

Evaluating wines? An Exploratory Study of Value Chain Configurations Across Expert and Consumer Rating Systems

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Abstract

Adopting an exploratory approach, this paper examines how wineries' strategic positioning and value chain configurations are associated with wine evaluations under two distinct judgment regimes: expert and consumer ratings. The analysis is based on a dataset of 1,078 observations, obtained by merging data from Wine Spectator, Vivino, and original firm-level survey data. To jointly estimate expert and consumer evaluations, we employ a Seemingly Unrelated Regression (SUR) model, allowing for correlated error structures across the two rating equations. Three main findings emerge. First, business strategies are associated with both expert and consumer evaluations. Second, quality-oriented value chain configurations are positively associated with both expert and consumer evaluations. Third, the two rating equations display descriptively distinct stage-specific patterns along the value chain, although cross-equation tests do not identify statistically significant differences between the corresponding coefficients. These results contribute to the literature by integrating external evaluations with firm-level value chain configurations. This paper provides practical implications for winemakers and policymakers, particularly in the context of territorial branding and regional promotion strategies.

Keywords: wine ratings, value chain transformation; expert and consumer ratings; information asymmetry; strategic adaptation; digital platforms

1. Introduction

In evaluating wines, experts and consumers are influenced by product characteristics. These characteristics, or attributes, are shaped throughout wine production process. Nevertheless, experts and consumers may focus on different product aspects. For example, expert evaluation may tend to emphasize complexity and technical quality production-related attributes, whereas consumer-based evaluation may place greater weight on authenticity, symbolic value and price. Therefore, using the lens of winery value chains, the different chain configurations (corresponding to the practices adopted to produce and sell wine) may generate heterogeneous outcomes across expert and consumer evaluations [1,2,3].

Wine ratings function not only as evaluative devices but also as economic mechanisms capable of reallocating value within the industry [4], playing a role in position wine in the market. In fact, winemakers may strategically adjust organizational structures to align with product standards and pricing mechanisms, not just to reflect intrinsic quality, actively generating market value [5, 6, 7]. Therefore, strategic choices along the wine value chain become increasingly relevant for value creation, particularly in response to shifting consumer habits and the growing influence of platform-based evaluations [8].

Nevertheless, expert ratings should not be treated as unquestionable measures of quality, even if rating systems are embedded in wine value chains, professional wine ratings have been criticized for inconsistency across guides, raising concerns about their credibility [9]. At the same time, consumer-generated platforms such as Vivino have emerged as economically meaningful alternatives [10], increasingly shaping wine-related consumption experiences [11, 12, 13, 14] and reducing informational frictions in the market [15]. Evidence from online review platforms also shows that ratings can positively influence sales outcomes [16]. Therefore, in wines, quality attributes embodied in the final product may be influenced by value chain practices, which reflect distinct strategic orientations [17]. Based on this reasoning, we address two research questions: To what extent are quality-oriented value chain configurations associated with wine ratings? What patterns of association emerge across value chain stages and between expert and consumer evaluations? We therefore examine how value chain configurations are associated with wine ratings and whether different patterns emerge across value chain stages and between expert and consumer evaluations. To examine these relationships, we estimate a Seemingly Unrelated Regression (SUR) system that jointly models Wine Spectator and Vivino ratings while accounting for correlated unobserved factors across the two equations.

2. Literature review

2.1 *Wine reputation: consumers and experts rating*

In the case of experience goods, such as wine, consumers cannot fully assess their quality prior to consumption. In markets characterized by information asymmetry [18], observable cues are used to infer unobservable attributes. Alongside prices, expert evaluations help reduce uncertainty and function as reputation mechanisms [9, 19, 17, 20]. According to signalling theory, firms communicate quality through credible signals [21]. Olson and Jacoby (1972) [22] distinguish between intrinsic cues, embedded in the physical product, and extrinsic cues, such as price or reputation. When intrinsic attributes are difficult to evaluate ex ante, extrinsic cues play a central role in shaping expectations and perceived utility [23]. However, evaluative markets are not free from inconsistencies. Expert ratings may only partially reflect objective quality, as they can incorporate idiosyncratic preferences [24] or be influenced by advertising relationships [25]. Moreover, even expert evaluations are not purely objective reflections of intrinsic quality but can be shaped by contextual and extrinsic cues. Experimental evidence shows that country-of-origin information affects professional wine traders' sensory judgments and hedonic evaluations [26].

The growing prominence of user-generated platforms coincides with a relative decline in expert dominance. If professional reviews lack consistency, their credibility may weaken [9]. Research on

consumer ratings has examined their determinants and compared them to price formation mechanisms [27]. Yet, online ratings also face limitations, including potential score inflation due to non-expert evaluations [28].

