

WINE MARKET SEARCH AND THIRD PARTIES

Denton L Marks, University of Wisconsin-Whitewater, USA

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Abstract

Among the thorniest problems in wine markets is the involved consumer's difficulty in knowing a particular wine, especially among fine wines (vs. commodity wines). If one has not tasted a wine—and perhaps even if one has—one very likely looks for the opinions of others. Among those, wine vendors as specialists can be among the most qualified. Drawing upon research studying the effects of lower cost price and quality information and vendor comparison on online wine shopping, this analysis considers the role of third-party information aggregators such as Wine-Searcher in improving wine transaction outcomes by facilitating price comparisons and consumer access to vendor information, aggregating professional reviews, evaluating overall customer experience with vendors, and encouraging vendor specialization. It considers extending the third party's coverage of vendor information to including a new category of wine vendor, namely, restaurants featuring wine through curated wine lists.

Introduction

What do “involved” wine consumers want to know before buying an unfamiliar wine? Lacking a tested surrogate who can advise, one expects that they want, at the least, as much product and price information and opinion as they can find about both the wine itself and all of its substitutes. Acknowledging the cost of processing all the information, they also hope to know their own palates well enough to translate the information into expected enjoyment.

Information aggregators are much more likely to help with the first goal than the second which is largely up to the consumer who must learn and train her/his palate. Traditionally, collections of reviews from sources such as Robert Parker, Michael Broadbent, and national experts (e.g., Peñin, Halliday, Platter) were welcome sources of guidance. The reduced cost of information collection and aggregation through the internet has increased the amount of information at hand and created a role for information aggregators as third parties—acting for both buyers and sellers—who can collect information useful to both sides, allowing them to focus more efficiently upon their own self interest.

Literature Review and Problem Studied: Lower Cost Information and Consumer Choice

In a widely cited paper, Lynch and Ariely (2000; hereafter, LA), following Alba et al. (1997) and Bakos (1997), studied the effects of lowered search costs on shopping—specifically online shopping where achieving significant information cost savings seems relatively easy. Aside from its overall contribution to understanding consumer search, two features of their study are critical to the current discussion:

- LA raise questions about the impact of changes in search costs applicable to any good; but, among all the online markets, they chose fine wine. They study the retail market for fine wine to highlight the idea that the “effects of easier quality search may outweigh those of easier price search”, and fine wine markets “magnify the relative weight of search costs for quality information” (LA: 86). That is, discerning the quality of fine wine is particularly difficult so significant differences in the costs of information about quality might yield more observable differences in consumer behavior.

- The search cost differentials embedded in their experiments are product (fine wine) prices, product quality, and vendor comparability for both store-specific and in-common products. These comparisons are at least as important among fine wine consumers as they are for other finer goods: seeking the lowest price for a given wine, seeking quality information about a product with tens of thousands of variations for which quality information (and knowledge) seems essential, and comparing offers from competing vendors whose offers may only partially overlap.

LA's research was an early investigation of the growing online wine market (Wine-Searcher, 2018); but, while widely cited, it has not received attention by wine researchers in the years since its publication (e.g., Lockshin and Hall, 2003; Lockshin and Corsi, 2012).

LA draw important conclusions from the results of their experiment, but they also raise thought-provoking questions for wine markets in the extensions they suggest. Their experiment asked subjects (72 university graduate students and staff) to do eight online wine “shopping trips” at two online wine shops, using their own money to buy wines. On each shopping trip, the subject faced one of eight possible information formats: high/low wine quality information (ease of sorting of available wines and amount of quality information provided), high/low price information (ease of access to and ability to compare prices), and easy/difficult store offer comparability (e.g., ability to see both store offers on the same screen). The store comparability feature reflected a primitive form of third-party involvement: it allowed “easy” vendor comparability which neither the consumer nor the vendor could have easily arranged unilaterally. Each store carried 60 wines—20 which were common to both and 40 which were store specific (“unique”). Consider, first, three of their empirical results:

1. Lower cost access to quality information reduced price sensitivity (own-price elasticity of demand, change in quantity demanded). One expects that, with easier access to information about potential substitutes, subjects were less likely simply to shop for lower prices and more likely to find and choose a different wine which might be both lower priced and more appealing (e.g., a different vintage of the same wine).
2. Demand was more own-price elastic for wines in common when store comparability was easy. This supports the widespread concern among same-product vendors that consumers buy at the lowest price; lower cost price comparisons facilitate this. However, easier comparability did not increase price sensitivity toward purchases of store-unique wines.
3. More transparent information—high product information, high price information, and easy comparability—seemed to increase consumer “utility” as evidenced by: higher rating of the shopping experience, greater enjoyment of wines selected, and stronger tendency to maintain access to the stores two months after the experiment. (LA: 83)

