

**The role of intrinsic (sensory) cues and the extrinsic cues
of country of origin and price on food product evaluation**

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Abstract

Consumers use both intrinsic and extrinsic cues when forming opinions regarding product quality. Research has shown that consumers are often unable to assess these cues accurately and may ignore product attributes that significantly influence product quality in favor of others that contribute little. Country-of-origin and price have been found to be examples of extrinsic cues repeatedly used by consumer to form product quality opinions, both before and after purchase.

Furthermore, objective and subjective consumer knowledge and self-confidence have been shown to moderate consumer reliance on both extrinsic and intrinsic cues, although these variables have not been examined in terms of their potential moderating effects on product quality evaluations. The results of exploratory qualitative research and a pilot scale conjoint analysis suggest that country of origin and price influence quality expectations in the case of chardonnay and cheese. In the case of cheese, the intrinsic cue (fat content) also contributed significantly to quality expectations, with the lowest fat level deemed the most desirable. This is despite the fact that increasing levels of fat in cheese results in creamier texture and better flavor compared to the low fat products. Measures of objective knowledge were also found to be much lower than expected for consumers of these commonly purchased products, suggesting respondents' inability to accurately assess intrinsic cues. The study points to a number of future research directions.

1. Introduction

Products and services are bundles of attributes used as 'cues' by consumers to shape opinions of expected or experienced product quality. An intrinsic product cue can be any product characteristic inherent in the product itself, such as engine capacity for a car or flavour for a soft drink, while an extrinsic cue is a product characteristic not fundamental to the product itself but externally attributed to the good or service, for example, price, brand, place of purchase, or country of origin (Lee & Lou, 1996; Teas & Agarwal, 2000). Previous research has shown that consumers vary in their reliance on both intrinsic and extrinsic cues as well as in their ability to accurately assess product cues accurately (Alba, 2000; Kardes, Kim, & Lim, 2001). Thus, marketing practitioners need to understand the respective influence of extrinsic cues in consumers' quality assessment process to ensure that marketing efforts are focused towards enhancing those attributes most likely to influence consumers' opinions regarding quality.

Two extrinsic cues found by researchers to be used consistently in this process are country-of-origin (COO) and price (Al-Sulaiti & Baker, 1998; Dodds, 1991). However, whether COO and price have the power to over-ride sensory perceptions of quality is not known. Moreover, while consumer knowledge and self-confidence have been shown to moderate consumers' reliance on extrinsic cues, results of previous studies are ambiguous, often as a result of inconsistencies in definitions and measurement (Alba & Hutchinson, 2000; Alba & Hutchinson, 1987). Studies have often measured subjective and/or self assessed knowledge and paid less attention to levels of objective knowledge, and consumer self-confidence does not appear to have been measured at all in combination with these variables. This is despite its potential role as a moderating variable since it reflects an individual's belief in his or her ability to make an independent and sound decision. For example, consumers lacking self-confidence are less likely to hold opinions that contradict others' or some predictive extrinsic cues (Aaron, Mela, & Evans, 1994; Alba & Hutchinson, 1987; Alba, 2000; Bell, 1967). While empirical evidence exists in relation to various aspects of these specific variables, several gaps remain in the literature in relation to their combined effects on product quality determination.

Many studies have investigated the influence of extrinsic cues using experimental designs (where respondents experience various product offerings) or quasi-experiments often through conjoint analysis (where respondents rate products or choose their preferred product option from a number of described product profiles). The influence of extrinsic cues, however, has never been tested using both types of methodology in a confirmatory sense which will test and compare the

effectiveness of both methodologies. Examining and quantifying differences (and establishing the ability of conjoint analysis to predict 'actual' evaluation) is essential for marketing practitioners who may well be allocating resources to the promotion of attributes that are neither not understood or not considered in the purchase decision.

The broader focus of this research is therefore to investigate the respective influence of country of origin and price as extrinsic cues when product intrinsic cues are experienced through sensory perception. This paper, however, only reports empirical evidence concerning consumers' perceptions of both types of cues, as well as the result of a pilot conjoint analysis examining two specific extrinsic cues (COO and price) simultaneously with one intrinsic sensory cue (acidity and fat content) for two specific product categories. Previous studies have been conducted to assess the influence of price (among selected other extrinsic cues such as labeling) by means of sensory evaluations such as taste tests and visual impressions (Hurling & Shepherd, 2003; Pechmann & Ratneshwar, 1992; Wansink, Park, Sonka, & Morganosky, 2000). Surprisingly, the influence of country of origin as an extrinsic cue appears to have been neglected in previous research using this type of methodology (Aaron et al., 1994; Acebron & Dopico, 2000; Hoffmann, 2000; Koch & Koch, 2003; Pechmann & Ratneshwar, 1992). Moreover, the moderating roles of consumer knowledge and self-confidence have not been investigated empirically in studies testing these extrinsic cues in conjunction with sensory perceptions. This represents another opportunity to add to the current knowledge in this area (Schaefer, 1997; Wilson & Brekke, 1994; Wirtz & Mattila, 2003).