Several studies analyse the interaction between expert and consumer assessments. Oczkowski and Pawsey (2019) [10] show that community ratings better explain variations in Australian wine prices and more directly reflect consumer preferences. Similarly, Bazen et al. (2024) [15] find that consumer ratings have a stronger price impact than expert scores in the French market. Nevertheless, for high-quality wines, average consumer ratings are strongly correlated with professional evaluations [29]. More broadly, experts and consumers appear to assess different dimensions of wine: critics aim to evaluate technical quality, whereas apps capture preference-based liking [30]. From this perspective, expert and consumer ratings can be viewed as complementary rather than substitutable, as they reflect distinct aspects of quality [1].

Most empirical work focuses on ratings as signals for product-level outcomes (e.g. price), rather than firm-level value-chain configurations. To address this gap, we shift the unit of analysis from individual wines to the winery and examine how value chain stages relate to both expert and consumer ratings.

2.2 Orientations and Stage-Level Wine Value Chain Practices

In the wine sector, the value chain framework explains how firms create value through configurations of interrelated activities [31]. These configurations reflect firms' strategic orientations [32] and encompass bundles of practices across grape growing, winemaking, and post-production activities [33]. The generated competitive advantage depends not only on performing activities efficiently but also on strategically configuring and aligning them [31, 34]. Because these activities shape both product attributes and extrinsic market signals, their configuration may influence how quality is evaluated by external audiences.

The Resource-Based View emphasizes firm heterogeneity in resources and capabilities as drivers of performance differences [35, 36]. Territorial identity (e.g., origin, tradition, and cultural heritage) can constitute a competitive asset when coherently coordinated [37] and consistently communicated across the value chain [38]. Sustainability also represents a differentiation strategy [39, 40]. However, consumer responses to environmental cues are heterogeneous, requiring targeted communication strategies [41]. Organizational and managerial decisions further contribute to dynamic capabilities and competitive advantage [42]. These resources and capabilities are not only sources of competitive advantage but may also shape the signals interpreted by expert and consumer evaluators.

In an increasingly competitive wine market [4], to remain competitive, wineries adapt their configuration across the entire value chain, not only at the vineyard and cellar levels [43]. Previous studies investigated, from a macro perspective, the sector evolution: from a regional European activity into a globally integrated industry [44]. While globalization promotes convergence in business practices, territorial identity preserves production diversity [45].

However, this study adopts a micro-level perspective, focusing on winery-level value chain practice configurations, particularly the differentiation of practices between base and premium wines, as well as strategic orientations across vineyard, cellar, and post-production stages. The expected mechanism is that value chain quality-oriented practices may enable technical and sensory attributes that are more visible to expert evaluators, whereas post-production and market-facing orientations may be more relevant for consumer evaluations, which are more sensitive to accessibility, perceived value, and branding. Although value creation has been examined at multiple stages, research remains fragmented [46]. Consequently, the link between value chain configuration, strategic orientation, and evaluative performance as captured by expert and consumer ratings remains insufficiently explored.

2.3 Hypotheses

This exploratory study investigates how configurations across value chain stages may be differently associated with both expert and consumer evaluations. Prior literature suggests that experts and consumers play distinct yet complementary roles. Similar complementarities have been observed in other sectors, such as upscale restaurants, where expert (Michelin) and public (TripAdvisor) evaluations affect performance differently [47]. From the literature emerged how ratings function as economic mechanisms embedded within the wine value chain, influencing both production and market-facing activities and reallocating value among actors [48, 10, 7, 1].

However, prior research linking winery value chain configuration to evaluative systems remains fragmented. Existing literature provides limited firm-level evidence on how different value-chain stages relate to expert and consumer evaluations simultaneously.

Epistemologically, even if the study develops theory-informed hypotheses, the empirical design remains exploratory in nature. Consequently, the analysis is not intended as a causal test but rather as an exploratory examination of conditional associations capable of identifying heterogeneous evaluative patterns across value-chain configurations.

Hypotheses are developed based on the idea that value chain configurations are associated with bundles of intrinsic and extrinsic attributes embodied in the final product and communicated to the market, which may correspond to heterogeneous rating patterns across evaluative systems.

Therefore, a value chain configuration oriented toward quality rather than cost minimization should enhance the attributes embedded in the final product and strengthen the credibility of quality signals. If ratings reward perceived quality, such configurations are expected to be positively associated with both expert and consumer evaluations. Suggesting:

H1. A quality-oriented value chain configuration is expected to be positively associated with both expert and consumer ratings.

Moreover, because experts and consumers might rely on partially different quality cues, the associations with quality-oriented practices may suggest different patterns across value chain stages.

Therefore:

H2a. Quality-oriented vineyard value chains are expected to be more strongly associated with consumer ratings than with expert ratings, because they often generate visible and communicable quality cues, such as sustainability, origin, and production narratives.

H2b. Quality-oriented cellar value chains are expected to be more strongly associated with expert ratings than with consumer ratings, because they affect technical and sensory attributes that experts are more likely to identify and evaluate.

H2c. Quality-oriented post-production practices are expected to be associated with both expert and consumer ratings, although potentially through different mechanisms, as experts and consumers may rely on different quality cues in their evaluations.

