consumer knowledge. Before the late 1980s consumer knowledge was treated as a unidimensional construct (Alba & Hutchinson, 1987) and many of the early attempts to model consumer behaviour failed to distinguish between the different kinds of knowledge and used considerably different measures of consumer knowledge (Brucks, 1985). Although researchers such as Brucks (1985) and Alba and Hutchinson (1987) proposed the two constituents of consumer knowledge - objective and subjective knowledge - to be separate constructs distinguishable from each other and from the concept of familiarity, most research studies since have used one or the other of the constructs, sometimes even arguing that they are the same. While in these studies we do find a small but significant correlation between the constructs, it seems clear that they are significantly different, with different antecedents and implications for other consumer behaviours. Figure 3.1 provides a visual depiction of a simplistic nomological map developed for the construct of consumer wine knowledge based on the studies reported in this thesis in the context of an information-intensive product such as wine.
Cronbach and Meehl (1955, p. 290) define a nomological network as an “interlocking system of laws which constitute a theory...The laws in a nomological network may relate (a) observable properties or quantities to each other; or (b) theoretical constructs to observables; or (c) different theoretical constructs to one another”. While usually used to demonstrate construct validity, the concept of a nomological map has been used to depict relationships within and between constructs (Nichols, 2011; Peterson & Zimmerman, 2004; Ruvio & Shoham, 2007).
Figure 3.2 Emerged Nomological Map of the Consumer wine knowledge Construct as Investigated in this Thesis

Antecedents:
- Gender (F)
- Age
- Education
- Consumption
- Blog visits

Constituents:
- Objective Knowledge
- Subjective Knowledge
- Consumer knowledge (CK) types

Implications:
- Exploratory Purchasing Behavior
- Variety Seeking Behavior
- Opinion Leadership
- Opinion Seeking

+: Positive relationship  -: Negative relationship  ns: not significant
As is evident from the map above, while the constituent constructs of objective and subjective knowledge are significantly positively related, their antecedents as well as implications in terms of the consumer behaviours investigated in this study, are different. Objective knowledge is largely driven by demographic antecedents, specifically age, gender and education while subjective knowledge is mostly driven by or affected by consumption. On the implications side of the map, objective knowledge significantly positively correlates with exploratory purchasing behaviour, and opinion leadership while subjective knowledge is positively related to opinion leadership and negatively to opinion-seeking behaviours. Thus these findings support the proposal presented in this thesis, that when researching consumer knowledge, both objective and subjective knowledge should be considered. As preliminary evidence of the value of this approach to consumer knowledge research, the proposed knowledge types are investigated in relation to variety-seeking behaviour and found to significantly predict this consumer behaviour. Future research in different contexts is needed to verify the theoretical value of this approach to combining the constituents of consumer knowledge so as to capture their distinctive effects.
3.4 Managerial Implications

Segments vary in their objective consumer wine knowledge and thus require different marketing strategies

The first study confirms that segments vary in their consumer wine knowledge. Understanding the profiles of different segments is important for marketing decision makers for all types of products but particularly information-intensive products such as wine, other beverage products (such as single malt whiskey), food products (such as cheeses), cars, art and high-tech products where large amounts of information exist and may affect consumers’ behaviour.

Consumers’ objective product knowledge, potentially impacts every aspect of wine marketing strategy. Product decisions such as branding, labeling and packaging can all be influenced by the objective knowledge levels of the target market. A wine marketer might offer completely different brands to connoisseurs versus novice wine consumers. For example the Australian wine company Penfolds targets less knowledgeable consumers with its Koonunga Hill brand while it targets wine connoisseurs with its top of the range Grange brand.