From this, LA conclude that, rather than resist adoption of the lower information costs available through online markets (e.g., fearing easier price comparisons), the “retailers’ task is learning how to provide consumers with useful product-related information that will increase consumer retention by increasing consumers’ satisfaction with the merchandise they purchase” (LA: 101). The lesson is that vendors should favor unique product lines, not widely available products.

One feature of the online environment that is prominent in the discussion is vendor cooperation with third parties seeking to streamline search and, in particular, to facilitate vendor comparability. In wine markets, a leading participant in that effort is Wine-Searcher (WSr). Our discussion examines the role that WSr plays in facilitating wine consumer shopping and develops guidance for both vendor and WSr improvements.

Research Objectives: Lynch/Ariely and the Role of Third Parties

By its nature as experimental research, the LA results have limitations. For example, their sample size is not large, and their subjects seem not to be representative of a particularly broad base of wine consumers: relatively well-educated, computer literate, and (actually or potentially) affluent members of the academic community at Duke University in the southern US state of North Carolina. Their experience with online shopping and histories as wine consumers would likely affect their reactions to online wine shopping. Apparently concerned about the latter, LA develop an *ad hoc* measure of “wine expertise”, asking subjects about (1) their wine buying habits and (2) their ability to identify various wines as red or white. The resulting unidimensional index of expertise had “marginally acceptable reliability” and “had no effects” (LA: 88) and received no further attention in their analysis. This is not a convincing basis for disregarding this potential influence upon the experimental results.

We also know nothing about the wines offered—for example, how familiar the common or unique wines were to the subjects or the price range they represent.

LA also leave some theoretical issues unaddressed. Lacking perfect information and knowledge, consumers may be inclined to associate price with quality—the so-called price-quality heuristic (e.g., Koschate-Fischer and Wüllner, 2017). While this tendency is not inconsistent with consumers seeking the lowest price for a given good—the common wines in the experiment—it complicates the idea that awareness of lower priced substitutes will, in fact, be perceived as “close enough” substitutes. That likely depends upon the consumer’s wine knowledge. We have already expressed concern about the quality of LA’s measurement of that, and we know even less about the subjects’ tendency to associate price with quality.

LA’s discussion of the “external validity” of their findings (LA: 101) is helpful:

1. Likely reflecting the relative infancy of online wine shopping at the time, one limitation is using only two vendors. LA acknowledge that awareness of and access to numerous competitors might increase price sensitivity (LA: 101), perhaps through an increased expectation of finding lower prices. However, the competing effect should remain: increasing the number of full-price substitutes available with more utility per dollar.
2. A more realistic and complex experimental design would have allowed asking prices to be endogenous. This would allow for the vendors’ readings of consumers’ perceptions of substitutability which could lead to greater vendor price adjustment—certainly a valid question whose answer might yield more evidence of price sensitivity.
3. Further to their cursory discussion of consumer information and knowledge, LA acknowledge the role of learning. In a market with “little new entry over time” (LA: 102)—and, we add, few if any new products—consumers might learn enough that the importance of vendor differences in quality information would shrink. As products become closer to “commodities”, competition becomes more focused on price alone.

For the last point, we note that—again drawing upon their choice to study the wine market—“there is constant turnover in the set of competing alternatives [so that online] shopping...may continue to be valuable media for differentiation.” (LA: 102) While their discussion of prospects for future research is stimulating, none of them seem to have been cited as the impetus for subsequent research on wine markets: very little of the citing research involves wine.

LA raise one more issue of external validity emphasized by Bakos (1997) and of particular importance to this analysis but not addressed in their experiment—“lack-of-fit costs” (or “fit costs” in the Bakos paper and subsequent literature). The consumer is less likely to seek

price competition as concern about the fit of possible alternatives increases, especially online where the consumer cannot “try on the product”. They state:

[This] should occur in product classes characterized by a high degree of real differentiation [in contrast to commonly offered goods, or commodities, which are identical among vendors], such as wines. In such a market there is great potential for well-done electronic shopping to increase consumers’ ability to choose goods that they like better than those they would have chosen in another shopping medium.” (LA: 101)

If we agree that the consumer’s problem of knowing what s/he is buying is particularly significant and daunting in wine markets, then LA assert that vendors—perhaps online vendors especially—may be particularly well equipped to guide consumers to their best choices.