3. Methodology

3.1 Data collection

This study examines how value chain configurations are associated with expert and consumer evaluations. To capture strategic orientation and business model characteristics, we merge three datasets. The first source is the Firm Level Global Dataset¹ [49], which includes 5,294 wineries across 23 countries. It provides firm-level information on structural characteristics, production strategies, and practices along the value chain, from vineyard management to distribution. From this dataset, we select five European countries: France, Germany, Italy, Portugal, and Spain. The second dataset contains expert evaluations sourced using Python from the Wine Spectator website (<https://www.winespectator.com/>). For each winery included in the firm-level dataset, we compute the average Wine Spectator score across rated wines. The third dataset captures consumer evaluations. Using the same sourcing procedure, we collect the average winery-level rating from Vivino (<https://www.vivino.com/>) for wineries present in both the firm-level dataset and Wine Spectator.

¹ The Firm Level Global Dataset (Depetris-Chauvin, 2024) was accessed through a confidential research collaboration and is not publicly available. Access to the data is restricted by the data provider.

Because the analysis requires the simultaneous availability of firm-level information, expert ratings, and consumer ratings, the sample is restricted to wineries appearing in all three datasets. The final analysis focuses on five European wine-producing countries (France, Germany, Italy, Portugal, and Spain), where coverage across the firm-level dataset, Wine Spectator, and Vivino was sufficiently consistent to ensure an adequate number of observations and comparability across evaluative systems. Countries with limited overlap across datasets were excluded due to insufficient rating coverage, particularly in Wine Spectator and Vivino. Table 1 reports, for each country, the number of wineries included in the original firm-level questionnaire dataset, the representativeness of the survey within each national wine industry as reported by Depetris Chauvin (2024), and the final number of wineries retained after merging the dataset with Wine Spectator and Vivino information. The final sample includes only wineries simultaneously present in the firm-level dataset and in both rating platforms, resulting in 1,078 wineries.

Table 1. Sample construction and merged dataset.

Country	Wineries in Depetris Chauvin (2024)	Survey (Depetris Chauvin (2024)) representativeness (%)	Final merged sample included in this study
Germany	265	12.1	33
France	865	7.8	320
Italy	1301	19.2	504
Portugal	190	9.9	34
Spain	688	18.8	188
Total	3309		1078

3.2 Variable description

Table 2 summarizes the variables used in the analysis, while Annex 1 reports descriptive statistics. Variables are grouped into five categories: (i) expert and consumer ratings (dependent variables); (ii) control variables; (iii) winery profile characteristics; (iv) business strategy variables; and (v) value chain configuration variables. To control for differences in the informational base underlying average ratings, we include the natural logarithm of the number of wines rated on Wine Spectator and Vivino. The core explanatory variables capture strategic orientations across three aggregated value chain stages: Vineyard, Cellar, and Post-Production (which combines design and market-facing activities). Each stage comprises multiple operational practices (Table 2). For each practice, wineries reported whether the adopted method was primarily motivated by regulation, tradition, cost, or quality. Stage-level configurations were then classified according to the dominant orientation emerging across practices: Quality-oriented when quality motivations prevail, Cost-oriented when cost motivations prevail, and Balanced when both motivations occur with equal frequency. This approach allows the analysis to examine whether strategic orientations across value chain stages are differently associated

with expert and consumer evaluations. Descriptive statistics reported in Annex 1 provide an overview of ratings, winery characteristics, business strategies, and value chain configurations across the sample.

Table 2. Variable description.

Variable	Description
Expert and Consumer Score	
WS	Average normalized Wine Spectator winery score (0–1), representing expert evaluation.
VIVINO	Average normalized Vivino winery score (0–1), representing consumer evaluation.
Controls	
WS rated wines	Log number of wines rated on Wine Spectator for each winery.
VIVINO rated wines	Log number of wines rated on Vivino for each winery.
Winery Profile	
Surface	Winery surface area in hectares.
Years in Market	Number of years the winery has operated in the market.
Country	Winery country: France, Germany, Italy, Portugal, or Spain.
Company Type	Winery organizational form (e.g., Cooperative, PLC, Ltd, Individual Business).
Number of degrees	Number of employees holding a university degree.
Business Strategy	
Organic	Dummy = 1 if the winery produces organic wines.
Sparkling	Dummy = 1 if the winery produces sparkling wines.
Luxury and Icon	Dummy = 1 if the winery produces wines positioned in luxury or icon segments (retail price > €40).
PCA (other activities)	PCA index capturing diversification into non-core activities (e.g., hospitality, services, food production).
Grapes vinified	Number of grape varieties vinified by the winery.
Label produced	Number of wine labels produced by the winery.
Value Chain Configuration	
Differentiate production	Dummy = 1 if the winery differentiates practices between base and premium wines.
Vineyard VC Practices	Dominant strategic orientation (Cost, Quality, Balanced) of vineyard-stage practices, including planting systems, canopy management, irrigation, harvest, and soil management.
Cellar VC Practices	Dominant strategic orientation (Cost, Quality, Balanced) of cellar-stage practices, including grape sorting, fermentation, blending, aging, and bottling.
Post-Production VC Practices	Dominant strategic orientation (Cost, Quality, Balanced) of post-production practices, including packaging, labeling, capping, marketing, and distribution choices.

