

Supply Restriction and the Diffusion of Screw Caps

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Abstract

This study focuses on the reluctance of U.S. wine producers to implement screw caps on wine bottles. In the marketplace, the diffusion of an innovation can be constrained by supply restrictions such as limitations on production capacity or lack of availability. The results of a survey completed by 53 wineries form the foundation for a discussion of the gatekeeper role of wine producers. Consumer reluctance to accept screw caps and uncertainty of product quality were the main reasons given for not using screw caps. Large and medium size wineries tended to be more concerned about distributor's attitudes than small wineries. Implications of the wine producer's decisions not to use screw caps, and thus limit the supply in the marketplace, are discussed.

Introduction

The topic of the successful diffusion of innovations introduced by firms has been extensively studied in the marketing literature (Rogers, 1983, 1995; Mahajan et al, 2000). Most of the work has been done on discontinuous technical innovations, such as TV sets, compact discs, and microwaves. Discontinuous innovations are defined as innovations that cause a discontinuity in the existing market or technology base because of features or attributes embodied in the innovation that are new to the market (Garcia and Calantone, 2002). Little research has been conducted on discontinuous packaging innovations, even though such things as paper-based milk cartons, tetra pack boxes for juice drinks, and microwavable packaging have been successfully introduced into the market. Anecdotal evidence suggests that these types of innovation have been accepted relatively easily. An interesting case of a discontinuous innovation that has **not** been as easily accepted is the screw cap for wine bottles.

A variety of studies in the areas of marketing, technological forecasting, and economics have attempted to model the time-dependent aspects of the innovation diffusion process. This is the process by which an innovation is communicated through certain channels over time among members of a social system (Rogers, 1983). Innovation diffusion models are often developed to represent the spread of a new product to the mainstream market. Until recently, these modeling efforts have ignored the impact of supply restrictions.

In the marketplace, the growth of a new product can be constrained by supply restrictions such as limitations on production capacity or difficulties setting up distribution systems (Jain et al, 1991). An empirically observed diffusion pattern may actually be governed by bottlenecks on the supply side that decelerate or retard the natural demand process. This study specifically focuses on the reluctance of wineries in the United States to implement screw caps as part of their packaging and examines the reasons for this reluctance.

Literature Review

Rogers' diffusion of innovation theory (1995) provides some conceptual guidance for understanding the adoption of products and services. The diffusion of an innovation has traditionally been seen to be the process by which that innovation "is communicated through certain channels over time among the members of a social system (Rogers, 1983 p5). Since its introduction to marketing (Arndt, 1967; Bass, 1969) innovation diffusion theory has been the basis for considerable research among consumer behavior and marketing science scholars.

The extant literature has focused on several product characteristics that contribute to slow diffusion rates including the innovation's trialability, observability, complexity, compatibility, and quality (Mahajan et al., 2000; Rogers, 1995; Sultan et al., 1990). However, resistant innovations are often typified as being easily trialed, readily observed and simplistic. Quality of the core product is not an issue for these innovations. Instead, perceived uncertainties about performance or incompatibility with current habits lead to consumers' reluctance to adopt the innovation.

