Consumer Involvement and Knowledge Influence on Wine Choice Cue Utilisation

by

Johan Bruwer[1], Polymeros Chrysochou[1 2] and Isabelle Lesschaeve[3]

[1] School of Marketing, Ehrenberg-Bass Institute for Marketing Science, University of South Australia, Australia

[2] Department of Business Administration, Aarhus University, Denmark

[3] Department of Food Science, University of Guelph, Ontario, Canada

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Corresponding Author: Professor Johan Bruwer
School of Marketing, Ehrenberg-Bass Institute for Marketing Science
University of South Australia,
City West Campus, 70 North Terrace, SA 5063, Australia
Phone: +61 +8 8302 0135
Fax: +61 +8 8302 0442
Email: johan.bruwer@unisa.edu.au

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Abstract

Purpose - This study examines the utilisation of product choice cues in a retail environment and the impact of consumer involvement on this utilisation. It further investigates the impact of product knowledge on product choice cue utilisation and its moderating role on the impact of consumer involvement.

Design/Methodology/Approach - The case of wine as an exemplary product category is considered, given the importance and variability of choice cues that have been found to affect product choice. Analysis is conducted on survey data from a sample of wine consumers in Ontario, Canada. Product choice cues are grouped into extrinsic, intrinsic and marketing mix. The importance of how these cues are influenced from different dimensions of consumer involvement is illustrated.

Findings - The results show that product knowledge has a positive impact on intrinsic product cue utilisation and further moderates this relationship improving the predictability of the hypothesized model. Implications for theory and practice are also discussed.

Practical implications - From an industry viewpoint, the focus in the past has mostly been on using packaging to attract attention/create awareness, create an image of desirability, etc. but not nearly as much on the functionality aspects thereof; for example alternative smaller packaging sizes to the standard 750 ml wine bottle.

Originality/Value - The study uses a multi-dimensional approach to measure the impact of enduring involvement on utilisation of product choice cues. It further investigates the impact of product knowledge on product choice cue utilisation and its moderating role on the impact of consumer involvement.

Keywords: Choice cues; involvement; knowledge; consumer behaviour; segmentation; wine

Paper type: Research paper

1. Introduction

In everyday life consumers are “exposed to a seemingly infinite number of cues” (Berger and Fitzsimons, 2008, p.2). During the buying decision-making process consumers rely on various characteristics or ‘cues’ of products in their evaluations to determine product quality (Jover

et al., 2004; Lee and Lou, 1996; Steenkamp, 1990). According to cue utilisation theory, a product consists of an array of cues that serve as surrogate indicators of quality to consumers/shoppers (Richardson *et al*., 1994). A mere interest in a particular product category, sometimes also referred to as product involvement, does however not serve to fully explain how product choices are made, nor whether moderating factors such as product knowledge also play a role in the process. Product knowledge in turn, varies between consumers who can be regarded as experts and those who have very little knowledge about product features (cues).

A good case in point is the wine market wherein the behaviour of consumers is arguably the single aspect of business that wine businesses should understand best, but for a variety of reasons, know least about in reality. As wine increasingly becomes a lifestyle beverage and more acceptable and desired by a wider spectrum of consumers, there is a greater need to understand consumption patterns, profiles and consumer values (Bruwer, 2014). The wine retailing environment presents the consumer with a vast array of products and product attributes to consider when making a purchase decision. In order to choose a wine, consumers examine the products' attributes as part of a risk-reduction strategy (RRS) (Lacey *et al*., 2009). Not surprisingly, the wine buying decision has been described as 'complicated' and 'difficult' (Bruwer and Li, 2007), with several product cues influencing the consumer's final choice.

Most of the literature on consumer decision-making cues focus on cognitive measures of decision-making based on the order of product attributes considered, also in the case of wine (McCutcheon *et al*., 2009). It is however not conclusively known how much product choice cues are influenced by involvement, combined with what the role of product knowledge is in the process. Chaney (2000) for example, found there is a very little external search effort undertaken prior to entering the store to purchase wine. In our study we use a multi-dimensional approach to

measure the impact of enduring involvement on utilisation of product choice cues. We further investigate the impact of product knowledge on product choice cue utilisation and its moderating role on the impact of consumer involvement in the Canadian market.