How might that occur? Fortunately, since the appearance of the LA paper, Wine-Searcher has emerged as a third-party aggregator of wine vendor information that provides not only global listings of wine offers but also information about vendors and the wines. While competitors may emerge that improve upon WSr, there currently seems to be no better aggregator of wine vendor information. In what follows, we discuss and critique some of the most important WSr content and consider how WSr might enhance its role in order to support the kind of vendor role that LA propose.

Research Methodology: Accessing Third-Party Coverage of Wine Vendors

Currently the most comprehensive data on wine vendors and their offerings come from Wine-Searcher (hereafter WSr (www.winesearcher.com))—self-described as “the largest price and location data set in the wines & spirits industry” (website: <https://www.wine-searcher.com/reports.lml>). Absent a comprehensive global comparison of all wine information aggregators, WSr seems without peer in its collection of wine offer prices and location data and, thus, vendors offering a given wine. Prominent US online vendors such as Wine Library, Last Bottle, and Garagiste use it for price and location comparisons. Jancis Robinson has endorsed it (Robinson, 2010) as best overall; and, apparently, that still stands.

WSr surveys five types of vendors around the world (producers, retail and wholesale merchants, auction houses, brokers) for their offerings and asking prices. For active wine consumers, it is arguably the most useful search software available. For someone seeking a particular wine, it aims to provide, from the data it collects for its website or as an application (“app”) a variety of data. Among the most important are (1) retailers offering the wine (by country and sometimes within a country (e.g., US states)), (2) each retailer’s asking price, (3) WSr’s vendor quality rating, (4) some tasting notes (non-proprietary) and professional ratings, if available, and (5) market information about the wine (average price from WSr vendors, number of WSr listings, WSr search rank). Its Professional (“Pro”) version adds potentially numerous non-sponsoring vendors depending upon the wine; its website does not indicate the share of vendors who are sponsors, but it identifies sponsors in bold print in any listing of vendors of a given wine. The “Pro” version also indicates the date of the latest price quote from a vendor and provides the “Pro” subscriber with extra features (e.g., set availability alerts).

WSr also provides a variety of background information about the wine’s producer (e.g., other wines available), the wine’s country of origin and appellation, varietal blend (including legal restrictions), style, and food pairings.

The role of Wine-Searcher is relevant to the current discussion for two reasons. One is a critical analysis of WSr content as an aid to the wine consumer relative to content from a particular vendor. The other is, given its prominence in consumer research, its potential role in

encouraging vendors to become better companions for consumers in the spirit of the LA analysis.

Before undertaking that, we emphasize that WSr is a remarkably rich source of information about current wine prices, locations, and associated product and vendor facts and quality that WSr seems to curate carefully and that arguably is unmatched by any other information source. The sections that follow provide further comment on this content.

Findings: Consumer Access to Vendor Information through Wine-Searcher

WSr data are particularly useful for allowing comparison of the helpfulness of vendors' websites. If we agree that vendors differ in how much they help consumers maximize enjoyment from purchases, then the mere convenience of access to so many vendor websites through a single portal is a benefit. The supplemental WSr information enhances the value, but one must read carefully. For example, one must view the ascending price listing carefully if it includes more than one format since smaller formats (half- and sometimes quarter-bottles) tend to appear at the top followed by regular (750 ml.) and larger formats. Including vendor bottle prices by the case is redundant unless they are discounted (common in the US).

Nothing ensures that wine identification is uniform; it likely depends upon vendors' entries in their own price lists instead of some common identification such as a Global Trade Item Number (GTIN—like an ISBN for a book). For a given specific wine among the home country's vendors and for widely traded premium wines, identification is likely to be uniform; but, beyond that, one cannot be sure without contacting the vendor.