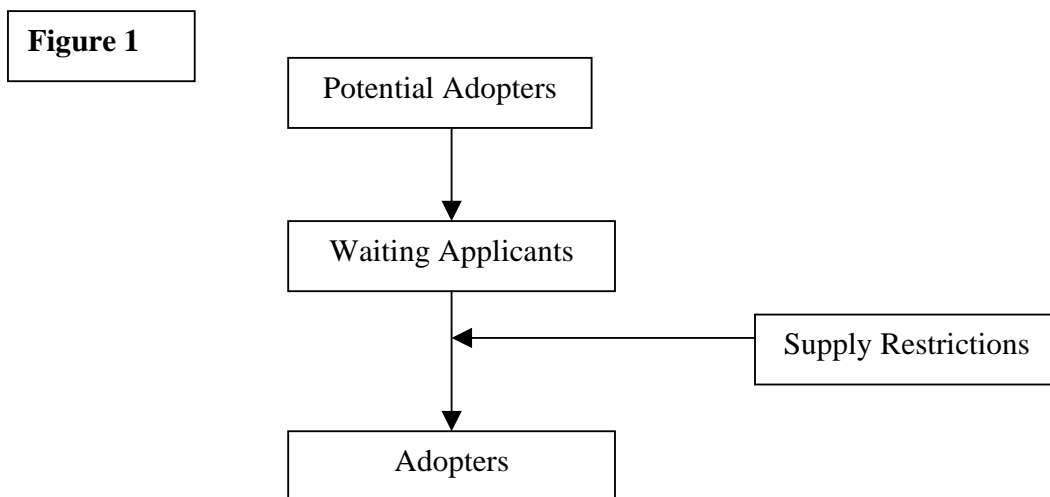
Ram and Sheth (1989) outlined five barriers of resistant innovations: 'usage barriers', 'value barriers', 'risk barriers', 'tradition barriers', and 'image barriers'. 'Value barriers' appear when an innovation does not offer a strong performance-to-price value compared to other products. Currently, this is one of the major downsides of screw caps. Because of the historical usage of screw cap closure on low-end wines, consumers do not *perceive* the performance-to-price value compared to cork closures. They still associate the screw cap with low quality, low value wines (Courtney, 2001). 'Risk barriers' become relevant when customers are uncertain about physical risks, economic risks, functional risks or social risk from using a product (Mitchell and Greatorex, 1988). Anecdotal evidence from interviews with consumers indicates that they hesitate to buy screw capped wines because of the social implications of the purchase. Screw caps, particularly in the US, have been associated with low quality wines.

'Tradition barriers' occur "when an innovation requires a customer to deviate from established traditions"(Ram and Sheth, 1989, p 9). Research by Atkin et al (2006) has shown cork closures to be highly representative of a long tradition of wine drinking and the screw cap is not congruent with this tradition in the United States. 'Image barriers' occur when a consumer associates an unfavorable image with a product. The low-end 'jug' wine image prevails to this current day as screw caps have traditionally been an

extrinsic cue for low quality. By reviewing these diffusion barriers, it is easy to see that screw caps can be classified as a resistant innovation on a number of levels.

Jain et al (1991) conceptualized the diffusion process under conditions of supply restriction as shown in Figure 1. It expands upon the two-stage Bass model to present a three –stage model. The Bass model assumes that potential adopters of an innovation are influenced by two means of communication – mass media and word of mouth (Bass, 1969).

The Bass model is a demand model. If the demand for a product can not be met because of supply restrictions, the excess unmet demand is likely to create a waiting line of Potential Adopters (Simon and Sebastian, 1987). Jain et al (1991) extend the Bass model to assert that, in the presence of supply restrictions, customers do not all receive the product at the time they request it. Thus, there is a pool of customers, the Waiting Applicants, who must await availability of the product. The customers flow from Potential Adopters to Waiting Applicant and from Waiting Applicants to Adopters.



As depicted in Figure 1, the customer flow from Waiting Applicants to Adopters is controlled by supply restrictions. Such restrictions can influence the growth patterns for Waiting Applicants and Adopters (Jain et al, 1991). In this article, we consider the reluctance of wineries to utilize screw caps to be a restriction of the supply of such packages to the consumer market and look into the underlying reasons and implications.

Background of Screw Caps

Screw caps (often called by their brand name- Stelvin), through many trials and years of technical testing, have been found to eliminate cork taint and other problems found with cork closures, such as crumbling and leakage (Murray and Lockshin, 1997). Screw caps have been shown to be effective in sealing wine bottles for up to 10 years with none of

the problems associated with natural cork stoppers (Hart and Kleinig, 2005). It has been reported that 2-15% of all wine bottles using natural cork closures are plagued with “cork taint,” where bad corks cause a bottle of wine to taste poorly (Sogg, 2005). Often the consumer does not realize that the poor taste is due to cork taint and blames the offending flavor on a poor vintage or a cheap brand. Hence, the wine manufacturer potentially loses a customer in addition to bearing the cost of replacing the bottle through the whole supply chain. This problem has resulted in millions of dollars of lost revenues with wine disposals and brand name erosion.