2. Background and Literature Review

2.1 Product Choice Cues

Regardless of product type, in a product quality evaluation situation product choice cues are dichotomised as either extrinsic or intrinsic to a product (Lee and Lou, 1996; Olson and Jacoby, 1972). Intrinsic cues are physical attributes of a product (i.e. taste) while extrinsic cues are product-related but not part of the physical product (i.e. brand name, price, origin, etc.) (Olson and Jacoby, 1972).

Extrinsic cues, when compared with intrinsic cues, are more general and applicable to a wider range of products, whereas intrinsic cues are specific only to a particular product. Intrinsic cues cannot be altered without changing the nature of the product itself (Jover *et al*., 2004). It is believed that consumers are generally more familiar with extrinsic than with intrinsic cues, and thus tend to rely more heavily on them when evaluating products. The significant effects of extrinsic cues (also called image variables) on product evaluations found in previous studies substantiate such belief (Dodd *et al*., 2005; Grunert *et al*., 2000). However, "it has also been suggested that extrinsic cue effects are not universal and are moderated by consumers' individual differences" (Lee and Lou, 1996, p.22).

Most of the emphasis in previous research has been on the role that brand (name) as an extrinsic cue plays on product quality evaluation by consumers. Mora and Moscarola (2010) went as far as to suggest that brand (name) is a surrogate for some of the intrinsic cues. They

argued that this could be explained by the fact that consumers are generally more familiar with brand name than with the products' intrinsic cues. The wine product category is a particularly good case in point. Despite the use of traditional marketing cues such as product, pricing and promotion, wine has a unique constraint that sets it apart from traditional products, primarily because the quality characteristics of the product cannot be accessed until after it has been consumed. For example, intrinsic cues such as taste and aroma cannot be accessed in a wine store retail environment without first purchasing and tasting the wine (Barber *et al*., 2006; Barber *et al*., 2009).

When a product has a high proportion of attributes that can only be assessed during consumption, then the ability of consumers to assess quality prior to purchase is severely impaired, and consumers will fall back on extrinsic cues in the assessment of quality (Mueller *et al*., 2010; Speed, 1998). Moreover, Berger and Fitzsimons (2008) argued that product choice cue exposure in the retail environment is strongly affected by the physical environment, for example through regulations and laws that differ between countries, and even provinces/states. In this context, the wine category again is quite unique in that liquor trading laws between the supermarket-dominated environments of France and the UK differ vastly from government-controlled retail monopolies such as *Systembolaget* in Sweden, *LCBO* in Canada, and *PLCB* in Pennsylvania, USA. Restrictions on product display, advertising and promotion increases consumers' reliance on extrinsic product cues within the store environments of government-controlled liquor retail monopolies.

Specific to the wine product category, Lockshin and Cohen (2011) identified a total of 13 choice cues consumers might use in wine selection. Brand name and awards (gold medals) had the greatest effect on wine choice probability, but were moderated by involvement. They were

followed by region of origin (Johnson and Bruwer, 2007; Verdonk *et al*., 2015). Involvement level had a strong effect across region salience, brand size and price level (Lockshin and Cohen, 2011). Research by Skuras and Vakrou (2002) suggests that country of origin is a primary and implicit consideration of consumers in their decision to purchase wine. The reputation of the producer and objective knowledge-related wine trait measures such as the wine's year of vintage, region from which the grapes were sourced and the grape variety, were also found to be significantly related to price (Oczkowski, 2001; Thomas and Pickering, 2003).

Perceived product quality is thus an abstract construct and of a multi-dimensional nature (Guo and Meng, 2008). Although there are two different streams of research perceptions of quality, namely that perceptions of quality are based on one or more extrinsic cues or on intrinsic cues (Steenkamp, 1990), others (i.e. Grunert *et al*., 2000) integrated both views. In our study we adopted the latter approach because neither the extrinsic nor the intrinsic paradigms have been proven to be superior, plus the fact that the government-owned and controlled wine retail environment within which we conducted our study precludes certain cues such as in-store tastings.

2.2 Product Involvement

Involvement has been a topic of interest in consumer research literature for the past three decades (Lesschaeve and Bruwer, 2010). It has been defined as a person's perceived relevance of an object based on his/her needs, values and interests (Zaichkowsky, 1985). Whereas the historical roots of the involvement construct can be found in social psychology, dating as far back as 1947 when the construct was first mooted, it was not until the mid-eighties when researchers began to understand the importance of studying the construct for the purpose of segmenting markets (Lesschaeve and Bruwer, 2010). The involvement construct has since then,

received much attention due to its significant influence on consumer information processing and purchasing behaviour (Lee and Lou, 1996).