3.3 Econometric Modeling

To jointly estimate the determinants of expert and consumer evaluations, we employ a Seemingly Unrelated Regression (SUR) model [50]. The framework estimates two equations simultaneously: one for expert ratings (WS) and one for consumer ratings (VIVINO). Both equations include the same structural and strategic covariates and are estimated jointly to account for potential correlation

between their disturbance terms. Cross-equation dependence is tested using the Breusch–Pagan test of independence, which rejects the null hypothesis of zero correlation ($p < 0.0001$). The estimated residual correlation is 0.30, indicating a statistically significant interdependence.

Cross-equation Wald tests are also performed to formally assess whether the coefficients associated with the value chain configurations differ between the expert and consumer rating equations. Both individual coefficient-equality tests and joint tests for each value chain stage are reported in Annex 4.

While equation-by-equation OLS remains consistent, SUR estimates the two equations jointly while accounting for contemporaneous correlation between their error terms. As a robustness check, the equations were also estimated separately using OLS. The corresponding results are reported together with the SUR estimations in Annex 2 and confirm the robustness of the main findings in terms of coefficient signs, statistical significance, and overall interpretation. Multicollinearity is assessed through Pearson correlations and Variance Inflation Factors (VIF), reported in Annex 3. The mean VIF values indicate no critical multicollinearity concerns. The model is specified as:

$$WS_i = \alpha_1 + X_i\beta_1 + Z_{1i}\gamma_1 + \varepsilon_{1i};$$

$$VIVINO_i = \alpha_2 + X_i\beta_2 + Z_{2i}\gamma_2 + \varepsilon_{2i};$$

where i indexes wineries; X_i includes winery profile, business strategy, and value chain variables; Z_{1i} and Z_{2i} are equation-specific controls; and ε_{1i} , ε_{2i} are error terms. Coefficients β_1 and β_2 indicate how strategic and organizational characteristics are linked to expert and consumer ratings, respectively.

A potential concern relates to endogeneity due to reverse causality and omitted variables. Wineries with higher ratings may have greater incentives or resources to adopt quality-oriented value chain configurations, and unobserved managerial capabilities may influence both strategic choices and evaluative outcomes. Although the cross-sectional design does not allow full causal identification, the models control for observable firm characteristics and country fixed effects, and the results are interpreted as conditional associations rather than causal effects.

4. Results

The SUR results are reported in Table 3. Both equations are jointly significant ($p < 0.001$), confirming the overall explanatory relevance of the model. The explanatory power differs across equations: the model accounts for 0.191 of the variance in expert ratings (WS) and 0.282 in consumer ratings (VIVINO), indicating greater predictability in consumer evaluations.

In the expert equation, the number of wines rated on Wine Spectator is positively related to the average score ($p < 0.001$), suggesting that wineries with a broader evaluated portfolio are more likely

to obtain higher expert ratings. Among structural characteristics, surface is not significant, while years in market shows a negative sign ($p = 0.033$), suggesting a negative association between high scores and older wineries. Country controls are partially significant: German wineries tend to score higher than the French baseline ($p = 0.016$), whereas Spanish wineries tend to score lower ($p = 0.010$). Company type and human capital (number of degrees) are not significant. Diversification into other activities (PCA index) is negatively associated with expert ratings ($p = 0.003$), suggesting that broader scope may weaken perceived quality focus.

Regarding business strategies, sparkling production is negatively associated with scores ($p = 0.006$), while positioning may be positively associated with rating ($p < 0.001$). Organic production has no significant association with consumer nor expert rating. Concerning value chain stages, vineyard orientation shows no links to expert ratings. In contrast, cellar practices reveal an association with expert rating: both balanced ($p = 0.060$) and quality-oriented ($p = 0.077$) configurations are positively associated with expert evaluation. In the post-production stage, quality orientation may show a positive and significant link ($p = 0.045$), whereas a balanced approach does not. Overall, expert evaluations appear associated to cellar and post-production strategies.

In the consumer equation, the number of wines rated on Vivino is not significant, indicating that the number of wines rated may not contribute to consumer scores. Structural variables show a different pattern. Surface and years in market are not significant, and country controls are limited, except for Spanish wineries, which are more likely to receive lower ratings ($p < 0.001$). Company type plays a greater role: cooperatives tend to score lower ($p = 0.052$), while private limited companies and individual businesses show positive associations to consumer rating at conventional significance levels. Human capital is positively associated with consumer ratings ($p < 0.001$), indicating a positive association between educational capacity and consumer ratings. Diversification remains negatively associated with higher ratings ($p = 0.019$), consistent with the expert model.