Screw caps on wine have almost a 50 year history in the wine industry. They were tested for feasibility as a wine closure in the late 1950s and early 1960s and introduced in the late 1970s to the Australian marketplace by Yalumba Wine Company. Between 1976 and the early 1980s approximately 20 million wine bottles were sealed with the screw cap (Stelvin-brand) closure in Australia and New Zealand (Courtney, 2001). But by 1984, the Australasian producers had stopped using the Stelvin because of consumer resistance to accept a screw cap closure. The effect on Yalumba’s Pewsey Vale Riesling, an early introduction, almost killed the brand as a prestige product (Bourne, 2000).

It has been suggested that the original failure of screw caps to diffuse into the wine industry marketplace (between 1976 and early 1980’s) was the result of an inappropriate marketing strategy by innovating wineries (Mortensen and Marks, 2002). The convenience of the screw cap was promoted but mainstream consumers were not made aware of the important quality issues that the screw cap resolved. The screw cap became established in the low price white wine category and was associated with cheap products. Because of this misaligned strategy, this innovation fell into a ‘chasm’ (Moore, 1991) that can exist between early adopters of an innovation and the mainstream market for discontinuous innovations. However, the innovation did not completely die out with these failed introductions. The technical superiority of screw caps over other closures, including the traditional cork closure, caused its resurgence in the 2000’s, this time with great success in Australia and New Zealand.

Introduction of the improved product occurred at slightly different times in Australia, New Zealand, and the United States. The first commercial introduction was in Australia in 2000, when Richmond Grove Winery introduced it on two Rieslings, each with either cork or Stelvin. The choice was promoted through a national retail chain, Vintage Cellars. In 2001, over 20 producers of Riesling in the Clare Valley released their new vintage under Stelvin screw caps. This was the real ‘start date’ of the commercial use of screw tops in Australia. The large number of wineries using the new closure resulted in wide ranging publicity in Australia. Wineries in New Zealand had also been trialing the closure. A few producers were using it in 2001, but commercial quantities were in the market from 2002. A few producers started using screw tops in the US in 2002, but it wasn’t until 2003-4 that larger commercial quantities began appearing on the shelves, but these were/are from a limited number of wineries. A more revealing statistic is the 2005 estimated percentage of wines available in each country with screw tops: in New Zealand close to 80% (Sogg, 2005); Australia estimated at 25% (Wilson and Lockshin, 2005); Availability in the US is estimated at less than 5% (<http://www.corkamnesty.com/>)

accessed 2005). This shows that consumers in New Zealand and Australia are more likely to find wines with these closures, while consumers in the US have a limited selection.

Improving the seal on wine bottles is a win-win situation for consumers and manufacturers alike. However, there exists high customer reluctance to purchase mid to high priced wines with screw caps due to screw caps' past association with low-end wines (Courtney, 2001). Lone manufacturers are reluctant to put screw caps on their high-end wines because they believe they will potentially lose sales to competing brands due to consumers who only see the symbolism of "cheap" wines associated with brands bearing screw caps. A winery that adopts an innovation like the screw cap is in a dangerous position. If it goes to market with the innovation before the innovation has been accepted, considerable sales can be lost, especially in resistant markets. The issue of the slow diffusion of innovative closures in the wine industry is interesting because of the stark contrast between high performance of the new closures, such as screw caps, and their lack of acceptance by consumers. Although screw caps perform well in preserving the quality of wine (Hart and Kleinig, 2005), some consumers still prefer the romance of the cork (Courtney, 2001).

Survey and Sample

In an effort to understand why fewer wines in the U.S. are closed with screw caps, we developed a short questionnaire to be completed by wine producers. Surveys were handed out at the Vinquiry Topsy-Turvy Wine Closure seminar held on December 11, 2002 in Rohnert Park, CA. The seminar was attended by wineries interested in moving forward on improving wine closure quality. This was a convenience sample of 53 wineries in Northern California. Respondents included winery owners, winemakers, and purchasing personnel.