From early on, wine has been regarded as a product category well suited to involvement research with the first research executed by Zaichkowsky (1985) in what has become a seminal study. Not surprisingly, research in wine has identified involvement as an important variable that has a certain impact upon consumer behaviour in the wine market (Lockshin *et al*., 2001). Although much of the involvement research focused on its role in advertising, the demonstrated relevance of involvement in the purchase of wine is supported by several recent empirical studies (Bruwer and Buller, 2013; Bruwer and Huang, 2012; Hirche and Bruwer, 2014; Ogbeide and Bruwer, 2013).

There is general consensus that involvement can be classified into three broad areas, namely enduring, situational and response. Most of the research focus has however been on enduring and situational research (Lesschaeve and Bruwer, 2010). Enduring involvement refers to the general personal relevance of a product category such as wine (Ogbeide and Bruwer, 2013), while situational involvement is transitory and largely a function of short-term changes in the consumer's immediate environment (Lee and Lou, 1996), such as an in-store promotion of wine. Enduring involvement would affect consumers' use of extrinsic cues and hence the current study operationalised the involvement construct from an enduring perspective.

2.3 Product Knowledge

Interest in a product motivates people to seek further knowledge about the product (Park and Moon, 2003), which points to a relationship between knowledge and product involvement. Guo and Meng (2008) are of the opinion that the level of product knowledge of consumers helps in

better understanding consumer behaviour and activities. Accordingly, Likoudis *et al*. (2015, p.2) state that…"consumers' knowledge about a product constitutes a potent force in driving consumer behaviour." Product knowledge is part of consumer expertise (Viot, 2012). Expertise is in turn a multi-dimensional construct comprising familiarity with the product category and results from accumulated experience with the product and knowledge of the product. Regarding wine, expertise results from knowledge and sensory ability (Viot, 2012). The major obstacle to define and assess the characteristics of expertise is its product-specific nature. At the most basic level, wine expertise is based on advanced perceptual and cognitive skills. In other product categories, it has been widely accepted that expert superiority relies mainly on cognitive, product-specific knowledge (Velikova *et al*., 2015).

Expertise is generally related to the level of involvement a consumer has with a specific product category (Bruwer *et al*., 2014; Lesschaeve and Bruwer, 2010). Consumer knowledge is thus a multi-dimensional construct comprising of the level of familiarity and expertise with the product category (Guo and Meng, 2008). Experts and novices differ in the amount, content and organisation of their knowledge about wine (Velikova *et al*., 2015). Viot (2012) found that expert consumers attach more value to the origin of wine, the terroir and other product-related characteristics such as vintage.

Consumer researchers have viewed knowledge from three perspectives: familiarity or past product experience, objective, and subjective knowledge (Vigar-Ellis *et al*., 2015). Past experience has been found to influence both objective and subjective knowledge (Dodd *et al*., 2005). Objective knowledge is referred to as 'real' knowledge, or simply what the consumer actually knows. It 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 (Vigar-Ellis *et al*., 2015). Subjective knowledge in the consumer behaviour literature refers to self-assumed knowledge, or how much one *thinks* he/she knows about a topic (Vigar-Ellis *et al.*, 2015). It has been found that subjective knowledge can better capture consumer decision-making and strategies because they are based on perceptions and self-confidence. Moreover, subjective knowledge is a superior predictor of purchase behaviour and more critical for product evaluation purposes than objective knowledge (Guo and Meng, 2008). For these reasons, and the associated measurement difficulty of objective knowledge, we adopted a conceptualisation of subjective knowledge in the current study.

In the case of wine, subjective knowledge has been found to be significantly higher amongst Generation X consumers than Millennials (Barber *et al*., 2009) and amongst males than females (Barber *et al*., 2009; Bruwer, 2014). Wine knowledge has been found to significantly influence the extent of information search and sources used as well as the attributes used to evaluate wines (Barber *et al*., 2009; Dodd *et al*., 2005).

Regarding consumer knowledge and experience, the findings of Dodd *et al*. (2005) could be well-considered in the wine involvement context. Experience, knowledge and information sources have been tested against wine purchases for home consumption and restaurant consumption. People with high objective knowledge of wine tend to source their information from impersonal sources (Hirche and Bruwer, 2014). It is also accepted that consumers with high levels of enduring involvement with a product category are likely to have high levels of expertise (knowledge) about that category. Lockshin *et al*. (2001) asserted that because wine product category involvement is enduring, it has a long-term effect on how people act towards this category.