Wine marketers who target connoisseurs may provide detailed information in a variety of information categories e.g. the parentage, varietals, wine making
methods, specific attributes of the wine etc. On the other hand, wine experts may have no need for this technical and descriptive detail as the true connoisseurs may have sufficient real consumer wine knowledge to know all this detail by merely seeing the brand name. For example, many famous Bordeaux wines simple feature a front label (usually with a simple picture of the chateau, and the vintage), and very little else. More exclusive distribution, skilled and knowledgeable sales staff and excellent storage facilities will all be important distribution outlet criteria for marketers targeting the connoisseur market. They will most likely use specialist media such as Wine Spectator, and Decanter magazines. Wines aimed at connoisseurs may have greater price flexibility as knowledgeable wine consumers tend to place less importance on price as a choice criterion (Thiene et al., 2013).

Wine marketers might target novice wine drinkers by including awards on their labels because these consumers tend to use these as indicators of quality (Orth, 2002, Boatto et al., 2011) and because novices tend to be younger and young wine consumers place emphasis on recommendations by others (Capitello et al., 2015) and attractive front labels (Chrysochou et al., 2012). Simple, friendly labels might only convey the grape variety, a few general comments about the wine, and perhaps suggest some foods that the wines might accompany. They may use light-hearted and fun brand names such as Fat Bastard, Tall Horse, and Splattered Toad. They may keep prices low because these consumers with less consumer wine knowledge
might believe that there really is no discernible difference between expensive and cheap wines and are thus price sensitive (Thiene et al., 2013). Wine marketers might distribute their brands aimed at novices through supermarkets and promote them through the mass media providing the greatest exposure for their brands. They may also use innovative information media such as QR codes to provide risk reducing information to these consumers (Higgins et al., 2014). Communication should also have an educational objective (Capitello et al., 2015).

A fundamental question facing marketers of these types of products is just how little or how much information to provide to customers. On the one hand, too much information might lead to attention overload and confusion, and providing too little could cause customers to refrain from purchase because they are insufficiently informed. On the other hand, a careful withholding of information could cause customers to actively seek more, because they love marketing secrets (e.g. Hannah, Parent, Pitt & Berthon, 2014), and in so doing, become more knowledgeable and more interested in the offering category.

Demographic antecedents apply to objective consumer wine knowledge with older, more educated and female respondents exhibiting greater consumer wine knowledge. These demographic differences in segments may also influence adaptations to marketing strategies aimed at them. While short but relevant messages distributed through traditional information sources like wine magazines may be effective for the
knowledgeable segment, novices may need more elaborate, educational communication possibly distributed using new media tools more applicable to younger consumers.

**Consumer Wine Knowledge Types Provide a Useful Basis for Segmentation**

With both subjective and objective knowledge being relevant but essentially independent constructs and with various demographic variables acting as antecedents of objective consumer wine knowledge, but consumption an antecedent to subjective knowledge, it is evident that consumer wine knowledge may be a useful basis for wine market segmentation. While the above marketing strategy implications are based on a basic distinction between more and less objectively knowledgeable consumers, marketers may be able to further refine their strategies with the incorporation of what we know about consumers’ subjective knowledge. In this regard, a 2 x 2 grid of consumer wine knowledge types was proposed in Paper 1 and the managerial implications thereof elaborated in Paper 2. The grid is presented in Figure 3.1 above in the Theoretical contribution section.

The consumer wine knowledge types identified are thus potentially useful classifications for market segmentation strategy for wine marketers. By extension, similar classifications of consumer knowledge types could be insightful to marketers of other information-intensive products.
It is suggested that wine marketers could target these groups in reasonably distinct ways. For example, for the marketer targeting neophytes i.e. consumers low in both objective and subjective consumer wine knowledge but who still like to consume wine, marketing strategy might focus on a simple product, more intensively distributed with low prices, and more mass media communication. These consumers will most likely respond to brand names and labels that are fun and catchy to attract attention on congested supermarket shelves. As these consumers may experience higher perceived risk due to their lack of real and perceived knowledge, low prices, specials and promotions may be needed to entice trial but also mitigate purchasing risk. Marketers should aim at educating this segment of consumers. With the large number of both extrinsic and intrinsic attributes of wine, the marketer should build knowledge of those attributes most relevant to their wine i.e. attributes where their wine will be viewed most favorably. As novices have been found to use fewer attributes (Brucks, 1985) in both information search and evaluation, marketers may be able to influence the specific attributes used. As results above indicate, these are likely to be younger consumers who are probably not serious wine drinkers but who may, with appropriate education, mature into experts in the future.