The questionnaire appears as Table 1 in the Appendix. It consists of seven 7-point Likert questions and two questions asking for percentage responses. Data on the winery size was also collected. Representatives of 53 wineries of all sizes responded to the survey.

Results

Despite the proliferation of alternate closures, cork is still by far the closure of choice. Representatives of 53 wineries of all sizes responded to the survey. Fifty-one of them, or 96%, use natural cork on their wines. Synthetics are used by 15 wineries (28%), and screw caps were used by only two wineries, less than 4%. One winery using screw caps used them on only 1% of its production and the other used screw caps on 5%. Many wineries utilize more than one type of closure so the numbers add up to more than 100%.

When asked what issues had prevented them from using screw caps, the number one reason, given by over 69%, was "consumer reluctance to use screw caps." The next most popular reason was the uncertainty of product quality at 58.5%. Less than 20% of the respondents gave the reason to be either materials cost, distributor reluctance, or lack

of reliable suppliers. The rankings and percentages for each issue are shown below. Multiple answers were allowed so the total exceeds 100%.

1. Consumer reluctance to accept screw caps	69.2%
2. Uncertainty of product quality	58.5%
3. Materials cost	18.9%
4. Distributor reluctance to accept screw caps	18.0%
5. Lack of reliable suppliers of screw caps	7.8%

An open-ended question asking for additional reasons they didn't use screw caps was very enlightening. Fourteen wineries (about 25%) gave their reason to be related to lack of equipment. Three answered that the mobile bottling line does not have screw cap capability (it now has screw cap capability). Others expressed an unwillingness to purchase additional equipment or incur the expense of production changeovers. The difficulty and expense of converting bottling lines to accommodate screw caps is a major factor holding back producers.

The same basic ranking of issues was also borne out in the Likert section of the survey. The rankings of the responses based on the mean for each issue are as follows:

1. Customer Reluctance	5.5
2. Product Quality	5.0
3. Equipment Cost	4.8
4. Distributor Reluctance	4.0
5. Lack of Suppliers	3.5
6. Materials Cost	2.9
7. Importance of Issue	2.9

These issues were also analyzed based on winery size using Anova (see Table 2). It is interesting to note that the only issue on which wineries differed significantly was the distributor issue. When asked, "How important is distributor reluctance to accept screw caps in your decision not to use screw caps?" the mean for all respondents was 3.97. When split out by winery size however, the picture changes dramatically. A Tukey test was also performed (see Table 3). The mean for small wineries (2.58) was significantly less than for large wineries (5.42) at the .001 level. Small wineries (2.58) were also less concerned than medium wineries (4.55) at the .010 level. It is very interesting to surmise why this may be the case. The authors assert that it may be that larger wineries are more dependent on distributors to move the larger quantities of wine and so are more sensitive to the feedback from distributors.

There were no other significant differences found in the Anova analysis based on winery size.

Discussion

Screw caps and other alternative closures still face an uphill battle to gain acceptance in the United States. Fears of rejection by consumers are the main reason and these fears are not unfounded. In a Wines and Vines survey, it was shown that U. S. consumers are not yet on board with screw caps (Firstenfeld, 2004). Only 33% of consumers that drink wine more than once per week had purchased wine with a screw cap in the last three months. That drops to 16% in the group that drinks wine 1 to 3 times per month. The screw cap has really not reached the mainstream market in the U.S.

It is interesting to note, however, that once consumers have sampled screw capped wines, their acceptance of the closure increases dramatically. According to industry research, among non-triers of screw caps, 72% felt that the screw cap cheapens the image of the wine. Of those who have actually tried screw caps, only 35% felt that it cheapens the image of the wine (BRS Group, 2004). Thus, getting consumers to try the screw cap can dramatically improve its acceptance.

It can be argued that the lack of availability of wines closed with screw caps is holding back its acceptance in the mainstream market. This can be viewed as a case of supply restriction because consumers have very few opportunities to purchase wines topped with screw caps in the U. S. The results of this study give us insight into why they are not available in the marketplace.