3. Methods

3.1 Data collection and measures

A questionnaire was developed and pretested among 10 respondents with similar characteristics to the final sample. The recruitment of the consumers was outsourced to a service provider who recruited the participants (with no gender or age quota restrictions) from its database of wine drinkers living in Ontario, Canada. Because the current study was part of a larger survey that included the sensory preferences of the respondents, the questionnaires were administered to them in a controlled laboratory environment. All questionnaires could be utilised because they were checked for completion while the respondents were still in attendance to provide any missing information, if needed. In total, 120 participants successfully completed the survey. Table 1 provides the characteristics of the sample.

--- Insert Table 1 here ---

The questionnaire included the following sections. First, we measured the importance consumers assign to a list of attributes when buying wine on a Likert 7-point importance scale (1 = not important; 7 = extremely important). The attributes used were: a) ageing potential; b) vintage; c) grape variety; d) wine style (e.g. red/white); e) wine brands; f) country of origin; g) price; h) advertising promotion and specials; and i) packaging. Second, we measured consumer involvement in wine by adapting the widely accepted scale of Laurent and Kapferer (1985) on a 7-point Likert agreement scale (1 = strongly disagree; 7 = strongly agree). Table 2 presents the manifest variables, the descriptive measures and internal consistency. Third, we assessed consumer subjective knowledge with wine (1 = know little; 2 = somewhat knowledgeable; 3 = very knowledgeable) and wine consumption frequency (1 = once a day; 2 = few times a week; 3 = once a week or less). Finally, we assessed consumers' socio-demographic background.

--- Insert Table 2 here ---

3.2 Exploratory factor analysis

We performed an exploratory factor analysis to uncover the underlying factors behind the choice attributes. For the analysis, we used principal component analysis (PCA) with varimax rotation. A three-factor solution emerged that explained 63.7% of the variance (see Table 3). Furthermore, the Kaiser-Meyer-Olkin (KMO) index that indicates sampling adequacy was 0.63, which although small, we considered it acceptable since it was above recommended thresholds (0.50; Kaiser, 1974). We labelled each factor as: intrinsic; extrinsic and marketing mix factor.

--- Insert Table 3 here ---

3.3 Model estimation

To test the impact of consumer involvement dimensions on wine buying choice factors we applied a partial least squares (PLS) approach to structural equation modelling. Compared to covariance-based approaches, PLS is more appropriate when the sample size is relatively small and data are not normally distributed (Ringle *et al*., 2012), which was the case with our data. We modelled all indicators in the model as first-order reflective constructs. All analyses were performed using SmartPLS 3 (Ringle *et al*., 2015). Below we report validation measures of the initial model (i.e. without including wine knowledge as moderator).

3.3.1 Measurement reliability and validity

Table 4 reports the reliability and validity measures for all first-order constructs. All latent variable composite reliabilities exceeded the threshold of 0.7, indicating a high level of internal consistency (Jarvis *et al*., 2003). Moreover, all items loaded significantly on their respective constructs and most of them above the threshold of 0.7 (Chin, 1998a). The average variance

extracted (AVE) values were above 0.5, indicating high convergent validity (Henseler *et al*., 2009), apart from the intrinsic buying choice factor for which the value was very close to the threshold (0.49). Finally, we inspected discriminant validity using the Heterotrait-Monotrait (HTMT) criterion (Henseler *et al*., 2015). All values were below the critical value of 0.85 indicating that discriminant validity is established (see Table 5). Finally, in order to assess significance of the estimates we followed a bootstrapping procedure using 5,000 subsamples, as recommended by Hair *et al*. (2017).