WSr does not provide the details of its access to vendor information. The vendors listed include both (a) sponsors whose information is all that is included in free searches (WSr allows up to 50) and (b) other vendors disclosed only to subscribers to Wine-Searcher Pro, a "professional" service from the website for paid subscribers (currently 60 USD annually). How WSr selects these non-sponsoring vendors is not disclosed. However, it does note:

"[Our spidering software] collects wine lists from our merchants' websites. We include price lists from wine merchants, retailers and wineries, and all price lists are updated three or more times a week on average." (website: "About Wine-Searcher>Wine-Searcher Technology")

An example of the number of listings provided along with the number from the five countries with the most vendors overall (US, UK, France (FR), Italy (IT), Germany (DE)) is (1 Feb '18):

- 328 wine auctioneers (US=33; UK=122; FR=56; IT=10; DE=14)
- 520 wine brokers (US=125; UK=137; FR=62; IT=17; DE=22)
- 26,746 wine retailers (US=6,389; UK=2,358; FR=2,063; IT=1,202; DE=2,966)
- 4,417 wine wholesalers (US=634; UK=628; FR=234; IT=140; DE=295)
- 61,589 producers (US=12,715; UK=1,519; FR=12,771; IT=8,750; DE=3,842)

for a total of 90,626 vendors. For consumers, wine retailers (about 29.5 percent of the total) and perhaps auctioneers (0.4 percent) are clearly the vendors most likely to provide useful guidance.

A number of questions come to mind. For example:

- How representative are these retailers within the markets they serve?
- If we can identify a market, how comprehensive is WSr's coverage of it?
- How do sponsoring vendors differ systematically from non-sponsoring vendors?

WSr can only identify and monitor vendors who have websites and apparently includes only vendors who actively manage their websites—a requirement that excludes many relatively small retailers. One expects that sponsoring vendors have larger current and targeted sales

volume (e.g., retail chains) and are willing to pay for the exposure offered to consumers through free Wsr searches. Non-sponsoring vendor listings are available only to Pro subscribers so non-sponsors, while being less interested in exposure to “free” users, are still interested enough in the smaller, Pro subscriber market to satisfy Wsr’s requirements for customer service and maintenance of their websites and pricelists.

Consider data for the US state of Wisconsin which has been in the first or second decile for alcohol consumption per adult (14 and older) in the US during 1977-2015 and ranked just below the US average for wine consumption per adult in 2015 (0.39 gallons of wine ethanol compared to 0.42 gallons for the US) (Haughwout and Slater 2017). A search for vendors in Wisconsin offering one of the most popular wine brands in the world—Franzia—yielded one retailer: Total Wine and More, the largest US chain of wine stores which is currently growing in Wisconsin (grown from 1 to 4 shops in the last 1-2 years) and “more than 100 stores around the country” (<http://www.totalwine.com/for-the-trade>). Wisconsin is the 19th largest US state (estimated 2017 population = 5.8 million). Milwaukee County, with over 16 percent of the state’s population, issued about 380 Class A (off premise) Alcohol Licenses annually during 2003-11 (<https://www.dhs.wisconsin.gov/publications/p0/p00778-milwaukee.pdf>) so one doubts that Wsr provides a representative sample of vendors in all or even many jurisdictions.

One can also search vendors by state and city. Wsr lists 217 Wisconsin vendors—97 retailers, 115 producers, and 5 wholesalers. Among the retailers, 2 provide pricelists that Wsr can post and monitor. Fifty-four producers are wineries; the rest are distillers and brewers. This suggests the variety in the various vendor categories: not all provide searchable price lists, and not all are wine-related.

Ohio’s population, 7th largest in the US, is about twice Wisconsin’s and also has only one retailer offering Franzia wine (Corkscrew Johnny’s in Richfield, a distant suburb of Cleveland). A search in Ohio for another popular US label—any of 20 US-produced Mondavi wines available from at least one Wsr-listed vendor somewhere—identified a second Ohio vendor outside Cleveland. Wsr lists 130 retailers in the state, 150 producers, and 11 wholesalers (one is also a broker), but one might find only two if one searches for a wine available from an Ohio retailer.

US interstate shipping laws are persistently subject to change; but, as of early 2016, almost all states seemed to allow some form of shipment of wine into the state (exceptions are Alabama, Oklahoma, and Utah (<http://www.ncsl.org/research/financial-services-and-commerce/direct-shipment-of-alcohol-state-statutes.aspx>)). In many states (including Ohio and Wisconsin), consumers have at least limited access to vendors beyond state lines if they are willing to accept the extra costs (shipping risk (e.g., breakage, variable weather), extra out-of-pocket expense) of ordering from out of state.

Relatively large and perhaps widely known vendors, especially in large cities in wine regions, likely dominate the sample of vendors available in both the US and other countries relative to small, independent, perhaps isolated shops. For example, in the US, one finds dozens of retailers in New York (esp. in and around New York City), Chicago, and the West Coast where wine consumption is relatively high. However, US wine consumers are more widely distributed than that so one wonders how comprehensive Wsr’s vendor listings are.