_Snobs_ also know very little about wine but in contrast with Neophytes, they believe they know a lot about wine. Wine consumers in this segment may be expected to ‘names drop’ well-known brand names and
know some of the ‘wine’ terminology. They may also be brand loyal, and therefore be less price-sensitive. They may to be influenced by opinion leaders or wine labels displaying awards however are less likely to seek in-store assistance due to their over-inflated opinion of their knowledge (Famularo et al., 2010). Snobs may represent quite a challenge to marketers as their elevated confidence in their knowledge may make them harder to reach with communication efforts. While results are mixed, some research has found that high subjective knowledge leads to greater information search (Selnes and Troye, 1989). Marketers need to identify which forms of communication will have the greatest impact on these overconfident consumers.

Modests know more than they think they do. These consumers may be quite conservative in their exploratory behaviour due to their lack of confidence. They represent a different challenge to the marketer of assisting them to discover just how much they actually know. This might be achieved by blind tastings, competitions or wine quizzes sponsored by wineries, where they might be able to realise their consumer wine knowledge. Wine brands that are perceived to have assisted in building this awareness of knowledge, may be perceived more favorably and thus acquire greater loyalty.

Experts think they know about wine but in contrast with Snobs, actually do. They represent a valuable resource to wine marketers. They represent a highly credible, informal and impartial information source for opinion seekers. These consumers may also be more
exploratory in their behaviour because they can trust their knowledge to help them make good wine choices. Their perceived purchasing risk might therefore be lower. Marketers will need to provide them with information relevant to their choice criteria and which they can use in their communication with others.

The typology in Figure 3.1 also suggests that marketers can consider strategies that shift market segments between the cells, depending on how much knowledge the consumer has, or thinks they have, as implied by the arrows in Figure 3.3.

**Figure 3.3: Movement between the Consumer Wine Knowledge Types**

![Figure 3.3: Movement between the Consumer Wine Knowledge Types](image)
While it might be difficult to change Neophytes into Experts directly, it could be feasible to turn them into Modests or Snobs first, and then into Experts. Converting Neophytes into Modests would rely heavily on educational strategies, either by firms directly, or by industry bodies. In the case of wine this happens when individual wineries hold tastings on-site, or in sponsored events in restaurants. Industry bodies in wine producing countries, or consortiums of wine purveyors also hold courses that allow consumers to move from being novices all the way up to Master of Wine qualifications. For example, the Wine & Spirit Education Trust, usually referred to as WSET, is a UK organisation that was originally set up in that country by wine retailers and wholesalers to serve their own employees. Nowadays it is generally regarded as one of the world's leading providers of wine education. Its courses, offered in many different parts of the world, are increasingly attended by non-professional wine lovers, ranging from enthusiasts to connoisseurs (see http://www.wsetglobal.com).

Changing Neophytes into Snobs is also feasible, and this will best be done through clever marketing communication. Advertising could emphasise that the consumer has a better palate than they think they do. Wine companies could motivate servers in good restaurants, or their own staff who conduct estate tastings to praise the diner’s choice, or agree with their comments on a wine.
These suggestions do of course assume that Experts are more likely to consume more wine and be willing to pay higher prices, and this is not always true. There is evidence that Snobs are far more likely to value and consume wines, simply because they are more expensive. In 2006 it was observed that the best-selling wines in Moscow’s top restaurants were whichever wine was the most expensive (Deighton, et al., 2006). Experts are often “in the know” and as a result might be less willing to pay high prices. In Australia, for example, many prominent wine producers dispose of excess production by selling it in the form so called “cleanskins” – bottles with simple labels identifying cultivar and geography only (e.g. “Hunter Valley Merlot”, “Barossa Valley Chardonnay”), and on which the identity of the brand and producer are not disclosed at all. So in this case, producers are trying to withhold information from the market. However, many Experts pride themselves in being able to identify the source of the cleanskins, and then buying them at prices substantially lower than their branded counterparts. Another reason for not communicating knowledge is that by denying the availability of information, and keeping things secret, products can become more appealing (e.g. Hannah, et al., 2014).
CONSUMER WINE KNOWLEDGE IMPLICATIONS FOR EXPLORATORY PURCHASING BEHAVIOUR