--- Insert Tables 4 and 5 here ---

3.3.2. Structural model results

PLS does not provide any goodness of fit measures, and only recently some measures have been proposed (Hair *et al*., 2017), which still should be considered with caution. We decided to use the root mean square residual (RSMR) as a criterion of overall goodness of fit, which indicates the difference between the observed correlation and the model implied correlation matrix. The value of the saturated model was 0.098, that falls in the range of 0.08-0.10 that indicate a good fit (Hair *et al*., 2017)

3.3.3 Common method bias

Since we used self-reported data, we further checked whether common method bias could be an issue. We performed the procedure suggested by Liang *et al*. (2007) by including a common method factor whose indicators included all the principal constructs' indicators. We then calculated each indicator's variance substantively explained by the principal construct and by the method. The results indicated that the average substantive variance of the items was 0.82, while the average method variance was 0.01. This formed a ratio of substantive variance to method

variance of about 82:1. In addition, a small number of method factor loadings were found significant (2 out of 27). According to Podsakoff *et al*. (2003) the two criteria that indicate absence of common method bias is when method factor loadings are insignificant and items' substantive variances are substantially greater than their counterpart method variances. We thus concluded that common method bias was not a serious concern for our study.

4. Results

From the list of wine choice attributes, the most important was wine style and the least important was packaging (see Table 3). Table 6 and Figure 1 present the results of the PLS analysis. Interest shows a significant and positive impact (b = 0.42) on the intrinsic buying choice factor. Risk importance has a significant and positive impact (b = 0.17) on the extrinsic buying choice factor. Finally, risk probability has a significant and positive impact (b = 0.38) on the marketing mix buying choice factor. Furthermore, inspection of the R-squared values for each predicted variable suggested that the explanatory power of the model is substantial both for predicting intrinsic (R^2 = 0.20) and marketing mix (R^2 = 0.19) buying choice factors (Chin, 1998b).

---Insert Table 6 here---

---Insert Figure 1---

We next added wine knowledge as moderator to the model. Similarly, we modelled wine knowledge as a first-order reflective construct that consisted of one manifest variable. The exploratory power of the resulting model has improved, especially for predicting extrinsic (R^2 = 0.20) buying choice factors (see Table 7). In relation to the intrinsic buying choice factors, the results show that knowledge has a significant and positive impact (b = 0.18). With regard to the extrinsic buying choice factor, the interaction between wine knowledge and risk probability is

negative (b = - 0.24), whereas the interaction between wine knowledge and risk importance is positive (b = 0.23). Finally, in relation to the marketing mix buying choice factors, the interaction between wine knowledge and interest is positive (b = 0.31), whereas the interaction between wine knowledge and sign is negative (b = - 0.22).

---Table 7 here---

5. Discussion

Consumers do not place the same importance on product choice cues. In the case of wine, our findings show that grape variety and wine style are the most important ones, whereas packaging is perceived to be of least importance. Earlier research provides similar findings (Casini *et al*., 2009; Chrysochou *et al*., 2012; Goodman, 2009). Our findings further show that product choice cues in relation to wine fall in three main categories, namely intrinsic, extrinsic and marketing mix related. Considering the importance of individual product choice cues, we propose that extrinsic factors are those that consumers emphasize more during purchase, whereas marketing mix factors influence them the least.

In relation to the role of enduring involvement, we find that each product choice factor is influenced by a different component of involvement. More specifically, interest has a positive impact on intrinsic product cues, risk importance on extrinsic product cues, and risk probability on marketing mix cues. These aspects have not been tested in previous research (i.e. Ogbeide and Bruwer, 2013) and although these results are a contribution our study makes, their extended value is also in the fact that this highlights future research direction(s) to conduct further empirical testing thereof. Given that enduring involvement is a multi-dimensional construct (Ogbeide and Bruwer, 2013), the fact that the interest dimension of involvement has a positive impact on intrinsic cues, could have been masked by the fact that often product interest is

moderated by product knowledge (Guo and Meng, 2008; Lee and Lou, 1996). This means that the positive impact of interest on intrinsic cues, rather than on extrinsic cues, has product knowledge as its underlying reason. Consumers often use extrinsic choice cues more than intrinsic cues in retail environments (Berger and Fitzsimons, 2008) because of the nature of the physical environment, particularly in the case of wine which is an experiential product (Bruwer, 2014). Risk importance is therefore more likely to impact strongly on extrinsic cues as the intrinsic cues cannot be assessed in store (Lacey *et al.*, 2009). The positive impact of risk probability on marketing mix variables is most likely the result of the latter being very prominent in the wine buying retail environment (as opposed to intrinsic cues), and consumers being aware of these 'markers' because of familiarity with what they will encounter in the retail environment.