Findings: Wine-Searcher Vendor Ratings

Based upon the Lynch/Ariely research, one could speculate that consumers would flock to vendor ratings if they focus upon or at least emphasize consumer satisfaction with the product—the extent to which consumers conclude that vendors, through the information and service they provide, guide them to the most enjoyment from their purchases. While such ratings could suffer from all the distortions that one finds with other service-intensive consumer goods ratings (e.g., restaurants reviews on yelp.com (e.g., Zhang et al., 2016)), they might benefit from originating with an objective third party who evaluates them relative to their competition—perhaps along the lines of wine ratings.

WSr does not disclose exactly how it evaluates vendors on its 1-5 (star) scale—from Trusted (5) to Removed (1) with intermediate ratings of Dependably Good (4), Good (3), and Basic (2). Its published explanation notes the following considerations:

1. Accuracy and timeliness of price list for products on hand or quickly acquired
2. Security of ordering
3. Availability and accessibility (including mobile) by customer via published contact information (online, physical location address) and timely response to customer queries
4. Timeliness of shipping
5. Transparent practices, absence of fraud (e.g., no bait/switch)
6. Reports from mystery shoppers, “automatic software checks”, and actual customers

The focus of WSR’s evaluation is the convenience, reliability, and integrity of the vendor as suggested by its designations such as “trusted” or “dependable”. Related to this, WSR’s extensive “Advice to Merchants” on its website focuses upon open communication, prompt and thoughtful attention to customers, and responsiveness to WSR. WSR removes merchants assigned one star or less for reasons such as website unavailability, unreliable pricing, deceptive practices, and/or customer complaints.

WSr rewards valuable service attributes, but these are not specific to wine, and WSR gives no weight to the extent (vs. accuracy) of product information (including, for example, (a) disclosure of stock on hand or available and (b) availability of close substitutes) or consumer education (e.g., hosting tastings and wine appreciation groups). LA would broaden the rating’s scope to reflect the extent to which the vendor assists the buyer in getting to know the wine beyond price and availability and assists the buyer in deciding whether and what to purchase. For its vendor ratings, WSR seems not to consider such service and, in that sense, does not reward that vendor behavior or, through its ratings, provide an incentive for vendors to provide it. This may not be surprising since evaluating that content from a vendor website might entail website inspection beyond WSR’s current automated capability, but nonetheless knowing that about a vendor would be valuable and should be rewarded.

The central question of this discussion is the extent to which a wine vendor might be, in effect, a surrogate expert to advise the wine consumer of an unknown wine’s quality. Given its remarkable data collection and processing, WSR might be particularly influential in encouraging vendors to fill this role.

Findings: Wine-Searcher Wine Ratings; Potential for a Contribution

If it has any of the relevant data, WSR rates wine quality through an aggregation of published ratings (e.g., experts or buying guides, cellartracker.com, WSR users’ ratings). Aside from all the concerns about the meaning and value of expert ratings (e.g., Marks, 2015), it is difficult to know exactly how WSR arrives at its ratings. Here is part of its explanation:

“Wine-Searcher collates scores from a wide range of critics, from influential single palates like Robert Parker and Jancis Robinson to publications like Wine Spectator, all adjusted for the 100-point scale. To generate a wine's average score, Wine-Searcher uses a Bayesian methodology to calculate a weighted average. This average score is calculated for specific vintages of a wine, as well as across all vintages.” (<https://www.wine-searcher.com/wine-scores.lml>)

While it is not without precedent (e.g., Cicchetti and Cicchetti, 2014), adjusting scores from a variety of rating scales (e.g., 0-3, 1-5, 1-20, 50-100) to a 100-point scale introduces problems of its own. For example, if wine ratings are ordinal and not cardinal as with a psychological hedonic scale, then we do not know that the difference between one quality level and another in a less compressed scale (e.g., 50-100) is a simple multiple of the difference in quality in a more compressed scale (e.g., 1-5). Using the (perhaps understandably) unspecified “Bayesian methodology to calculate a weighted average” could be an interesting method of aggregating published wine evaluations, but it difficult to treat it as such without knowing more about it.