The wineries themselves can be seen as gatekeepers who make the decision which packaging innovations will make it into the marketplace. These gatekeepers decide which products are marketable and which are not. For the reasons discussed previously, wineries have not adopted the screw cap. Consumers, then, have not really had an opportunity to trial the screw cap and establish a preference.

In a quality study comparing quality perceptions between experts and consumers, it was found that manufacturers of fruit juices used terms related to objective measurements of attributes such as astringency (Zeithaml, 1989). Consumers, on the other hand, focused on purity when assessing quality.

The attributes that signal quality have been divided into intrinsic and extrinsic cues by Szybillo and Jacoby (1974) and Olson (1977). External cues are lower level cues that can be changed without changing the core product, i.e. price or packaging elements. Intrinsic cues are higher level cues related directly to the quality of the core product and processing variables. Consumers who feel they have little knowledge of the core product will continue to perceive wine quality based on external cues such as the type of closure.

Hoch (1998) found that although experts realized they are not the same as the general public, they were unable to predict how the public will make judgments concerning quality. Wholesaler's predictions of consumer's responses proved to be much closer to their own quality perceptions than to the actual consumer perceptions. The experts used their own preferences as surrogates for consumer responses (Lockshin and Rhodus, 1993).

These issues are important because they point out that the gatekeepers – wineries- may have an imperfect understanding of consumer desires. It is possible that the gatekeepers in the U.S. have overestimated the degree of resistance to screw caps that will be encountered. Another possibility is that with full information and product availability, the resistance would dissipate.

Consumer Responses

According to Rogers (1983) “getting a new idea adopted, even when it has an obvious advantage, is very difficult.” (Pg. 1). Technological superiority is not enough for a product to succeed with consumers – the new product must be *perceived* to be superior by the potential adopter. The speed of diffusion of an innovation is influenced on many levels. We first evaluate the attributes of the screw cap.

Several characteristics of innovations, as sensed by the receivers, contribute to their different rates of adoption. Rogers asserts that there are five key attributes that are critical in determining the rate at which an innovation will be adopted – ‘relative advantage’, ‘compatibility’, ‘complexity’, ‘trialability’ and ‘observability’ (Rogers and Shoemaker, 1971). We focus on compatibility and relative advantage in this discussion because the screw cap is not complex, is easily trialed and its benefits can be easily observed.

‘Compatibility’ is the degree to which an innovation is perceived as being consistent with existing values, past experiences, and the needs of the receivers. An idea that is not compatible with the prevalent values and norms of the social system will not be adopted as rapidly as an innovation that is compatible. The adoption of an incompatible innovation often requires the prior adoption of a new value system. Many mainstream consumers highly value the tradition and ritual of opening the wine and popping the cork, so the screw cap is incompatible with these customs and values. Atkin et al (2006) asked respondents three questions regarding tradition and rituals concerning opening wine: the importance of ‘the tradition of opening wine sealed with a cork’, the importance of ‘the sound of the cork “pop”’, and the importance of ‘the ritual of opening wine (presentation and first taste)’. Table 4 shows that Australasians give less importance to the ‘pop’ of the cork and the rituals of opening wine with a cork closure than do the Americans. There is no difference between countries on how they view the importance of the tradition of opening a bottle. These findings support the notion that incompatibility of the screw cap is one possibility for its slow diffusion in the United States.

‘Relative advantage’ is the degree to which an innovation is perceived as better than the idea it supersedes. The degree of relative advantage may be measured in economic terms, but often, social prestige factors, convenience and satisfaction are also important components. It may matter little that the innovation has a great deal of objective advantage. What does matter is whether the individual perceives the innovation as being advantageous. Rogers and Shoemaker (1971) posited that the relative advantage of a new idea, as perceived by members of a social system, is positively related to its rate of adoption. Wine producers have already recognized the advantage of screw caps.

American consumers find the screw cap incompatible with their current values and experiences. The relative advantage of screw caps is still unknown by many consumers, particularly the US wine consumer. The ritual of opening a bottle of wine is more important to Americans than it is to Australasians (Atkin et al 2006). Table 4 shows the strikingly different consumer attitude toward screw caps found in the U.S. versus those in Australia and New Zealand in that study.