Among business strategies, sparkling production again is likely associated with lower ratings ($p < 0.001$), whereas luxury and icon positioning is positively associated with higher ratings ($p < 0.001$). Organic production is not significant. The number of grapes vinified are weakly and negatively associated with ratings ($p = 0.071$), while label portfolio size is not significant. Differentiation between base and premium practices is negatively associated with consumer ratings ($p = 0.041$). With respect to value chain stages, vineyard quality orientation is positively associated with consumer evaluations ($p = 0.005$), while cellar configuration is not significant. Post-production quality orientation is positively associated with consumer ratings ($p < 0.001$), whereas balanced strategies remain insignificant.

Table 3. SUR Results and significance (* 10%, ** 5%, *** 1%).

Variable	WS	VIVINO
Controls		
WS rated wines	0.014***	
VIVINO rated wines		-0.001
Winery Profile		
Surface	-0.00001	-0.00001
Years in Market	-0.00009**	0.00001
Country (base = France)		
Germany	0.060**	0.007
Italy	0.001	0.003
Portugal	0.015	-0.004
Spain	-0.030***	-0.043***
Company Type (base = SA)		
Other	0.003	0.016
Cooperative	-0.017	-0.046*
Individual business	0.012	0.019*
Private Limited Company (Ltd)	0.009	0.021*
Number of degrees	0.00007	0.00075***
Business Strategy		
Organic	0.011	-0.006
Sparkling	-0.022***	-0.026***
Luxury and Icon	0.060***	0.064***
PCA (other activities)	-0.008***	-0.004**
Grapes vinified	-0.0004	-0.001*
Labels produced	-0.0001	-0.0002
Value Chain Configuration		
Production differentiation	0.004	-0.012**
Vineyard VC		
Balanced	0.005	-0.009
Quality	0.009	0.023***
Cellar VC		
Balanced	0.039*	0.018
Quality	0.024*	0.012
Post-Production VC		
Balanced	-0.003	0.008
Quality	0.017**	0.022***
Constant	0.616***	0.609***
Observations	1078	1078
Parameters	25	25
R-squared	0.191	0.282
F-statistic	10.79	14.62
Prob > F	0.000	0.000

5. Discussion

First, the number of wines rated is positively associated with expert evaluations, while no statistically significant association emerges for consumer ratings. Winery profile characteristics also show distinct patterns across the two equations. Winery age, i.e., winery's years in market, is not significantly

associated with consumer ratings, but it shows a negative association with expert scores. This pattern may indicate that older wineries tend to receive relatively lower evaluations from experts, possibly in relation to perceptions of organizational inertia or lower adaptation to innovation. Country controls further suggest the relevance of territorial signaling, although these differences may also reflect unobserved regional characteristics rather than pure origin-related dynamics. This interpretation is consistent with experimental evidence showing that wine experts can be influenced by contextual cues such as country-of-origin information [26].

Company type is significantly associated with consumer ratings, whereas no statistically significant association emerges in the expert-rating equation. Cooperatives display lower consumer ratings, partially contrasting with Gastaldello et al. (2024) [27], who argue that cooperatives are not necessarily perceived as lower quality.

This pattern is consistent with the possibility that company type functions as an extrinsic cue in consumer evaluations. A similar pattern emerges for human capital, as it is positively associated with consumer ratings but not significantly associated with expert evaluations.

In line with the Resource-Based View, education may represent a strategic intangible asset; however, its association with ratings could operate primarily through market-facing capabilities, such as branding, storytelling, and digital communication, rather than through strictly sensory performance. Some patterns emerge consistently across both evaluative systems. Diversification into other activities is negatively associated with ratings in both equations. This finding is in line with the strategic fit argument [34], according to which competitive advantage may be linked to coherent and mutually reinforcing activities. Greater heterogeneity may therefore coincide with weaker strategic focus and less consistent quality signaling. A similar interpretation may apply to the negative association observed for the number of grapes vinified. Specialization may convey clarity and expertise, whereas broader scope could generate ambiguity, particularly among consumers relying on simplified heuristics.

Sparkling production is negatively associated with ratings in both models. Rather than suggesting lower intrinsic quality, this pattern may reflect category-specific evaluation dynamics. Experts may rely on different stylistic benchmarks for sparkling wines, while consumers may evaluate them within occasion-based contexts that differ from still wine comparisons.

Organic production is not significantly associated with ratings in either model, although coefficients differ in sign. The absence of significance may reflect heterogeneous consumer responses to sustainability cues [41], and the complex relationship between sustainability and winery positioning discussed by Lichy et al. (2023) [51]. By contrast, luxury and icon positioning is strongly and

positively associated with ratings, consistent with the established role of price as a quality signal in upper market segments [17].

Value chain configuration shows particularly descriptively distinct patterns of association across the two rating equations. Differentiation between base and premium practices is negatively associated with consumer ratings, while no significant association emerges for experts. This pattern may be consistent with consumers placing emphasis on consistency cues in contexts characterized by information asymmetry, coinciding with the negative perceptions of incoherence in the overall brand promise.