Here is an example of one such WSr average score that seems puzzling. The '15 Tatomer Spätburgunder rose' (Santa Barbara CA) has only one score of 90 from Vinous Antonio Galloni and no WSr user ratings. That yields a WSr rating of 89. Another example from a more established wine (at least in the US) is the '01 Robert Mondavi Winery Reserve Cabernet Sauvignon. Here are the six individual components of the WSr score of 92:

1. 17/20: Jancis Robinson
2. 91/100: *Wine and Spirits*
3. 93/100: Jeff Leve
4. 94/100: *Wine Enthusiast*
5. 95/100: Robert Parker
6. Eight WSr Pro user ratings (Just drinkable=1-5=excellent): 5 (1), 4 (6), 3 (1).

Opinions could vary widely about the relative reliability of any of the listed evaluations listed—one of the fundamental challenges of such aggregation—but, at least as important, it is not apparent how WSr arrived at its aggregate score of 92. It is relevant that WSr adds the following note about undisclosed aggregation with its rating—“For completeness we may include critic scores in our aggregation that we do not display”—but that only encourages more questioning.

It is noteworthy that the number of WSr user ratings can vary widely but seems to be small. This example of eight for a popular US fine wine is one of the largest found during occasional searches. One suspects that some subscribers are more likely—perhaps more culturally attuned—to rating wines online (e.g., American vs. French; one reason for choosing the Mondavi example above) so one wonders how that might further bias the WSr aggregation.

Data from numerous sources indicate that, despite their questionable meaning, many wine consumers in many markets value wine ratings:

- They fill subject lines of online wine offers;
- They line the shelves of wine shops (at least in the US, Canada, Australia, and the UK) as “shelf talkers” or sit atop bottles in the larger wine sections of French supermarkets;
- Tens of thousands of wine buyers buy access to experts’ websites and other publications; and
- Researchers continue to ask how they correlate with wine prices wondering if consumers will pay more for “better” wine; due to data limitations, most published research looks only at investment-grade wines among which the most expensive appear to have the weakest correlation to their ratings (Luxen, 2018).

In their current form, WSr ratings are of limited value because one cannot see how they are calculated. Even if WSr's methodology were more transparent, it would not address the more fundamental question of the value of an aggregation of questionable information (e.g., Kwong and Sun 2018; but see Cardebat and Paroissien 2015). Simply providing a comprehensive collection of available evaluations would be the way that WSr could improve considerably this feature of its service and increase vendors' incentive to support it.

WSr's current processing of opinions about the wines it surveys seems uneven:

1. Its provision of ratings from any given source is incomplete. Among the wines it lists, it reports the ratings of some of the wines from a given source but not others.
2. Its listing of "professional ratings" of any given wine is not comprehensive. Some available ratings are missing as one can sometimes see from visiting vendors' websites that have information that is more comprehensive than WSr's.
3. Its cellartracker tasting notes sometimes do not match what is at cellartracker.com.
4. It excludes some professional ratings from its aggregation (e.g., Le Guide Hachette des Vins for French wines—sometimes included under its "Awards" category but not included in its score aggregation).

Extensive use of WSr suggests that it has access to many if not all available professional opinion on wines (plus cellartracker.com), but the information for any given wine is often incomplete. One expects that they could be more careful and thorough.

If WSr would collect and present wine evaluations comprehensively—not including the tasting notes which are often proprietary and difficult to aggregate anyway—then vendors could leave that to WSr and focus instead on highlighting the unique features of their collections. Consumers currently find a wide range of information and opinion about a given wine among vendors—from nothing more than the offer and its price to expert opinions, staff comments, and customer feedback. The provision of professional evaluations by individual vendors in particular represents significant duplication of effort.

Findings: Wine-Searcher "Market Data"

For a given wine and vintage, WSr provides, by month, its average price over the last five years (perhaps more by special request) relative to the average "benchmark" price (i.e., wines in its category), number of offers by WSr merchants, and search rank (compared to its category—by WSr definition—search rank if there are enough "similar products"). It also provides the "score" of other vintages of the same wine and their current average offer prices.

The idea behind these market data is useful—for example, offers available and its trend, notwithstanding the limitations on WSr's coverage of the market. Search rank data would be more useful (a) if we knew more about WSr users—designated as Pro subscribers or not—as compared to wine consumers generally in a given market and (b) if we had information on the relationship between search and eventual purchase, either from listed vendors or otherwise.