Ram and Sheth (1989) suggest that a communication strategy is of primary importance to educate customers about the advantages of a resistant innovation. This strategy was in fact used with great success in Australia and New Zealand. In 2000, a group of 15 winemakers from the Clare Valley of Australia selected the Stevlin screw cap closure for their premium Rieslings. This collaboration of wineries jointly launched a marketing campaign, 'Riesling with a Twist' in which they communicated to the media, consumers and retail the quality aspects of the seal. The campaign was a huge success as supply could not meet demand for the screw-capped wines. These wineries soon began to bottle not only their white wines but also their red wines with Stelvins.

The success of the Australian launch motivated 27 New Zealand wineries to form the New Zealand Wine Seal Initiative in late 2001 (www.screwcap.co.nz/). The Initiative also focused on educating the trade and consumers of the superiority of screw caps. This campaign educated not only the wine consumers but also the retailers on the advantages of the screw cap over natural cork closures, which were three-fold – to reduce corked bottles, to ease the opening of a bottle of wine, and to ease storage of open bottles for future consumption. By 2004, domestic market sales of screw capped wines outnumbered wines with cork closures in New Zealand (Courtney, 2004). Recent research has shown that Australians and New Zealanders recognize the advantages of the screw cap over other closures, unlike American wine consumers (Atkin et al, 2006). In addition, Australians and New Zealanders are indifferent between cork closures and screw cap closures in that study.

Conclusion

The wine industry is at a stage where just making good wine is not enough to grow the market. The Advanced Business Research (Advanced Business Research, 1999) report indicates that there is a wide choice of wines available for consumers and that the industry, as it matures, needs to move from a production orientation to a marketing orientation based upon understanding the consumer (Thomas, 2000). The average wine consumer's choice is likely to be influenced to a greater extent by product attributes that require less of an insider's knowledge. Opportunities lie in designing extrinsic product attributes such as unique packaging (Orth, 2002).

The context in which wine is sold also affects how information reaches the consumer. More and more, it is the retailers that are the critical link in getting a brand into the hands of the consumer. As far as supermarket sales are concerned, up to 70% of consumer decisions are made in the store (Bramwell, 1997). The environment in which wine

purchasing decisions are made is changing and this has created a gap in getting the word to wine consumers.

Consumer perceptions of price, quality, and value are considered to be pivotal determinants of product choice. Despite the proliferation of alternate closures, cork is still by far the closure of choice. A recent study by B/R/S Group, a San Rafael, CA market research company, found that only 33% of American consumers who drink wine more than once per week had purchased wine with a screw cap (BRSGroup, 2004). Once consumers have sampled screw capped wine, however, their acceptance rate of screw caps increases (Firstenfeld, 2004). That study found that 72% of those who have never opened a screw cap feel the closure “cheapens the image of the wine”, compared with only 35% of drinkers who have actually tried screw caps. The challenge is to encourage trial among those that are resistant to change. These findings also provide a clear impetus to the trade to place the innovation in the market, where trial can occur. One problem that can occur is for the trade to be more resistant to the innovation than consumers and thus slow the movement of the innovation into the marketplace (Wilson and Lockshin, 2003). Indications are that consumers will trial an innovation, if it is available, and, as noted above, the risks are reduced to a viable level.

Future Research

The goal of this paper is to investigate the reasons for a supply restriction on the diffusion of screw caps in the wine industry and consider some of the implications. A better understanding of how consumers choose products will lead to a better framework on which to base decisions on pricing, packaging, and distribution. These strategies then set the agenda for further development in the related area of product development and sales management. An important variable in the marketing mix whose major purpose is to project an image of quality is the package design. The package design, ideally, will instantly communicate an image of a brand that entices the consumer to buy. This is important because, according to the Wine Market Council, the wine industry has undertaken the mission of reaching out to marginal wine drinkers, with the goal shifting their attitudes toward wine so that wine for them can become a more common, casual, everyday enjoyment (Wine Market Council, 2005). Packaging materials such as corks and screw caps are a key component of this strategy. The same level of industry commitment will be necessary in introducing other discontinuous and resistant innovations, especially in packaging into the marketplace.