The research seeks to develop a framework illustrating consumer assessment of product quality based on their simultaneous evaluation of intrinsic and extrinsic cues (country of origin and price), with knowledge and personal self-confidence as moderating variables. Fundamental to this framework is the identification of anticipated threshold levels where the extrinsic cues cease to override sensory perceptions. Ultimately, this research aims to identify differences between what consumers would expect in terms of product quality, and their actual determination of product quality through the comparison of results from a conjoint analysis survey and sensory experience. This will be useful for practitioners developing marketing strategies that emphasize the most relevant product cues.

2. Consumer use of intrinsic and extrinsic cues

Research has shown that consumers are not always able to accurately evaluate intrinsic and extrinsic cues before making a buying decision, and in some cases even in a post purchase evaluation (Alba, 2000; Kardes et al., 2001). There are a number of reasons why this may occur, including lack of understanding, lack of self-confidence, information misinterpretation or inaccessibility. In some situations, actual product attributes are discounted in favor of extrinsic cues believed by consumers to be more reliable than their own opinions (Kardes, Cronley, Kellaris, & Posavac, 2004; Monroe, 1976; Olson, 1972; Rao & Olson, 1990; 1969; Teas & Agarwal, 2000; Wansink et al., 2000). Quality judgments can also be influenced by visual clues or by characteristics implied through labeling or merely assumed by the consumer to exist. For example, Wansink, Park et al. (2000) found that some respondents reported differences in the taste and texture of breakfast bars they believed to contain soy, when all products tested by these respondents were identical and none contained any soy-based ingredients. Therefore research has confirmed that even sensory perceptions are not always accurate but rather, are vulnerable to

expectations and beliefs. These findings further confirm that marketers cannot assume that intrinsic product attributes will be weighted and interpreted accurately by consumers.

3. Objective vs. subjective knowledge

Consumer expertise comprises two dimensions, objective and subjective knowledge. Objective knowledge is current, accurate information stored by an individual in their long-term memory. This type of knowledge is based largely on cognitive type learning and credible experience with many offerings and brands within a product category (instrumental learning) (Alba & Hutchinson, 1987). Conversely, subjective knowledge is the consumer's perceived level of expertise or 'self-assessed' level of knowledge, more accurately described as product class familiarity. Therefore, expertise developed as a result of objective knowledge should not be confused with product familiarity or past experience alone when assessing knowledge levels. This misunderstanding leads to consumers consistently over-assessing their levels of expertise, creating a gap between their own perception of what they believe to be true regarding product offerings and an accurate judgment. Empirical evidence has established that consumers, in the main, do not possess the level or quality of objective knowledge they believe they do (Alba & Hutchinson, 1987; Alba & Hutchinson, 2000; Alba, 2000). Given this, it is not surprising that many consumers often misjudge product quality through limited searches and erroneous interpretation of both intrinsic and extrinsic cues.

3.1 Objective knowledge and cue usage

Consumers with high levels of objective knowledge have been found to distinguish more easily and more precisely between important product and service attributes, disregarding those product characteristics that are less critical to making a sound buying decision (Brucks, 1985; Kardes et al., 2001; Mason & Bequette, 1998; Park, Mothersbaugh, & Feick, 1994; Wirtz & Mattila, 2003). A legitimate product 'expert' is less likely to seek advice from others and is also less likely to place much credence on 'brand' or advertised product 'benefits' when gathering information. Instead, expert consumers seek to understand critical attributes, making their own judgments regarding any consequent benefit (Kuusela, Spence, & Kanto, 1998). This allows them to correctly match particular product brands and models with specific usages. For such expert consumers, the logical application of information relevant to product performance results in a bias towards intrinsic cues. Extrinsic cues, however, are not discounted if they are truly predictive of quality (Rao & Olson, 1990). However, Alba and Hutchinson (1987) found in their early research that even true 'experts' can still be influenced by 'biases' if they are felt strongly enough and these can result in improper weighting of both intrinsic and extrinsic cues.