Exploratory wine purchase behaviour was found to be positively related to objective consumer wine knowledge but not related to subjective consumer wine knowledge. This finding is important as it indicates that wine connoisseurs are more likely to try new wines. This may be because their cognitive knowledge structure (how the knowledge is categorised and layered) allows them to extract relevant information on the wine more easily and accurately than novices (who may rely on information such as the brand name) (Alba and Hutchinson, 1987) and thus they can place more trust in their exploratory decisions making their exploratory behaviour less risky.

On the positive side, exploratory wine buyers will be more likely to look for new products and therefore be more open to trying the innovations and the numerous new offerings of wine marketers. However, on the negative side, exploratory wine buyers may also be more prone to brand switching and less loyal, so that wine marketers might have to exert extra effort to keep these consumers more faithful to their brands. This is exacerbated by the finding that exploratory wine purchasing behaviour is more prevalent among those who consume more wine. This suggests that volume consumers are likely to be more fickle and less brand loyal. In addition, the results indicate that exploratory purchasing behaviour is moderately, but significantly driven by objective consumer wine knowledge. Those who possess more ‘real’ knowledge
of wine are those who will also explore new wines and may be less brand loyal. This can have positive effects. Knowledgeable wine drinkers may act as opinion leaders and provide useful information and guidance to novices who seek personal recommendations to reduce their perceived risk of trying new wine products (Barber et al., 2008b; Dodd et al., 2005) especially in the absence of an opportunity to taste the wine (Mitchell and Greatorex, 1989).

While this is good news for some wine marketers, especially of new wines, or established wines entering new markets; for existing wine brands where brand loyalty is considered important, the findings do present a challenge. Various brand loyalty strategies may be employed to limit or deter exploratory behaviour. These have been well documented in the literature but may include providing incentives, loyalty schemes, rewards, wine clubs, discussion fora, etc., all aimed at building an engaged community of loyal consumers. The important message however, is that loyalty will not occur without such efforts. Wine makers and marketers need to work hard to keep their brands innovative and to keep customers coming back.

**Implications of the Consumer Wine Knowledge Types for Variety-Seeking Behaviour**

The results of the study investigating the impact of the consumer wine knowledge types on variety-seeking behaviour indicates that consumer wine knowledge
type is a significant predictor of variety-seeking wine purchasing behaviour. Snobs and Experts are more likely to engage in variety seeking wine purchasing behavior than Modests and Neophytes. This may be because consumers perceiving to know everything that matters about a specific product category, in our case wine, feel more confident and perceive less risk in making new buying decisions than consumers low in subjective knowledge. This supports findings by (Cox, 1967; Matsusaka & Sbordone, 1995). These findings are important to wine marketers because consumers who know about wine (Experts) and consumers who think they know about wine (Snobs) are significantly more likely to try and to look for new wine products than consumers low in subjective knowledge (Neophytes and Modest). Yet this makes these types of consumers more prone to brand switching and less loyal to a focal brand. As a result, wine marketers may have to exert extra effort to keep these consumers more faithful to their brands than with their low subjective knowledge counterparts. Or, they might find value in constantly innovating and bringing new offerings to the attention of these consumer types. Segmenting their consumer base into variety-seeking and variety-avoiding wine acquirers may also help wine marketers with better, more appropriate target market strategies. Furthermore, wine marketers might also offer lower priced products to consumers with less consumer wine knowledge, and to those who might believe that there really is no discernible difference between expensive and cheap wines. This is done to entice these consumers to try something new at low financial risk.
Coupled to their lower tendency toward variety seeking, as shown in this research, a wine seller’s goal might be to get them to sample new offerings.