Therefore, the empirical results are consistent with H1 and H2c. H2a and H2b are not supported in their comparative formulation, as the cross-equation tests do not reject coefficient equality. Nevertheless, the separate equations reveal descriptive patterns consistent with the theoretical expectations underlying H2a and H2b.

The results for vineyard configuration are consistent with the pattern anticipated in H2a: vineyard quality orientation is positively associated with consumer ratings, whereas no statistically significant association emerges in the expert-rating equation. However, these associations should not be interpreted as establishing statistically different relationships across the two evaluative regimes; rather, they suggest that signals generated at different value chain stages may have differential salience across expert and consumer evaluations.

This pattern is consistent with the possibility that some vineyard practices may be linked to consumer evaluations. However, not all vineyard practices are necessarily visible or directly interpretable by consumers. The most visible may include sustainable or organic production methods, which can be communicated through labels or by sommeliers as quality cues; practices that support territorial storytelling, such as manual vineyard techniques; and, more broadly, practices that contribute to the enhancement of the wine landscape.

The results for cellar configuration are suggestive of H2b. Cellar quality orientation is positively associated with expert ratings, whereas no statistically significant association emerges in the consumer-rating equation. The two equations therefore exhibit descriptively distinct patterns. Even if the analysis does not directly test this mechanism, one possible interpretation of the positive association observed in the expert-rating equation is that technical and sensory attributes linked to winemaking may be salient within expert evaluative frameworks.

Lastly, the post-production results are consistent with H2c, as post-production quality orientation is positively associated with both expert and consumer ratings. This common pattern suggests that downstream practices may be linked to consumer and expert ratings through different mechanisms. For consumers, packaging, closure selection, labelling, and overall market presentation may

constitute visible and tangible product cues. Their relationship with expert evaluation (Wine Spectator ratings), however, cannot be attributed to direct visibility, as bottles are bagged and coded and corks and caps are removed before tasting. One possible interpretation is that certain post-production practices, particularly those related to closure selection, may be reflected indirectly in expert evaluations through the wine's preservation, development, and sensory integrity. However, their relevance is likely to depend on the specific practices considered and the evaluation context.

Another possible interpretation of the observed within-equation patterns concerns differences in the composition and evaluative approaches: expert ratings may be more sensitive to intrinsic cues linked to sensory and technical characteristics, whereas consumer ratings may respond more to extrinsic cues such as origin, sustainability, packaging, and branding.

Consumer ratings also reflect greater heterogeneity in expertise, preferences, and expectations. However, this interpretation remains tentative, as the cross-equation tests indicate no statistically significant coefficient differences.

Finally, concerning marketing practices, Villanueva et al. (2023) [44] and Depetris-Chauvin et al. (2025) [45] document convergence in marketing and commercialization alongside persistent divergence in upstream production, suggesting that differentiation strategies may remain closely linked to vineyard and cellar capabilities, rather than on post-production steps.

5.1 Managerial and Policy Implications: From Configuration to Re-Configuration of Value Chains

From a managerial perspective, the results reveal distinct stage-specific patterns across the expert- and consumer-rating equations. These within-equation patterns do not imply statistically significant differences between the corresponding coefficients across the expert and consumer rating equations, as the cross-equation tests do not reject coefficient equality.

Vineyard quality orientation is positively associated with consumer ratings, cellar quality orientation is positively associated with expert ratings, and post-production quality orientation is positively associated with both. These patterns suggest that the evaluative relevance of value chain configurations may depend on both the stage considered and the evaluative environment, although they do not establish that the corresponding associations differ statistically across regimes. Managers may therefore consider how investments across value chain stages relate to the forms of quality recognition they seek, without assuming that any particular stage is exclusively relevant to one evaluator type. Moreover, luxury-icon positioning is not only a pricing strategy but also a potential evaluative signal, as luxury-icon positioning is positively associated with ratings in both equations.

From a policy perspective, the stage-specific patterns observed across the two equations suggest that value chain practices may carry different forms of evaluative relevance. Consequently, policy

interventions aimed at supporting wine competitiveness could benefit from more stage-specific approaches rather than uniform upgrading strategies. In particular, previous research has emphasized how coordinated value-chain practices, stakeholder engagement, and sustainability-oriented innovation may contribute to firm- and territory-level value creation [52]. On business diversification, several EU rural development instruments, including the EAFRD within the CAP framework, encourage diversification into hospitality, agritourism, and activities as resilience strategies [53, 54]. However, the findings indicate that broader diversification strategies are associated with lower expert and consumer ratings within the sample analyzed. This association suggests that the strategic coherence between additional activities and the winery's quality positioning may be a relevant consideration when supporting business diversification, consistent with studies highlighting the risks of excessive strategic broadening and identity dilution [55]. Moreover, human capital development may represent an important organizational resource for strengthening market-oriented capabilities [42]. Since educational capital is positively associated with consumer evaluations, while no statistically significant association emerges for expert evaluations, this pattern points to the potential relevance of specialized managerial, marketing, and communication skills for wineries' positioning within consumer-based evaluative systems, consistently with previous studies on the role of organizational capabilities and sustainability-oriented managerial practices in generating competitive advantage and value creation [52].