3.2 Subjective knowledge and cue usage

In contrast to consumers with high levels of objective knowledge, those relying on subjective knowledge lack an extensive collection of credible information to call upon when making a purchase decision. These consumers can usually recall only a few brand names, makes and models, and then perhaps only one or two specific attributes about each (Mitchell & Dacin, 1996). Consumers with high levels of self-assessed knowledge have been found to use their own experiences (however limited) as the basis for their expertise. While believing their knowledge to be adequate to make a sound decision, empirical evidence suggests they usually know much less about products than they believe, often leading to poor assessment of likely quality or

product performance (Alba & Hutchinson, 2000). Those relying on subjective knowledge are seemingly not able to filter out the attributes irrelevant to performance, often ignoring important intrinsic cues due to a lack of understanding (Schaefer, 1997). For this group, the cognitive shortcut provided by extrinsic cues is especially welcome. Consequently, and unlike experts, this type of consumer finds it much more difficult to correctly match the correct brand or model with a specific usage situation (Brucks, 1985; Park et al., 1994; Wirtz & Mattila, 2003). Given that there are relatively few true 'experts' in most consumer markets, the credence given to extrinsic cues by these consumers cannot be underestimated.

3.3 Consumer self-confidence and cue usage

Consumer self-confidence levels have been found to influence the interpretation and use of both intrinsic and extrinsic cues (Bearden, Hardesty, & Rose, 2001; Jover, Montes, & Fuentes, 2004; Wansink et al., 2000; Wilson & Brekke, 1994). Individuals with low levels of self-confidence may lack self belief to the point where, if faced with a strong opposing opinion or predictive extrinsic cues, they will allow their better judgment to be over ridden. This can occur even if an individual is a true product 'expert' in a specified product category. Alternatively, consumers with high levels of self confidence develop strong attitudes towards specific products that are very difficult to change due to strong self belief. This strength of conviction leads them to hold on to their beliefs irrespective or regardless of support by others or its legitimacy (Rao & Olson, 1990). Therefore, while these individuals may believe themselves to be 'experts', it is more likely their knowledge is basically subjective in nature. Interestingly, people with low self-confidence can become stubborn also, but this is because they became defensive under the pressure of decision making, not because they necessarily believe they are right (Bell, 1967).

Overall, the literature suggests that the particular combination of knowledge (type and level) with self-confidence levels significantly moderates the credence given to extrinsic cues. If a highly confident person also holds high levels of objective knowledge and is presented with relevant intrinsic product cues, extrinsic cues would be likely to be discounted in their assessment of both 'expected' and 'experienced' product quality. However, if knowledge is primarily subjective, resulting in an inability to correctly interpret the intrinsic cues, these cues may be misjudged or ignored. For the consumer with low self-confidence, high levels of objective knowledge should support an opinion based predominantly on intrinsic cues but this may not be the case when presented with strong and contradictory extrinsic cues. For the consumer with low self confidence compounded with low objective knowledge levels, extrinsic cues may well form the principal basis for most product evaluations.

4. Country of origin as extrinsic cue

Country-of-Origin (COO) has been defined in many ways in the marketing literature, but it is generally considered to be the source country of a product. COO effects describe the degree to which country image (or country of brand or assembly) influences consumers' evaluations of products from that specific country (Han, 1990). Country Image (CI) involves the general perceptions, or stereotypical images (akin to a brand image) that consumers from one country (or region) form about another country or region. Research has now established that CI perceptions form the basis of beliefs that consumers use as part of the product evaluation process, although its importance will vary depending on market and product specific circumstances (Han, 1989, 1990; Quester, Marr, & Yeoh, 1996).

While the influence of CI is often specific for a product (or product category) and the values are not generally transferable to different categories of products, some common effects have emerged. These include a more significant reliance on CI (and other extrinsic cues) by consumers when there is little specific and reliable information available for consumers to consider consumers are evaluating a high cost/high involvement product or when the CI and product category are highly congruent (e.g. French perfume or Chinese silk) (Han, 1989, 1990, 1993; Piron, 2000). CI is also likely to be more influential when consumers have limited knowledge or personal experience relevant to products from a country. Here country image appears to serve as a 'halo' that forms the basis of consumers' opinion of products from a specific country (Han 1989). In this way, country image serves the purpose of a useful cognitive 'shortcut' allowing consumers to make a quick evaluation of a product without having to search out and consider an extensive set of attributes (intrinsic and/or other extrinsic cues). For example, if a consumer in Australia has little knowledge of, or experience with, products from Mexico, he or she is likely to form opinions of Mexican products based solely on a country image of Mexico. That is understandable because these images are all they can call upon when making a judgment. In these circumstances, the country image serves as the basis of knowledge to fill the gap of the unknown.