**CONSUMER WINE KNOWLEDGE AND OPINION LEADERSHIP AND SEEKING BEHAVIOURS**

In the information age, opinion leaders play a vital role in disseminating information and in influencing opinion seekers’ product knowledge and behaviours (Sarathy & Patro, 2013). Opinion leadership is therefore of tremendous importance to wine marketers because wine is such a heterogeneous, information-rich offering, in a market in which there is a plethora of brands. The success of wine critics such as Robert Parker (e.g. McCoy, 2005) and Jancis Robinson (e.g. Robinson, 1997) and wine magazines such as *Wine Spectator* and *Decanter* attests to the wine consuming public’s desire to seek the opinions of leaders on the subject of wine. However, opinion seeking does not only operate at these lofty levels – the opinion-seeking consumer also pursues the opinions of associates, friends, family members, sales assistants and waitrons who they deem to hold views that have value. While they may think (subjectively) that they know a little bit about wine, as our results demonstrate, they mostly do not, and the less they think they know, the more likely they are to seek the opinions of others.

Opinion leadership has long been of interest to marketers because opinion leaders play an important role in many successful marketing strategies and are a
key influence on the decision-making processes of others. An important finding of this research is that, in the case of wine, opinion leaders not only think they are knowledgeable, but that they generally are, and so their influence on others is not only based on communication, but on fact. This finding concurs with those reported by Sarathy and Patro (2013) in relation to real estate and Cowan and Dai (2014) in relation to fashion with both studies finding a high correlation between product knowledge and opinion leadership. These findings reinforce the importance of opinion leaders to marketers not only as a target market for marketers to provide with relevant brand-specific facts and experiences, but also as an important influencing agent.

Effective wine promotion strategies would do well to identify opinion leaders and exploit their tendency to influence others. For example, specialist wine retailers may indicate the wine’s rating by leading experts or provide a summary of the expert’s opinion on the wines sold, in an attempt to reduce the perceived risks opinion seekers experience. Jain and Posavac (2001) report that wine experts were particularly persuasive when they communicated about experience attributes of the wine. Sarathy and Patro (2013) hold that in the information economy, companies can use the recommendations, opinions and experiences of opinion leaders in their communication to other consumers in order to influence their purchasing behaviour. Wine marketers may also wish to develop direct marketing campaigns aimed specifically at opinion leaders (Flynn et al., 1996) due to the considerable influence on
opinion seekers. Since the findings of this research indicate that opinion leaders have high objective and subjective consumer wine knowledge, and Dodd et al. (2005) report that with both types of knowledge consumers’ tend to make use of impersonal sources of information, it is suggested that communication with opinion leaders may be best undertaken in the form of detailed wine guides and brochures.

This section has provided wine makers and marketers with an understanding of the implications of the research and recommendations for wine marketing that stem from the research. The next section provides recommendations for future research.
3.5 Future Research

Relationship between consumption and consumer knowledge

The research in this thesis surfaced mixed results when it comes to the relationship between consumption and knowledge. In Paper 3, wine consumption, a measure of familiarity, was found to be significantly positively related to objective consumer wine knowledge which supports past research which indicates that familiarity, or past experience with the product determines both objective and subjective knowledge (Alba & Hutchinson, 1987; Dodd et al., 2005; Puthankurissi Raju et al., 1995). However in Paper 1 wine consumption, was not found to significantly predict objective consumer wine knowledge. This could be due to the fact that consumption represents incidental knowledge which has been found to exhibit weaker and less permanent memory structures than intentional learning (Vanhuele & Drèze, 2002) which requires more active search and processing of information.