The role of product knowledge in influencing utilisation of product cues is rather important, considering that the explained variance of the resulting model improved considerably. Product knowledge showed a positive impact on utilisation of intrinsic product cues, although it was only marginally significant. This is not surprising, given that the existence of a relationship between product involvement and knowledge has been proven (Guo and Meng, 2008).

Moreover, because interest in a product such as wine motivates people to seek further knowledge (Park and Moon, 2003), once they have a level of knowledge about the external cues of wine, they are likely to be motivated to increase their knowledge about the internal cues as well. In addition, product knowledge moderated the impact of consumer involvement on utilisation of extrinsic and marketing mix product choice cues. In relation to utilisation of extrinsic product cues, the greater the product knowledge, the greater the importance of risk importance and the lower the importance of risk probability. Wine consumers generally

understand through conditioning and repeated exposure the risk of making poor product choice decisions within the complicated retail environment where wine is sold (Lacey *et al*., 2009). Therefore, with increased levels of product knowledge, they are more able to discern between the probability of a high or low risk situation occurring which lowers the importance of risk probability, but in turn increases the impact of risk importance. This could be the result of an increased perception that, *if* the risk situation does manifest itself clearly, the consequences could be severe, perhaps because within a lower risk probability situation they are likely to take more risk, i.e. buy a more expensive wine.

In relation to utilisation of marketing mix product cues, the greater the product knowledge, the greater the importance of interest and the lower the importance of sign. Given the existence of a positive relationship between product involvement and knowledge (Guo and Meng, 2008): higher interest ----> higher knowledge, the importance of sign decreases when product knowledge increases (Laurent and Kapferer, 1985). This occurs because sign is a collective self-image / social status variable and hence a high level of knowledge (at least mentally) largely 'displaces' the role that sign would have on its own.

6. Conclusions, implications, limitations and future research

6.1 Conclusions and implications

To date, most of the literature on consumer decision-making choice cues focus on cognitive measures of decision-making based on the order of product attributes considered. It is however, not known how much product choice cues are influenced by involvement, or what the combined role of knowledge is in the process. In our study we use a multi-dimensional approach to measure

the impact of enduring involvement on utilisation of product choice cues and investigate the impact of product knowledge on product choice cue utilisation and its moderating role on the impact of consumer involvement.

We grouped product choice factors into extrinsic cues, intrinsic cues, and marketing mix factors and examined how the importance of these cues is influenced from the different dimensions of consumer enduring involvement using a multi-dimensional approach. Broadly speaking, different levels of involvement influence product choice cue utilisation and product knowledge is an importance measure to be considered in explaining this relationship. Product knowledge has a positive impact on intrinsic product cue utilisation and further moderates this relationship improving the predictability of the hypothesized model.

Our study also has a number of practical implications. From an extrinsic cues viewpoint, grape variety and wine style are the most important choice cues, while packaging is the least important. Although one would (logically) expect that wine producers would positively react to the needs of retailers who are in more direct touch with the needs and wants of consumers and provide wine styles and grape varieties, either in singular or blended format, that closely match these needs, wine is an agricultural product with inherent vintage variation which creates a challenge in terms of complying with this objective. While the value of the products' packaging to attract consumers' attention is widely accepted, in the case of the wine product category packaging has often rated as only moderately important in purchase decisions (i.e. Lockshin and Cohen, 2011). From an industry viewpoint the focus in the past has mostly been on using packaging to attract attention/create awareness, create an image of desirability, etc. but not nearly as much on the functionality aspects thereof; for example alternative smaller packaging sizes to the standard 750 ml wine bottle. Another implication of our research from a retailing viewpoint,

is that informative product displays (i.e. shelf stickers), in retail store settings will provide the opportunity for consumers to increase their product knowledge in the buying situation, which in turn, is likely to result in an increase in the utilisation of intrinsic cues and the likelihood of decreased risk probability perception. Whereas our research shows that marketing mix factors have the least influence on product choice decisions, these factors are under the direct control of retailers and attention to detail is likely to be conducive towards creating a less cluttered shopping environment of lower complexity from the consumer's viewpoint.