5. Price as an extrinsic cue

Consumers tend to believe there is a 'natural' ordering of products according to a price scale where higher quality products are more expensive and products of lesser quality are cheaper (Bredahl, 2003; Dickson & Sawyer, 1990; Glitsch, 2000; Jover et al., 2004; Kardes et al., 2004; Monroe, 1976). This price / quality relationship, described in the literature as the 'price-reliance schema', reflects consumers' strongly held view that 'you get what you pay for' (M. Lee & Lou, 1996: p24). Indeed, this belief can sometimes be strong enough to overcome experienced product quality (Jover et al., 2004; Pechmann & Ratneshwar, 1992). For example Pechmann and Ratneshwar (1992) found, in their study involving consumer assessment of orange juice quality, that respondents would favour a lower quality juice if the price were relatively high, over a juice of lower quality if the price were correspondingly low, provided they did not have the opportunity to assess all juice samples simultaneously. Therefore, consideration of price leads consumers to accept conditional 'trade offs' when making a buying decision. If consumers believe that price and quality are tied then paying a lower price means accepting lower quality. Conversely, to gain better quality a monetary sacrifice must be made, perhaps beyond what is desirable to the payer. Finding a satisfactory balance in outcomes represents an important challenge for many consumers and means that price plays an important and unique role in the buying decision (Kardes et al., 2004; Rao & Olson, 1990).

Consumers rely even more heavily on price when they possess limited knowledge of product category offerings. Further, consumers find it particularly difficult to assess quality if intrinsic cues are complex, leading them to sometimes be intimidated by price as found by (Jover et al., 2004) in their study measuring the impact of extrinsic variables on expectations and evaluation of wine quality. Thus as with CI, consumers with sound levels of objective knowledge will generally use price as an indicator of quality only when this is legitimate (e.g. there is a strong relationship between price and intrinsic product quality), and/or when other intrinsic product

information is limited.

6. Towards a conceptual framework

It is established that consumers use both intrinsic and extrinsic cues in forming opinions about product quality. Extrinsic cues in the model are represented by the independent variables of price and country of origin. Intrinsic cues are represented by independent variables consisting of physical product attributes such as those contributing to taste for food or drink products. The degree of reliance placed upon individual product attributes (intrinsic or extrinsic) is moderated by the consumer specific characteristics of knowledge and self-confidence. The suggested relationships between these independent and moderating variables are illustrated in Figure 1. This framework clearly delineates between self-confidence levels and the various types of consumer knowledge, thus clarifying the parts they play in product quality assessment. These moderating variables are expected to act as 'filters' through which product cues are evaluated, and in some cases ignored. This framework goes beyond current existing literature involving country image and price studies and may also make a contribution to consumer behaviour research relating to consumer use of extrinsic cues.

7. Research Design and Methodology

This exploratory phase of the research project comprised two preliminary stages. First, a qualitative stage involved 2 focus groups, conducted to confirm Australian consumers' belief that country of origin and price are strongly predictive extrinsic cues influencing product quality for the selected food products to be tested in the following stages of the research. Also, it was necessary to identify the countries more likely to be positively or negatively associated with these products by local consumers, given that the COO effect has been found to be product, country and market specific (Al-Sulaiti & Baker, 1998; Insch & McBride, 2004; Kuusela et al., 1998).

The following stage of the study used conjoint analysis to measure the respective influence of communicated product cues on expectations of product quality, via self-administered questionnaire. Respondents rated individual alternative product profiles where objective product quality was manipulated as intrinsic cues, often in conflict with the extrinsic cues provided (manipulated price levels and COO), to identify the cues that are most valued and which product attributes consumers were willing to trade off to attain them. In order to quantify subjective knowledge and self-confidence, respondents completed a questionnaire using measurement scales based on previous studies (Alba & Hutchinson, 1987; Bearden et al., 2001; Flynn & Goldsmith, 1999). In order to measure levels of objective knowledge, respondents completed a test, developed with the assistance of industry experts, for both product categories included in the study (wine and cheese) and consisted of fourteen multiple choice questions for each category.