Determine the kinds of information that develop objective knowledge

In paper 1 the number of wine blogs read was found not to be a significant predictor of knowledge. As readership of wine blogs appears to be more active
knowledge acquisition, it would be expected that this form of knowledge acquisition would predict consumer wine knowledge. Is it possible that different types of marketing information provided to facilitate intentional learning, will produce different levels of consumer wine knowledge? Further research firstly needs to confirm whether intentional learning about wine results in great objective knowledge than incidental learning, and secondly determine what forms of information as well as search and processing behaviour actually lead to real consumer wine knowledge acquisition.

**RELATIONSHIP BETWEEN CONSUMER KNOWLEDGE AND BRAND LOYALTY**

As wine connoisseurs were found to be more exploratory in their behaviour, and this thus presents challenges for marketers in terms of brand loyalty, further research could look specifically at the relationships between consumer knowledge types and consumer based brand loyalty measures.

**EXTENSION OF THE STUDY TO OTHER WINE DRINKING MARKETS**

This research was conducted in the US only. Velikova et al. (2015) report that consumer wine knowledge is country-specific. Thus the findings of the current study may not be generalisable. The US is a market which is relatively new as a wine drinking market with mass-
market wine consumption a relatively recent cultural phenomenon and per capita wine consumption is much lower than many other countries such as France, Portugal and Spain. It would be interesting to extend this study to markets where drinking wine is a significant part of the cultural behaviour.

**Extension of the Study to Other Information-Intensive Products**

This research has focused on wine as an information-intensive product but future research may investigate whether similar findings in terms of the constituents, antecedents and consequences of consumer knowledge are found with other information-intensive products like cars, whiskeys or computers.

**Validation of the Consumer Knowledge Types Grid**

As this research was exploratory, future research to validate the typology should be undertaken. Larger quantitative studies using different sampling methods could be used to provide more generalisable data. Such research could also investigate its usefulness with regards to different information-intensive products, but possible even to other types of products. It will be useful to explore the consumer behaviour differences of these segments and the implications thereof for marketers.
APPLICABILITY OF THE CONSUMER KNOWLEDGE TYPES GRID TO SOCIAL MARKETING CONTEXTS

The segments of experts, snobs, modests and neophytes might have value applied to social marketing behaviour change contexts such as healthy eating, anti-smoking, environmentally friendly or even blood donation behaviours. For example when it comes to the environmental friendly behaviours, many governments and non-profit organisations have spent millions on educational campaigns and yet a gap between knowledge and behaviours still exists. Could the differences between objective and subjective knowledge provide new insights into understanding this gap? Could the communications campaigns be inappropriate because many consumers are snobs and think they know about the environment and their impact on it, when in fact they don’t?

DEEPER UNDERSTANDING OF THE CONSUMER KNOWLEDGE TYPE’S CONSUMER BEHAVIOUR

It would be useful for wine marketers to understand all aspects of the consumer decision making process with regards to wine and identify differences between the segments (experts, modests, snobs and neophytes). For example, how they search for wine-related information, what brand attributes appeal most to them, what label information is relevant to them, how they perceive different aspects of the label (e.g. the
imagery, name, fun versus serious and technical information, their understanding of technical information), what sources of marketing communication they use, how they respond to pricing and promotional strategies, where they prefer to buy from, etc.

**Comparison of the Consumer Wine Knowledge Segments with Other Wine Segments Identified**

The wine segments identified here could also be compared to the recent wine market segmentation proposed by Brunner and Siegrist (2011) based on the Swiss wine market or to that proposed by Charters and Ali-Knight (2002) and Molina, Gómez, González-Díaz, and Esteban (2015) used to segment the wine tourism markets.