Many consumers today seem to be overwhelmed with technological innovation (Cohen, 1999; Hirschman, 1987; Miles, 2000). Without diffusion agents vigorously communicating useful information, these consumers are not always able to recognize the full advantages of these technological innovations (Lee et al, 2002; Campbell, 1999; Nuttal, 1998). Brand managers in the United States could benefit by following the communication strategy used in Australia. In 2000, a group of 15 winemakers from the Clare Valley of Australia selected the Stelvin screw cap closure for their premium Rieslings. Acting as a group, these wineries jointly launched a marketing campaign, ‘Riesling with a Twist’ in which they communicated to the media, consumers and

retailers the quality benefits of the screw cap. The current popularity of screw-capped wines in Australia attests to the success of the campaign.

Successful diffusion and its full penetration to the entire population depends on whether the development of diffusion can reach the critical mass by activating personal communication channels. Therefore, diffusion agents need to promote innovations by not only talking about the new technology to potential adopters, but also encouraging them to make recommendations to their close family, neighbors, and friends. Gatekeepers often decide what is marketable. If the gatekeepers do not fully understand consumer preferences, then some products that might be preferred by consumers will not even be offered for sale (Lockshin and Rhodus, 1993).

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Appendix

Table 1
Questionnaire regarding Wine Bottle Closures

1. What percentage of your production uses the following types of wine bottle closures?

_____ natural cork
_____ synthetic cork
_____ conglomerate cork
_____ screw caps (Stelvin, etc.)
_____ crown caps
_____ corks with end disks
100%

If you use screw caps for more than 50% of your bottling, go to question 8.
Otherwise continue with question 2.

2. What issues have kept you from using screw caps in more than 50% of your bottlings? (check all that apply)

_____ cost
_____ uncertainty of product quality
_____ customer reluctance to accept s
_____ lack of reliable suppliers of screw caps
_____ distributor reluctance to accept screw caps
_____ other _____

3. How important is materials cost as a factor in your decision to not to use screw caps?

Of No						Extremely
Importance						Important
1	2	3	4	5	6	7

4. How important is uncertainty of product quality in your decision to not use screw caps?

Of No						Extremely
Importance						Important
1	2	3	4	5	6	7

5. How important is customer reluctance to accept screw caps in your decision to not use screw caps?

Of No						Extremely
Importance						Important
1	2	3	4	5	6	7

6. How important is lack of reliable suppliers in your decision to not use screw caps?

Of No						Extremely
Importance						Important
1	2	3	4	5	6	7

7. How important is distributor reluctance to accept screw caps in your decision to not use screw caps?

Of No						Extremely
Importance						Important
1	2	3	4	5	6	7

8. How important is the cost of purchasing and installing new equipment in your decision to not use screw caps?

Of No						Extremely
Importance						Important
1	2	3	4	5	6	7

9. How important is the issue of screw caps to you in your business right now?

Of No						Extremely
Importance						Important
1	2	3	4	5	6	7

10. Would you be willing to participate in a study to determine consumers' perception regarding screw cap closures?
_____yes _____no

11. If yes, please check off that apply:

- _____Willing to provide our customer mailing (snail mail or e-mail) list
- _____Willing to provide financial support less than \$500
- _____Willing to provide financial support greater than \$500
- _____Willing to post questionnaire on our web site
- _____Willing to provide other contacts that may have mailing lists available

If you are willing to participate in such a study, please provide your contact information below or attach a business card.

Thank you providing this information.