7.1 Selection of Products

A significant body of empirical evidence exists using food products to research the influence of extrinsic cues of consumer assessment of product quality. Examples of products tested include beef, chicken, pork, eggs, wine, cheese and orange juice (Al-Sulaiti & Baker, 1998; Bernues, Olaizola, & Corcoran, 2003; Bredahl, 2003; Grunert, 1997; Jover et al., 2004; Kardes et al., 2004; Pechmann & Ratneshwar, 1992). A review of these studies also revealed a wide and

varied range of methodologies including conjoint analysis, taste test experiments, pre- and post-purchase surveys and in-store surveys, supporting the suitability of food products for the proposed methodology. In order to use a general population sample for the quantitative stages of the research it was necessary to pick food products routinely consumed by members of the adult Australian population, leading to the selection of wine and cheese as the products used in the study.

Interviews with product experts were undertaken to select specific wine and cheese products readily available, commonly consumed by Australian shoppers and suitable for objective quality manipulation. In these discussions, for wine, unwooded chardonnay was suggested because of its familiarity to Australian consumers and the intrinsic cue of acidity significantly impacting on objective product quality. For cheese, camembert was suggested as it is readily available, commonly consumed by Australian consumers and available with differing levels of fat. With camembert, as with many other cheese varieties, fat is an important intrinsic cue affecting objective product quality. Generally higher fat levels result in a creamier texture (enhanced mouth feel) and better taste (Aaron et al., 1994; Hamilton, Knox, Hill, & Parr, 2000). Based on this information, unwooded chardonnay and camembert were chosen as test products; with acidity for wine and fat for cheese manipulated to three levels providing measurable and controllable changes to objective product quality.

7.2 Qualitative Findings

The focus groups were conducted in order to confirm that price and country-of-origin were considered important extrinsic cues by Australian consumers shopping for these products. If so, then three countries needed to be identified as likely source countries for three contrasting levels of expected product quality. A judgment sample of part-time adult students undertaking evening courses was recruited to participate in the two groups of four and five participants each respectively. Prior to inclusion, group members were screened to ensure they purchased and consumed wine and cheese at least once per fortnight. Both group discussions provided consistent feedback and results.

Initial discussions focused around attributes (both intrinsic and extrinsic) respondents considered important when making a purchase in the two product categories. A list of unprompted attributes shows that price and country of origin were identified as amongst the most highly rated cues in terms of their importance. A summary of attributes based on group consensus is provided in Tables 1 and 2. Data from the focus groups relevant to the types of extrinsic cues and their importance to the purchase decision are largely consistent with the literature. Price and country of origin were consistently cited, supporting their choice as extrinsic cues for the two products selected (Jover et al., 2004; Schifferstein, 1996). Groups were similar in their opinion of the importance of price when considering both wine and cheese. However, there was strong contrast in their views relating to the importance of country of origin between the two products. While respondents in both groups believed country of origin to be highly important when considering a chardonnay, few in group one thought it was likely to make much difference to the quality of cheese. These contradictory results may be due to limitations imposed from the small sample size, or it may be that buying cheese is considered a much lower involvement purchase, since the literature shows that COO effect can be diminished in these circumstances (Piron, 2000). Based on these results, further testing of price and COO as extrinsic cues affecting expected product

quality was justified and cheese and chardonnay can be seen as suitable as products for exploring this influence.

Table 1 Important product attributes for chardonnay
(scores reached by group consensus)

Items scored 0 – 10 Where '0' is not at all important and '10' is very important

Attributes listed	Ratings Group 1	Ratings Group 2
Brand	6	9
Country of origin	8	8
Product information on label	3	Not given
Label (artwork)	Not given	9
Price	9	8
Purpose of purchase (situation)	8	7
Rarity	Not given	3
Region	4	Not given
Taste	10	3

Table 2 Important product attributes for cheese
(scores reached by group consensus)

Items scored 0 – 10 Where '0' is not at all important and '10' is very important

Attributes listed	Ratings Group 1	Ratings Group 2
Purpose (situation)	5	Not given
Price	9	8
Taste	10	6
Texture	10	9
Brand	3	3
Country of Origin	2	10
Appearance	9	Not given
Packaging	Not given	9
Rarity	Not given	8