6.2 Limitations and future research

Being exploratory in nature, the study has some limitations. The research is conducted in a specific country environment and because cultural difference(s) could have impacted on some of the results caution should be exercised when generalising the findings to other contexts. Moreover, Canada is one of very few countries where the retailing of wine is controlled by the government, to such a degree, that it actually owns the liquor stores in a province such as Ontario. This fact, and restrictions placed upon advertising and promotion of wines could have impacted upon the indications of product choice cue utilisation provided by the respondents. On the other hand, given the relative uniformity of these retail store environments by virtue of their ownership and management by a single entity, the results should be strongly reflective of the utilisation of product choice cues when buying wine and how these relate to product category involvement and product knowledge. Given the finding of our study that each product choice factor is influenced by a different component / dimension of involvement, future research could further explore all the reasons why interest has a positive impact on intrinsic product cues, risk importance on extrinsic product cues, and risk probability on marketing mix.

Our research provides some clear insights into wine choice cue utilisation and how it relates to product category involvement and product knowledge and it is recommended that it be repeated in other country retail environments, particularly those where the retailing of wine is deregulated. Examination of the risk construct could also yield some further insights in terms of its specific role in wine choice cue utilisation and relationship with both wine product involvement and wine product knowledge.

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Table 1: Respondent socio-demographics and wine purchase characteristics

Characteristic	**%**
Gender	
Male	45.0
Female	55.0
Age groups	
Below 28 years	34.1
29-34 years	22.5
35-40 years	21.7
Above 45 years	21.7
Education	
High school	15.0
Junior college/associate degree	34.2
Bachelor degree	33.3
Graduate studies/Master's degree	17.5
Household annual income (Canadian Dollars)	
<$50,000	11.8
$50,001 - $75,000	28.6
$75,001 - $100,000	26.8
$100,001 - $150,000	16.8
> $150,000	16.0
Wine knowledge	
Know little	35.0
Somewhat knowledgeable	46.7
Very knowledgeable	18.3
Wine consumption frequency	
Once a day	12.5
Few times a week	58.3
Once a week or less	29.2

Table 2: Involvement scale items*, descriptive measures and internal consistency

Dimension	Manifest Variable	Mean	SD	Cronbach's Alpha
Interest	INT1 - I attach great importance to wine	4.19	1.58	.76
	INT2 - One can say that wine interests me a lot	4.82	1.35	
Pleasure	PLS1 - It gives me pleasure to purchase wine	5.19	1.19	.85
	PLS2 - Buying wine is like buying a gift for myself	5.16	1.24	
	PLS3 - Wine is somewhat of a pleasure to me	5.56	1.02	
Sign	SIGN1 - You can tell a lot about a person by the wine her or she chooses	4.32	1.52	.83
	SIGN2 - The wine you buy tells a little bit about you	4.53	1.44	
	SIGN3 - The wine I buy gives a glimpse of type of man/woman I am	4.13	1.62	
Risk Probability	PROB1 - When one purchases wine, one is never certain of one's choice	3.78	1.43	.78
	PROB2 - Whenever one buys wine, one never really knows whether they are the ones that should have been bought	4.03	1.55	
	PROB3 - When I face a shelf of wine, I always feel a bit at a loss to make my choice	4.12	1.57	
	PROB4 - Choosing wine is rather complicated	4.07	1.54	
Risk Importance	IMP1 - It is really annoying to purchase wine that is not suitable	4.31	1.58	.68
	IMP2 - If, after I bought wine, my choice(s) prove to be poor, I would be really upset	4.79	1.56	

* Laurent and Kapferer (1985)

Table 3: Importance of product attributes and results of exploratory factor analysis (EFA)

Product Attributes	**Mean**	**SD**	**F1 - Intrinsic**	**F2 - Extrinsic**	**F3 - Marketing Mix**
Ageing potential	4.24	1.68	.86*		
Vintage	4.17	1.72	.84		
Grape variety	5.46	1.22		.73	
Wine style (e.g. red/white)	5.71	1.16		.72	
Wine brands	4.85	1.49		.70	
Country of origin	4.83	1.62	.45	.63	
Price	5.41	1.28			.85
Advertising, promotion, specials	4.39	1.54			.73
Packaging	3.85	1.61			.62
Eigenvalue			2.77	1.63	1.34
% of variance explained			30.72	18.06	14.88
Kaiser-Meyer-Olkin (KMO) Index			.63		

Note: *represents factor loadings (only those >0.40 are presented)

Table 4: Measures of reliability and validity for the first-order reflective constructs