Table 2
Comparison of Means of Each Issue X Winery Size

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
3costimp	Between Groups	3.674	2	1.837	.538	.588
	Within Groups	143.526	42	3.417		
	Total	147.200	44			
4qualityimp	Between Groups	17.049	2	8.524	2.223	.121
	Within Groups	164.864	43	3.834		
	Total	181.913	45			
5customer	Between Groups	5.530	2	2.765	.907	.411
	Within Groups	134.087	44	3.047		
	Total	139.617	46			
6suppliers	Between Groups	11.720	2	5.860	1.532	.228
	Within Groups	152.977	40	3.824		
	Total	164.698	42			
7distributor	Between Groups	52.319	2	26.159	8.056	.001
	Within Groups	142.884	44	3.247		
	Total	195.202	46			
8equipment	Between Groups	6.922	2	3.461	.870	.426
	Within Groups	179.073	45	3.979		
	Total	185.995	47			
9importance	Between Groups	4.266	2	2.133	.781	.464
	Within Groups	117.452	43	2.731		
	Total	121.717	45			

Table 3

Post Hoc Test – Tukey HSD

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) 10caseprod	(J) 10caseprod	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
3costimp	1	2	.103	.678	.987	-1.54	1.75
		3	-.625	.678	.630	-2.27	1.02
	2	1	-.103	.678	.987	-1.75	1.54
		3	-.727	.788	.629	-2.64	1.19
	3	1	.625	.678	.630	-1.02	2.27
		2	.727	.788	.629	-1.19	2.64
4qualityimp	1	2	-1.202	.718	.227	-2.94	.54
		3	-1.232	.697	.193	-2.92	.46
	2	1	1.202	.718	.227	-.54	2.94
		3	-.030	.817	.999	-2.01	1.95
	3	1	1.232	.697	.193	-.46	2.92
		2	.030	.817	.999	-1.95	2.01
5customer	1	2	-.511	.636	.702	-2.05	1.03
		3	-.792	.617	.412	-2.29	.71
	2	1	.511	.636	.702	-1.03	2.05
		3	-.280	.729	.922	-2.05	1.49
	3	1	.792	.617	.412	-.71	2.29
		2	.280	.729	.922	-1.49	2.05
6suppliers	1	2	-.455	.734	.811	-2.24	1.33
		3	-1.250	.714	.199	-2.99	.49
	2	1	.455	.734	.811	-1.33	2.24
		3	-.795	.816	.597	-2.78	1.19
	3	1	1.250	.714	.199	-.49	2.99
		2	.795	.816	.597	-1.19	2.78
7distributor	1	2	-1.566	.656	.055	-3.16	.03
		3	-2.438*	.637	.001	-3.98	-.89
	2	1	1.566	.656	.055	-.03	3.16
		3	-.871	.752	.484	-2.70	.95
	3	1	2.438*	.637	.001	.89	3.98
		2	.871	.752	.484	-.95	2.70
8equipment	1	2	.896	.705	.419	-.81	2.61
		3	.063	.705	.996	-1.65	1.77
	2	1	-.896	.705	.419	-2.61	.81
		3	-.833	.814	.566	-2.81	1.14
	3	1	-.063	.705	.996	-1.77	1.65
		2	.833	.814	.566	-1.14	2.81
9importance	1	2	.313	.602	.862	-1.15	1.77
		3	-.551	.602	.633	-2.01	.91
	2	1	-.313	.602	.862	-1.77	1.15
		3	-.864	.705	.445	-2.57	.85
	3	1	.551	.602	.633	-.91	2.01
		2	.864	.705	.445	-.85	2.57

*. The mean difference is significant at the .05 level.

Table 4

Table 4: ANOVA Results of Respondents by Country

	AUS (n = 1429)	New Zealand (n = 493)	US (n = 1691)	Sig.
Tradition	$\mu = 3.32$	$\mu = 3.49$	$\mu = 3.35$	ns
Sound of Pop	2.72	2.96	3.02	AUS < US***;
Ritual	3.89	3.91	4.33	AUS, NZ < US ***
Ease of Opening	4.53	4.91	4.29	AUS, NZ > US ***
Ease of Reseal	4.09	4.54	4.24	NZ > US*** NZ > AUS***
No Tool Required	3.28	3.74	2.77	NZ > AUS*** AUS, NZ > US***

***significant at $p < 0.01$; ns: not significant