Having established country of origin as an important consideration, dialogue then progressed to potential source countries. Motivating respondents to discuss foreign products in these categories was initially difficult, with marked evidence of consumer ethnocentrism in relation to purchases of foreign wines. Participants voiced very strong support for local wine and local wine producers in particular. Consumers consistently remarked that they purchased only Australian wines and usually only Australian cheese, and consequently had little knowledge or experience to drive their expectations for products from other countries. Further, most participants had little desire to enhance their knowledge, with one respondent making the comment that he felt 'disloyal' to Australian producers even considering the purchase of a foreign wine. To overcome this prejudice, respondents were asked to consider a specific shopping scenario where Australian products were not available for purchase and only foreign products could be considered. Once respondents could consider a foreign offering in a 'guilt free' situation, many countries were put forward for discussion (again unprompted). France was cited most consistently as the likely source country for the highest quality chardonnay and cheese. This result is not surprising given France's reputation for producing fine wines and gourmet cuisine. There was considerable debate and disagreement amongst respondents deliberating where average and low quality products may be produced. Countries not known for producing dairy products were listed as sources of poor quality cheese, e.g. China. Respondents found it hard to even conjure an image for South American countries such as Chile and Argentina and used what very little knowledge they possessed to fill the gaps (Han, 1989). As many believed these countries to be very poor (third world) they seemed to make a link between this perception of extensive poverty and low quality in all things (Chao, 2001). However, countering these opinions were individuals believing that Chile would produce good wines, as they had 'read about them and heard they were good'.

This increased level of subjective knowledge supported higher quality expectations for wine, but not for cheese. It was generally believed that European countries made good cheese and assumed that any tropical or Asian country would make poor cheese and wine. Opinions relating to Canada and the USA ranged from an expectation that anything produced in those countries would at least be 'average' in quality due to their industrialized status (Chao, 2001), to an expectation that quality would be very low because everything they make is perceived to be 'mass produced'. While that belief is positive for manufactured goods, it has a negative impact on perceptions of food and wine products. There also seemed to be a reasonable level of concern regarding pollution, pesticide levels and genetic modification of food in these countries and this carried over to diminished expectations of both quality and product safety (Tse, 1999). Countries suggested by respondents, and their belief in respective quality levels for each product, are shown in Table 3. Summarized comments from group members illustrate feelings and perceptions regarding the price and country of origin are shown in Table 4.

Table 3 Countries suggested by participants and their perceived quality

Countries	Chardonnay	Camembert
Highest Quality	France, Germany	UK, France, Holland, Denmark, NZ
Average Quality	Italy, Spain, South Africa, USA	NZ, USA, Canada, UK,
Lowest Quality	Canada, South Africa, UK, China, Chile	Argentina, China, Greece, Argentina

Table 4 Comments regarding price and potential source countries for wine and cheese

Price	Source countries
> You only get what you pay for.	> All Europeans make good cheese, don't they?
> When you can't take a risk, pay more, it's better than being embarrassed.	> Asians don't make cheese do they? They don't have any cows!
> I think you can still buy some good wines that are reasonable; price is not always that reliable.	> The Kiwis (New Zealanders) make good cheese; at least you'd know it was safe.
> I wouldn't take something cheap to a party; it might not be any good, plus people would think I'm cheap.	> I don't think they would make good cheese in South America, it's too hot isn't it?
> Price is the most important – if I couldn't buy Australian wine I would only look at price.	> I've never had French wine, but you'd have to expect it would be good.
> I don't even buy cheap wine for home – what's the point of drinking bad wine?	> I think the South Americans would make OK wine, but not the Canadians.
> I don't know a lot about wine, so I'd be afraid to buy a cheap one.	> I don't know anything about South America except they're all poor.
> Sometimes prices are misleading.	> Anything from France would at least make you look like you spent money.
> I hate being 'ripped off' – sometimes wines just aren't worth the price, I can't taste the difference anyways.	> Isn't everything genetically modified in the States? That can't be good.
	> They make lots of wine in Chile, it must be OK. I've been reading about it.

Ultimately, France, the United States and Chile were determined by focus group respondents to represent source countries of three distinctly different levels of product quality where France was expected to produce the highest quality chardonnay, the United States an average quality product and Chile a poorer quality wine. For camembert, France was again cited as the most likely to produce high quality, Canada average quality and Argentina poor quality respectively.

Following the discussion of important product attributes and wine/cheese producing countries, participants were asked to sample chardonnay from four different countries. When unmasked samples were tasted, the country of origin and an assigned price were revealed and participants were asked to rate the sample from '0' to '10' (0 = poor quality and 10 = excellent quality). Respondents then tasted the same products a second time, but the samples were presented in a different order and unmarked. The objective of this informal taste test was to explore the influence of price and COO on sensory perceptions and also to determine if respondents would be consistent in their rating of the samples provided across both tests. It was not the intention of the taste tests to provide empirical evidence, but rather to explore the stated areas of this stage of the research. For this purpose the data is very useful; participants reported a marked difference in their perceptions of quality between the samples tested, suggesting that extrinsic cues had influenced their perceptions. All wines purchased were of almost equal value (approximately

\$10 AUS); however the actual variance in their objective quality is unknown, as the bottles were not opened prior to the tasting.