**Understanding the Content of Objective and Subjective Knowledge**

This research has established that there are differences between consumers’ objective and subjective knowledge levels but future research might focus on the content and structure of knowledge that falls into these two different types. Are there particular topics related to wine where objective and subject knowledge are likely to be similar and are there other aspects where miscalibration is more likely? Is the
structure of objective consumer wine knowledge (e.g. how knowledge is layered and associated with other constructs) similar for objective and subjective wine? Are the recall mechanisms the same? Specifically related to wine, do knowledgeable and novice consumers interpret wine label information in the same way? What associations do wine terms used on front and back wine labels have with different information topics for the wine connoisseur versus the wine novice? D. Marks (2014) for example finds that consumers have difficulty understanding wine ratings. As these are aimed at reducing the risk for novice consumers, what impact does this confusion have on novice wine consumer’s wine buying behaviour?

**CONSUMER KNOWLEDGE AND KNOWLEDGE DISCRIMINATION**

New research investigating knowledge discrimination (the ability to distinguish what one knows from one what one doesn’t know or is lacking) and its relationship to objective knowledge and confidence finds that objective knowledge has an inverse relationship with discrimination while confidence has a positive effect (Pillai, Brusco, Goldsmith, & Hofacker, 2015). These authors explain that consumers with high objective knowledge tend to have a “general feeling of knowing which lowers discrimination” which in turn leads to suboptimal choices, lower levels of satisfaction and more likelihood of regret (Pillai et al., 2015, pp. 94-95). As this finding seems to contradict
previous research which highlights the advantages of objective knowledge, this seems worthy of further research particularly within the information-intensive product context.

**WINE MARKETERS KNOWLEDGE OF WINE CONSUMERS?**

The focus of this research has been on consumer knowledge but marketers make decisions on the basis of their knowledge of their markets. Could the distinction between objective and subjective knowledge be useful in categorising wine marketers. Could different marketing strategies be expected from different segments of wine marketers? Could wine educators use different strategies to move wine marketers from one segment to another, as has been recommended in this thesis for moving wine consumers.

**CONSUMER’S KNOWLEDGE OF THE PRODUCT VERSUS SELF-KNOWLEDGE**

A further interesting area for future research related to consumer knowledge may be to introduce the distinction of product-knowledge and self-knowledge. Customers make decisions based on the relationship between knowledge of themselves and knowledge of products. It may be postulated that consumption satisfaction is highest when customers have an
accurate perception of self-knowledge and an accurate perception of product knowledge, and lowest when customers have inaccurate self-knowledge and inaccurate product knowledge.

**OBJECTIVE KNOWLEDGE MEASURES**

While the measures for objective consumer wine knowledge used in this study worked reasonably well in discriminating between respondents with different levels of knowledge, there is an opportunity for wine marketing scholars to continue work in this area. A number of issues are worth considering: Is a longer test necessary, and will it work better? Velikova et al. (2015) for example have recently developed a 44 item objective knowledge scale. Is a multiple-choice format (that allows for guessing) necessarily the best format?; and should a test be more country specific, or does an internationally based one (such as the one used here) work better? Li et al. (2011) recommend the development of culturally adjusted objective consumer wine knowledge scales.
3.6 Conclusion

Wine is a complex and information-intensive which is available in a multitude of product attribute combinations and brands providing consumers with a great deal of choice. These characteristics of wine make decision-making more complex for consumers. Understanding what consumers know, and think they know and how this knowledge affects other behaviours is not only useful to academics, but vital for wine marketers. This study investigated the constituents of consumer wine knowledge, objective and subjective knowledge, as well as determined key antecedents affecting consumer wine knowledge. It also investigated the critical role consumers’ wine knowledge plays in influencing other consumer behaviours such as exploratory purchasing behaviour and particularly variety-seeking behaviour as well as opinion leadership and seeking behaviours. It thus adds to our knowledge of the nomological map for the consumer knowledge construct within the domain of wine. Theoretical implications as well as recommendations for wine marketers, researchers and academics interested in this, and other information-intensive products, are provided.
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