6. Conclusions

This exploratory study shows that wineries' strategic and organizational characteristics display distinct patterns of association with expert and consumer ratings. The findings reveal stage-specific patterns along the value chain, without implying statistically significant differences between the two equations: vineyard quality orientation is positively associated with consumer ratings, cellar quality orientation with expert ratings, and post-production quality orientation with both. Human capital and premium market positioning also emerge as relevant correlates, whereas broader diversification is negatively associated with both evaluations. The results suggest that winery ratings are related not only to market positioning and organizational resources but also to how wineries configure their activities across different stages of the value chain.

Beyond its exploratory nature, this study presents several limitations that open avenues for further research. First, potential selection bias may arise from including only wineries that are simultaneously present in the firm-level dataset and rated on both platforms, potentially excluding smaller or less internationally visible producers. Second, the analysis focuses exclusively on Old World European countries, limiting the generalizability of the findings to New World contexts, where value chain

organization, branding strategies, and rating dynamics may differ substantially. Although country controls account for systematic differences in average ratings across national contexts, the analysis does not examine whether the estimated associations vary between countries. Third, cross-sectional design prevents causal interpretation and does not exclude reverse causality. While strategic configurations may be associated with winery evaluations, higher ratings and the resulting reputational advantages may also provide wineries with resources or incentives to invest in quality-oriented practices, human capital, and premium market positioning. Fourth, ratings are treated as aggregate winery-level averages, which may obscure within-firm heterogeneity across wine segments. Consumer ratings may additionally reflect substantial heterogeneity in reviewer expertise, preferences, expectations, cultural background, and familiarity with wine, as well as self-selection into platform participation. Finally, although the study captures declared strategic motivations, it cannot fully account for unobserved managerial capabilities or informal organizational routines that may also shape evaluative performance.

Future research could extend the framework to New World producers, investigate cross-country heterogeneity, and use wine-level or longitudinal data to examine whether similar stage-specific patterns of association emerge under different institutional and market structures and to clarify the direction of the observed relationships.

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Annexes

Annex 1. Variable Statistical description.

Variable	Obs	Mean	SD	Min	Max
Dependent Variables					
WS	1078	0.7023	0.1214	0	1
VIVINO	1078	0.6514	0.0992	0	1
Controls					
WS rating counts	1078	2.3279	1.5280	0	6.4937
VIVINO rating counts	1078	2.7674	0.9459	0	5.5834
Winery Profile					
Surface	1078	116.3071	730.2710	1	20000
Years in Market	1078	70.7863	101.1774	5	1225
Country	1078				
France		0.2960	0.4567	0	1
Germany		0.0305	0.1721	0	1
Italy		0.4671	0.4991	0	1
Portugal		0.0314	0.1746	0	1
Spain		0.1748	0.3800	0	1
Company Type	1078				
Other		0.2765	0.4475	0	1
Cooperative		0.0481	0.2140	0	1
Public Limited Company (PLC)		0.1174	0.3221	0	1
Individual business		0.3071	0.4615	0	1
Private Limited Company (Ltd)		0.2506	0.4336	0	1
Number of degrees	1078	5.1517	11.0087	0	210
PCA (other activities)	1078	0.0083	1.4119	-1.0516	6.4111
Grapes vinified	1078	6.3857	7.0078	0	150
Label produced	1078	12.3450	17.32469	0	350
Business Strategy					
Organic	1078	0.3968	0.4894	0	1
Sparkling	1078	0.3126	0.4637	0	1
Luxury and Icon	1078	0.3413	0.4743	0	1
Value Chain Configuration					
Differentiate production	1078	0.7002	0.4583	0	1
Vineyard	1078				
Cost		0.1581	0.3650	0	1
Balanced		0.0767	0.2663	0	1
Quality		0.7650	0.4241	0	1
Cellar	1078				
Cost		0.0777	0.2678	0	1
Balanced		0.0360	0.1865	0	1
Quality		0.8862	0.3176	0	1
Post-Production	1078				
Cost		0.3506	0.4773	0	1
Balanced		0.1165	0.3210	0	1
Quality		0.5328	0.4991	0	1

Annex 2. OLS and SUR models.