Table 5 Product ratings from taste tests - Chardonnay

Countries	Mean score COO and price revealed	Mean score tasted blind	Variance in mean scores
Chile - \$7	6.3	6.1	-0.2
France - \$53	3.7	2.9	-0.8
NZ - \$12	5.1	5.9	0.8
USA - \$22	3.2	4.4	1.2

7.4 Conjoint analysis pilot study

Using a 3 (COO) x 3 (price) x 3 (fat/acid levels) design, orthoplan procedure, an orthogonal design was developed and translated into a self-administered questionnaire based on nine individual product profiles and the addition of two 'hold out' profiles (for each product) to be completed by respondents first as a 'warm up' exercise as recommended by previous researchers (Louviere, 1988b). Table 6 illustrates the cues and levels used in the full profile conjoint analysis plan. Each profile was assessed by respondents using a 10 point scale anchored with 'highly undesirable' represented by the lowest score and 'highly desirable' represented by the highest score. After rating each profile using this scale, respondents indicated whether or not they would consider purchasing the chardonnay or camembert as described.

Table 6 Specification of product attributes and levels

Attribute	Cue type	Levels wine	Levels camembert
Country of origin	extrinsic	France USA Chile	France Canada Argentina
Price	extrinsic	\$39.50 \$14.00 \$ 6.00	\$8.00 \$5.00 \$3.00
Acid/Fat	intrinsic	Average (6.9 g/L) Above average (7.4 g/L) High (7.9 g/L)	Triple cream Full cream 50% reduced fat

7.5 Measures of knowledge and self-confidence

An eight-item, nine-point Likert scale developed by (Flynn & Goldsmith, 1999) to specifically measure subjective knowledge in a variety of survey applications was adapted for this study. Scale items reflect (as examples) the respondent's self assessed ability to discriminate between different product offerings in a shop, to understand the expected impact of price on quality in relation to the product category being evaluated and their own level of expertise as compared to their friends and peers. To measure objective knowledge, fourteen multiple-choice questions specific to wine and cheese were compiled for both chardonnay and camembert, using the advice of industry experts. If respondents did not know the correct answer for each question, they were provided with the option of responding 'don't know'. Respondent self-confidence was measured

using a ten item, nine point Likert scale developed by (Day & Hamblin, 1964). These scale items reflect a respondent's personal feelings concerning, and likely reactions to, potentially stressful social situations and also reflect their level of concern regarding the opinions of others in those situations. An important distinction was made between using a scale that measured personal self-confidence and those that have been developed to measure self-confidence in relation to product choice. As the research was seeking to investigate the impact of self-confidence in terms of its ability to moderate consumers' belief in their own judgment or sensory perceptions, scales oriented towards confidence specifically in relation to purchasing decisions were not considered appropriate. A sample of 238 adult students undertaking evening classes at the city campus of TAFE SA was recruited to participate in the conjoint analysis pilot survey.

8. Pilot study preliminary Results

The results illustrate that for chardonnay, both price and country of origin were found to be more influential in affecting quality expectations than described acidity (Table 7). While correctly assessing which levels of acidity are less desirable, the intrinsic cue was not believed by respondents to be as important as the extrinsic cues provided in determining expected quality. France was clearly believed to provide the most desirable chardonnay, but interestingly, little difference in opinion exists between wine from the USA and Chile. This result is surprising given that the USA, as an industrialized nation, should have been believed to produce higher quality. This outcome may be a reflection of concern voiced in the focus groups regarding perception of high pesticide levels and genetic modifications associated with food products from the USA. The low esteem placed on the Chilean product, on the other hand, is in line with expectations given the responses recorded in the focus groups towards products from South America. The results relating to wine price levels are in line with the literature, in that a particularly low price is likely to be associated with correspondingly low quality. The relatively low score for the highest price given may be an indication of unwillingness to pay this amount for a bottle of chardonnay (particularly from the USA or Chile), irrespective of expected quality, resulting in the mid priced option being deemed the most attractive by respondents.