WSr's price data are asking prices, not transaction prices, so we do not know their relationship to market-clearing prices: they may yield either significant shortages or significant surpluses (and subsequent discounting) relative to demand. Of course, market-clearing price data are rare. The average price data would be more useful if (a) WSr intervened less in their calculation (e.g., not truncating the top and bottom 20 percent as potentially more error-prone) or, alternatively, if it provided different average prices from untruncated samples, depending upon the adjustments it makes and (b) if it also provided data on price dispersion (e.g., price variances). It would be preferable to see average prices that include both auction prices (after commissions)—currently excluded—since auctions can be a retail alternative in many markets

and all available vendors (no exclusions such as high-price vendors unless there is clear evidence of error—for example, price = 0). Also, auction prices are particularly useful for investment-grade wines which is likely an important market for WSR to serve. Finally, the value of a price comparison with a benchmark price is highly sensitive to the construction of the benchmark.

Findings: Wine-Searcher's Contribution

The preceding discussion of some of WSR's core content provides ideas for possible improvement in the website. With that said, it is important not to underestimate the value of WSR's content, albeit imperfect and incomplete. Here are examples of topics that available or potentially available WSR data might illuminate or that are thought provoking *per se* even with limited or imperfect data:

1. Availability and asking prices of rare vintages for various wines
2. Identifying vintages missing from a wine's recent vintages, questioning why they are missing (e.g., Ch. Serilhan (St Estephe) available for vintages 2009-2017 except 2014)
3. Identifying past vintages of wines and their availability as evidence of age worthiness
4. Learning producers' initial release strategies by identifying most recent available vintages
5. Examining the distribution of vintages among vendors, looking for quality differentials that could reflect differences in curation of stock, differential treatment of vendors by distributors or producers, etc. (e.g., which vendors have best vintages of age-worthy wines, which vendors have the most recent vintages of wines requiring freshness)
6. Evidence of price dispersion and the challenge of identifying the geographic extent of markets for given wines, with and without restrictions on shipping (e.g., Jaeger and Storchmann, 2011)
7. The extent of availability of wines in their COO and beyond, if at all
8. Wines produced in an appellation but available only outside the country of origin (COO)
9. Wines available only from the producer
10. National and international differences in wine prices (currency adjusted) and reflecting differences in taxation, barriers to trade, government regulation of distribution, etc.
11. Unit price differences by format
12. Finding vendors who offer relatively obscure or otherwise unusual wines
13. WSR utilization by country and, within that, demographic and socioeconomic information about users (what are cultural differences among WSR users?)

We note that one benefit of WSR's website is that it stimulates thinking about questions such as these that one can ask about wines and their markets.

Managerial Implications: Expanding the Reach of a Third Party

Acknowledging that Wine-Searcher contributes significantly to the information flow and conversation in the marketplace, we have also suggested possible improvements:

- Become a repository for all available professional evaluations of the wines it lists—in effect, the public information that vendors offering a wine are now collecting separately and unevenly—to end the duplication of effort. Related to this would be a more transparent presentation that avoids questionable manipulation of those data.
- Expand its evaluation of vendor quality beyond friendly and honest service to emphasize the vendor's performance in improving customers' enjoyment of their wine purchases. Expand its focus to consider (a) vendor website features such as available inventory, availability of close substitutes, customer comments, provision of other educational

content and (b) sponsorship of other educational activities (e.g., tastings, interest groups).

- Present market data, especially price information, more thoroughly and transparently.

In their Conclusion, Lynch and Ariely review their analysis and acknowledge that the appeal to consumers of vendors' differentiated products is greatest when consumers "begin with little knowledge" and that they will tend more toward price shopping as they become more knowledgeable. (LA: 102). They then suggest a vision for vendor performance that might guide Wsr's vendor ratings:

All is not lost even when consumers can learn [and become less dependent upon vendors for information]...sellers can learn about consumers' tastes. They then can use this information to provide better and better tailored advice about which alternatives would maximize customer utility. Retailers can offer customers ancillary services...that reduce price sensitivity. They can use customer data to anticipate utility better, using smart agents to build trust...[We need] to learn how retailers can use electronic commerce not to compete on price, but to capture the value of differentiation for their customers and themselves. (LA: 102)

One might interpret LA's vision for the industry to be essentially monopolistically competitive, raising concerns about both its long-run efficiency and vendor profitability. A central question is how closely substitutable vendors—not their wine collections—are for each other. However, as with many other monopolistically competitive industries, identifying a more efficient, profitable alternative market structure, and the path to achieving it is not straightforward.