Construct	No. of Indicators	Composite Reliability	Item loading Range	AVE
Involvement Dimensions				
Interest	2	.89	.88 → .92	.81
Pleasure	3	.90	.72 → .95	.76
Sign	3	.90	.79 → .91	.75
Risk Probability	4	.85	.61 → .87	.59
Risk Importance	2	.85	.75 → .95	.73
Buying choice factors				
F1 - Intrinsic	2	.92	.91 → .93	.85
F2 - Extrinsic	3	.80	.63 → .78	.49
F3 - Marketing Mix	3	.79	.72 → .77	.55

Table 5: Assessment of discriminant validity of the first-order constructs using the Heterotrait-Monotrait (HTMT) criterion

Construct	Risk Importance	Interest	Pleasure	Risk Probability
Interest	.30			
Pleasure	.22	.69		
Risk Probability	.17	.28	.25	
Sign	.23	.83	.42	.14
	F1 - Intrinsic	**F2 - Extrinsic**		
F2 - Extrinsic	.49			
F3 - Marketing Mix	.33	0.25		

Note: Critical value for HTMT is .85.

Table 6: Results of the structural model

Predicted variable	Predictor variable	Path [a]	t-value	p-value	R^2
F1 - Intrinsic	Interest	***0.42***	***2.95***	***0.003***	
	Pleasure	0.00	0.06	0.954	
	Sign	0.06	0.69	0.489	.20
	Risk Probability	0.10	1.10	0.272	
	Risk Importance	-0.09	1.12	0.262	
F2 - Extrinsic	Interest	-0.07	0.60	0.550	
	Pleasure	-0.04	0.37	0.711	
	Sign	0.18	1.39	0.165	.07
	Risk Probability	-0.14	1.32	0.187	
	Risk Importance	***0.17****	***1.68***	***0.093***	
F3 - Marketing Mix	Interest	0.12	1.20	0.232	
	Pleasure	-0.02	0.28	0.783	
	Sign	0.17	1.49	0.135	.19
	Risk Probability	***0.38****	***4.37***	***0.000***	
	Risk Importance	-0.10	1.26	0.209	

[a] Standardized beta coefficients; *significant at <0.10 level, **significant at <0.05 level

Table 7: Results of the structural model with moderating effect of wine knowledge

Predicted variable	Predictor variable	Path [a]	t-value	p-value	R^2
F1 - Intrinsic	Interest	***0.33***	***2.24***	***0.025***	
	Pleasure	0.02	0.26	0.798	
	Sign	0.11	1.09	0.276	
	Risk Probability	***0.18****	***1.70***	***0.090***	
	Risk Importance	-0.10	1.35	0.178	
	Knowledge	***0.18****	***1.74***	***0.082***	.27
	Interest x Knowledge	-0.14	1.19	0.236	
	Pleasure x Knowledge	-0.01	0.10	0.918	
	Sign x Knowledge	-0.15	1.56	0.119	
	Risk Probability x Knowledge	-0.11	1.35	0.177	
	Risk Importance x Knowledge	0.10	1.26	0.210	
F2 - Extrinsic	Interest	-0.07	0.55	0.586	
	Pleasure	-0.00	0.02	0.984	
	Sign	***0.24****	***1.75***	***0.080***	
	Risk Probability	-0.04	0.33	0.744	
	Risk Importance	0.07	0.88	0.378	
	Knowledge	-0.01	0.10	0.919	.20
	Interest x Knowledge	-0.15	1.23	0.217	
	Pleasure x Knowledge	-0.09	0.97	0.332	
	Sign x Knowledge	-0.09	0.86	0.393	
	Risk Probability x Knowledge	***-0.24****	***1.96***	***0.050***	
	Risk Importance x Knowledge	***0.23****	***2.26***	***0.024***	
F3 - Marketing Mix	Interest	0.19	1.51	0.133	
	Pleasure	-0.00	0.01	0.993	
	Sign	0.14	1.29	0.197	
	Risk Probability	***0.36****	***3.93***	***0.000***	
	Risk Importance	-0.11	1.34	0.181	
	Knowledge	-0.12	1.20	0.230	.25
	Interest x Knowledge	***0.31****	***2.34***	***0.020***	
	Pleasure x Knowledge	-0.04	0.39	0.693	
	Sign x Knowledge	***-0.22****	***2.03***	***0.043***	
	Risk Probability x Knowledge	0.09	1.13	0.259	
	Risk Importance x Knowledge	-0.02	0.41	0.684	

[a] Standardized beta coefficients; *significant at <0.10 level, **significant at <0.05 level

Figure 1: Path coefficients of the model