As with wine, COO was considered the most important attribute when assessing cheese quality; however, respondents acknowledged fat as more important than price in forming their opinions (Table 8). In line with previous research relating to desirable food attributes, respondents considered the highest fat content to be the least desired. This is despite the fact that higher fat results in cheese that is creamier in texture (enhanced mouth feel) and generally better flavored than low fat cheeses. This suggests a social desirability bias where high levels of fat in any food may be considered undesirable regardless of its actual positive association with greater overall quality in terms of taste. In this test the importance given to price is relatively low; perhaps because respondents perceived little difference in financial sacrifice between the levels described thus diminishing the influence of price overall. Tables 7 and 8 show the individual utilities of each attribute at the specified levels with an averaged importance for the attribute overall illustrating its contribution towards the final expectation of quality.

Table 7 Averaged importance and utilities for chardonnay attributes

COO		Price		Acidity	
Chile	- 0.34	\$ 6.00	- 0.54	Average	0.36
USA	- 0.31	\$14.00	0.32	Above Average	0.03
France	0.65	\$39.00	0.21	High	- 0.39
Averaged Importance	36.29		31.44		27.42
Kendall's tau = 0.855		Sig. = .0001		Pearson's R = 0.982	
				Sig. = .0000	

Table 8 Averaged importance and utilities for camembert attributes

COO		Price		Fat Level	
Argentina	- 0.36	\$ 3.00	- 0.11	50% reduced fat	0.04
Canada	- 0.06	\$ 5.00	0.04	Full cream	0.14
France	0.42	\$ 8.00	0.07	Triple cream	- 0.18
Averaged Importance	60.55		13.96		25.49
Kendall's tau = 0.855		Sig. = .0001		Pearson's R = 0.985	
				Sig. = .0000	

The reliance on extrinsic cues is not surprising given that the general level of objective knowledge amongst the group is very low. Our data shows that respondents achieved a mean score of only 3.05 correct answers of the 14 asked in the objective knowledge test for wine, with 98% of respondents scoring 7 correct answers or less. Results from the objective knowledge test for cheese were similar, with an average of only 3.42 correct answers in that test and 91% of respondents scoring 7 correct answers or less. The scores for subjective knowledge (Table 9) suggest that while respondents clearly did not see themselves as product 'experts' in most cases (for either product), the corresponding scores for objective product knowledge are considerably lower than even the rather modest self assessed levels. These low levels of knowledge (both objective and subjective) are likely to be important contributing factors to the demonstrated reliance on extrinsic cues and subsequent discounting of intrinsic cues, irrespective of their impact on objective product quality. In contrast self confidence scores indicate that, generally, respondents exhibited a reasonably high level of self confidence. Hence, the extrinsic cues provided are less likely to have been found intimidating or lead to a diminished belief in personal opinions.

Table 9 Equivalent mean scores for knowledge and self confidence, where 0 equals the lowest score and 9 equals the highest score attained.

	Mean	Std Dev
Subjective knowledge chardonnay	4.17	1.69
Objective knowledge chardonnay	1.96	1.36
Subjective knowledge camembert	4.16	1.76
Objective knowledge camembert	2.20	1.82
Self confidence	6.10	1.14
N = 238		

Scales used for subjective knowledge and self-confidence were tested for reliability and exhibited Cronbach Alphas of 0.7 or higher, thus confirming their suitability for further analysis. The analysis represents preliminary findings only. The primary objective at this stage of the study was to test the suitability of the measures developed to quantify objective and subjective knowledge and self-confidence, and also the ability of the intrinsic and extrinsic attributes

selected to influence product quality expectations.

9. Conclusions and directions for future research

These preliminary results show that the focus group findings are remarkably consistent with conjoint analysis results and that the direction and magnitude of the influence of the main attributes are predicted by the literature cited. The results of the conjoint analysis, therefore, confirm the qualitative research findings. The results also show that objective knowledge of respondents, in particular, is much lower than anticipated. This suggests that respondents may not be able to evaluate intrinsic cues based on high levels of objective knowledge and therefore must resort to extrinsic cues requiring less specific knowledge, such as price and country-of-origin as indicators of quality. Moreover, comparatively high levels of self confidence would indicate that opinions of quality, however they may be derived, are likely to be defended. However, the information or knowledge used to form this opinion or expectation may be flawed and lead to an inaccurate assessment.

To address the questions posed earlier, the next stage of the study will be to conduct taste test experiments where the same product profiles used in the conjoint analysis are used for sensory evaluations. In that phase of the research respondents will provide their assessment of quality as a result of their sensory experiences rather than their expectations. Analysis of this data can then be compared with the results of the conjoint study to determine the ability of this methodology to predict consumer opinions. Further, the respective moderating influences of knowledge and self-confidence can then be determined.

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