Beyond these suggestions are additional features that could enhance the third-party role in wine transactions.

- Provide a Vendor Uniqueness Rating: Following their work, Lynch/Ariely support greater uniqueness in vendors' product lines: "All these results suggest incentives for retailers carrying differentiated goods [like wine] to make information environments maximally transparent, but to avoid price competition by carrying more unique merchandise." (LA: 83) They would encourage vendors to specialize and curate a collection of wines less oriented toward common labels which attract price competition. For example, the Uniqueness Rating could measure the share of a vendor's offers that are unique to it within the relevant market (or perhaps more broadly) and perhaps give extra weight to collections that are particularly comprehensive and distinctive relative to the competition.
- Provide a Market Competition Index: With the most comprehensive retail location data available, Wsr could measure the amount of competition for a given wine within various radii from each physical site, and consumers could evaluate that relative to their locations. It could supplement that with an evaluation of local consumers' access to shipping from outside the jurisdiction—extensive in many EU countries and perhaps some US states, more limited in markets like Canada and other US states.

Managerial Implications: Another Application

Lynch and Ariely study questions of competitive strategy and the potential role of third parties in a marketplace with rapidly falling price and quality information costs and easier cross-vendor comparison; their market of choice is off-premise retail wine, but their analysis could apply almost as much to restaurant wine lists as it does to off-premise retail sales. Especially if they feature wine, restaurants are also wine vendors: they simply offer it (usually) as a transaction to accompany a food purchase. Information technology is lowering the cost of price and quality information for their customers, and participation by a third party could enhance cross-store comparisons in this context as well—along with providing much of the same information for

restaurant wines that WSR currently provides for other vendors. Why should Wine-Searcher not move into assisting consumers with wine lists?

Since a current and well-managed online price list is a large part of Wine-Searcher's requirement for inclusion in its listings, many restaurants—especially those who feature wine—could provide ready access since posting a strong wine list online is a priority for such restaurants. Unless the restaurant is one that also sells wine retail (a business model available in the US, France, and Italy, for example), consumers would not be looking for off-premise consumption. However, they could search for wine availability in restaurants or—perhaps more important—search wine lists to find unusual wines or to learn more about restaurant wine prices relative to local off-premise prices.

An analysis of a third-party role here would be a significant departure from the existing management literature on wine lists which seems to consist primarily of marketing studies (e.g., techniques to increase impulse purchases (Dodd, 1997), cluster analysis of product (restaurant) differentiation through wine lists (Berenguer et al., 2009), international differences in list priorities (Sirieix et al., 2011), resolution of customer/manager conflict inherent in list design (Davis and Charters, 2006)). Economists have also looked at wine list selection as a problem of constrained optimization by restaurants but little else (e.g., validity of expert evaluation of restaurant wine lists (Ashenfelter et al., 2009), restaurant selection of local wines as food complements (Perla et al., 2014), the correlation between restaurant quality and wine list quality (Gergaud et al., 2015), optimal pricing of a given wine list (Coqueret, 2015) (avoids question of list construction)).

This would be a novel application of both the impact of decreased search costs and the possible role of a third party in facilitating search.

Summary and Conclusion

The introduction and expansion of electronic commerce has meant that wine consumers have benefited from easier access to wine price and quality information and, through third parties like Wine-Searcher, cross-vendor comparisons. Vendors worry that easier access to price comparisons would intensify price competition and erode profits. Researchers like Lynch and Ariely have demonstrated that these evolving market conditions can also reward vendors who exploit lower search cost's ability to facilitate greater awareness of differentiated products: vendors are more likely to flourish by stocking unique labels rather than common ones.

Third parties to wine transactions have established their value as information aggregators to both buyers and sellers in wine markets—apparently none more so than Wine-Searcher. We have reviewed some of Wine-Searcher's most valuable content and discussed how it facilitates consumer access not only to competitors' prices but also their websites which can showcase their distinctive features (e.g., "unique merchandise"), including consumer services they can offer. We have discussed not only unevenness in its coverage of vendors but also how it might enhance some of its current features such as vendor ratings and market data and argued for it to become the repository of professional evaluations of the wines it lists to relieve the redundant efforts of vendors doing that themselves. We have also suggested that it could add additional features such as vendor uniqueness ratings and an index of local market competitiveness. Even more novel is encouragement for Wine-Searcher or perhaps another third-party participant to provide the same coverage to restaurant wine lists since that is another form of wine vending.

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