	OLS	OLS	SUR	SUR
	WS	VIVINO	WS	VIVINO
Controls				
WS rated wines	0.017 (0.000)***		0.014 (0.000)***	
VIVINO rated wines		-0.002 (0.641)		-0.001 (0.806)
Winery Profile				
Surface	-0.000 (0.645)	-0.000 (0.309)	-0.000 (0.618)	-0.000 (0.321)
Years in Market	-0.000 (0.020)**	0.000 (0.860)	-0.000 (0.033)**	0.000 (0.885)

Country (base Fr)				
Germany	0.060 (0.017)**	0.007 (0.603)	0.059 (0.016)**	0.006 (0.656)
Italy	-0.000 (0.965)	0.003 (0.660)	0.000 (0.921)	0.003 (0.691)
Portugal	0.015 (0.376)	-0.003 (0.833)	0.015 (0.433)	-0.003 (0.831)
Spain	-0.028 (0.017)**	-0.043 (0.000)***	-0.030 (0.010)***	-0.043 (0.000)***
Company Type (base SA)				
Other	0.004 (0.659)	0.015 (0.158)	0.003 (0.780)	0.015 (0.145)
Cooperative	-0.014 (0.524)	-0.045 (0.056)*	-0.017 (0.453)	-0.045 (0.052)*
Individual business	0.014 (0.232)	0.019 (0.096)*	0.012 (0.296)	0.019 (0.087)*
Private Limited Company (Ltd)	0.010 (0.352)	0.021(0.056)*	0.009 (0.419)	0.021(0.051)*
Number of degrees	-0.000 (0.918)	0.000 (0.000)***	0.000 (0.773)	0.000 (0.000)***
Business Strategy				
Organic	0.011 (0.115)	-0.006 (0.240)	0.010 (0.127)	-0.006 (0.228)
Sparkling	-0.020 (0.019)***	-0.0265(0.000)***	-0.022 (0.006)***	-0.026 (0.000)***
Luxury and Icon	0.057 (0.000)***	0.063 (0.000)***	0.060 (0.000)***	0.063 (0.000)***
PCA (other activities)	-0.007 (0.002)***	-0.004 (0.020)**	-0.007 (0.003)***	-0.004 (0.019)**
Grapes vinified	-0.000 (0.718)	-0.000 (0.076)*	-0.000 (0.674)	-0.000 (0.071)*
Label produced	-0.000 (0.729)	-0.000 (0.497)	-0.000 (0.802)	-0.000 (0.439)
Value Chain Configuration				
Differentiate production	0.003 (0.633)	-0.011 (0.047)**	0.003 (0.617)	-0.011 (0.041)**
Vineyard VC				
Balanced	0.006 (0.700)	-0.009 (0.532)	0.004 (0.746)	-0.009 (0.532)
Quality	0.009 (0.418)	0.022 (0.005)***	0.009 (0.421)	0.022 (0.005)***
Cellar VC				
Balanced	0.038 (0.075)*	0.018 (0.247)	0.039 (0.060)*	0.018 (0.249)
Quality	0.023 (0.089)*	0.012 (0.285)	0.024 (0.077)*	0.012 (0.282)
Post-Production VC				
Balanced	-0.003 (0.773)	0.007 (0.339)	-0.002 (0.805)	0.007 (0.341)
Quality	0.016 (0.048)**	0.021 (0.000)	0.016 (0.045)**	0.021 (0.000)
Cons	0.608 (0.000)***	0.611 (0.000)***	0.615 (0.000)***	0.609 (0.000)***
Obs	1078	1078	1078	1078
Parameters	25	25	25	25
R-squared	0.19	0.28	0.19	0.28
F	11.15	14.62	10.79	14.62
P>F	0.0000	0.0000	0.0000	0.0000

Annex 3. Variance Inflation Factor.

	WS	VIVINO
Controls		
WS rating counts	1.32	
VIVINO rating counts		1.51
Winery Profile		
Surface	1.95	1.98
Years in Market	1.22	1.21
Country (base Fr)		
Germany	1.37	1.42
Italy	1.94	1.96
Portugal	1.34	1.33
Spain	1.57	1.55
Company Type (base SA)		
Other	2.76	2.75
Cooperative	1.59	1.58
Individual business	3.31	3.31
Private Limited Company (Ltd)	2.53	2.53

Number of degrees	1.36	1.33
PCA (other activities)	1.21	1.21
Grapes vinified	1.39	1.40
Label produced	2.14	2.27
Business Strategy		
Organic	1.07	1.07
Sparkling	1.19	1.25
Luxury and Icon	1.24	1.15
Value Chain Configuration		
Differentiate production	1.11	1.12
Vineyard VC		
Balanced	1.45	1.45
Quality	1.64	1.65
Cellar VC		
Balanced	1.48	1.49
Quality	1.60	1.59
Post Production VC		
Balanced	1.23	1.23
Quality	1.38	1.38
Mean VIF	1.62	1.63

Annex 4. Cross-equation Wald tests of coefficient equality.

Value-chain stage	Comparison	F	p-value
Vineyard	Strategy 1: WS = Vivino	0.59	.444
	Strategy 3: WS = Vivino	1.46	.228
Vineyard – joint	Both coefficients equal	1.96	.141
Cellar	Strategy 1: WS = Vivino	0.96	.328
	Strategy 3: WS = Vivino	0.59	.443
Cellar – joint	Both coefficients equal	0.50	.609
Post-production	Strategy 1: WS = Vivino	0.84	.359
	Strategy 3: WS = Vivino	0.33	.563
Post-production – joint	Both coefficients equal	0.43	.649