



Review article

Three decades of research on wine marketing

Jesús Martínez-Navarro^{*}, Ricardo Sellers-Rubio*Department of Marketing, Faculty of Economics and Business, University of Alicante, Spain*

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ABSTRACT

The goal of this study is to provide a comprehensive review of the academic research into wine marketing over the last three decades. Data from 1135 wine marketing-related research documents published 1990–2022 in the Web of Science and Scopus databases were employed. Using mainly co-word analysis and bibliographic coupling, the key themes of the discipline were identified. A longitudinal analysis identified the topic's evolution and current research trends. Results show that wine marketing research has grown sharply in recent years. From the pioneering studies that examined consumers' behaviours and wine price drivers, the discipline evolved to address burgeoning themes such as sustainability, social media (digital marketing) and wine tourism, which evidences the interest that academics have shown in enhancing knowledge in the area.

1. Introduction

Wine is one of the world's oldest products, vinification practices having existed for more than 4000 years [1]. Despite its long tradition, the industry faces challenges that range from the impact of climate change to shifts in consumption patterns.

The evolution of wine markets in terms of production, trading and consumption has varied significantly among countries, based on whether they are located in the Old or New World. For example, according to the International Organisation of Vine and Wine [2], consumers are drinking and buying less wine, especially in Old World markets. This decline is partially balanced by increases in higher-priced wine sales [2]; the 'Wine report 2023' [3] estimates that worldwide wine revenues will increase at an annual average growth rate (AGR) of 1.5 % from 2014 to 2027. However, AGR varies greatly between continents, from 0.5 % in Europe to 3.5 % in Asia, benefiting from increasing income and population in Asian countries.

Wine is a complex, product that can be seen both as a luxury and as ordinary, a sign of status or as a 'peasant drink', a symbol of religion and of debauch [4]. Thus, wineries must understand how consumers perceive the product. For example, Moulton et al. [5] described new wine consumers as hedonistic and less influenced by tradition, reputation and wine experts. However, the wine market has multiple consumer segments, who are influenced by many factors when making their purchase decisions. These facts, together with its complex nature, make wine one of the most difficult products to market [4]. This has led many wineries to adopt marketing strategies and techniques to create, communicate and deliver more value to the market. Indeed, the industry has shifted in recent decades from following a product-driven approach to following a market-driven approach [4]. New World wine-producing countries, such as South Africa, Chile and Australia, use innovative production systems and modern marketing strategies to increase their international market share [6]. These countries base their export strategies on a marketing-mix of strong branding and relatively consistent, high-quality, competitively priced products [7]. Meanwhile, traditional wine producers, such as Spain, France and Italy,

^{*} Corresponding author. Carretera Sant Vicent del Raspeig s/n. 03690, Sant Vicent del Raspeig, Alacant, Spain.
E-mail address: jesus.martineznavarro@ua.es (J. Martínez-Navarro).

strive to maintain their market positions. Although these countries represent around 50 % of global wine production, their position in the market is under threat, and they have, since the 1970s, witnessed a steady decline in their domestic wine consumption. This downward trend might be explained by changes in consumers' habits, and by the rise of substitute beverages (e.g. beer and soft drinks) [8]. To address these challenges, many wineries have implemented more professional management approaches [7,9–11], where marketing techniques have acquired importance [12]. By applying marketing science to wine products, producers can find new consumers in different markets, build long-term relationships with current consumers, enhance the products' experiential characteristics and create value through branding [13]. These activities can 'build consumer awareness of the product, loyalty to the product, perceptions of the product's quality, and favourable images of the product [5] and, thus, increase revenues.

Academic research into the wine industry is multidisciplinary and has a long tradition. Research publications have largely focused on food science and technology, followed by horticulture, applied chemistry, biotechnology and applied microbiology [14]. Recently, research into wine and climate change has also emerged. For instance, Grazia et al. [15] conducted a bibliometric analysis, over the years 2000–2022, of this particular topic, drawing on 1314 publications from the Web of Science (WoS) database to identify dominant thematic clusters and emerging research themes.

Economics-focused academic research also has a long tradition. Wine economics covers the economics of the production, distribution and consumption of wine [16]. Thus, wine economics covers topics such as market structure, industrial organisation, welfare economics, economic policy, political economy, finance, health economics, competition and wine as an investment. Ruggeri et al. [17] provided a recent overview of the academic research into wine economics/business over the last decades, identifying over 3200 papers, while Carollo et al. [18] conducted a scientometric study of the literature on wine selection and preferences. Wine economics also covers management and marketing issues. Thus, wine marketing can be said to be a "subfield" of wine economics. Spawton [1] defined marketing as the profitable matching of an organisation's resources with a customer's needs and wants. Wine marketing is the adaptation of this process in the context of the wine industry. Despite not being a major research arena, studies into wine marketing have grown considerably over recent decades, and research on wine consumers' behaviours has great potential. However, hitherto, no studies have specifically addressed the intellectual structure and evolution of research into wine marketing.

The aim of this research is to investigate the contribution that marketing science has made to the wine industry, from a longitudinal viewpoint. Ruggeri et al. [17], taking a broad approach, recently published a literature review of the wine economics field; in this study, we specifically address the wine marketing subfield due to the significance of marketing in this context and the increasing concerns expressed by the industry. To achieve this goal, first, an assessment of the research production on wine marketing was undertaken. Second, drawing on bibliographic data from the WoS and Scopus databases, scientific mapping through co-word analysis and bibliographic coupling was conducted to identify the main research themes and their evolution and trends; previous business/economics-focused studies into wine used only one database [17].

The present study addresses the following wine marketing-related research questions (RQs).

- RQ1.** How has the scientific production evolved to date?
- RQ2.** Which journals are the most productive?
- RQ3.** Which authors have contributed the most?
- RQ4.** Which research has made the most impact?
- RQ5.** What have been the main research themes?
- RQ6.** How have the main research themes evolved?
- RQ7.** What are the main research trends?

This study contributes to the field by providing an up-to-date understanding of wine marketing research. This knowledge can guide future studies in the area.

The remainder of this article is structured as follows. First, the methodology, data sources and analytical tools employed are discussed and, thereafter, the findings of the performance and scientific mapping analyses, other key findings, limitations and suggestions for future research are presented.

2. Method

2.1. Bibliometric analysis

A bibliometric analysis was carried out to address the RQs. This rigorous method explores large quantities of scientific data and identifies the intellectual structure, evolution and emerging themes in research fields [19,20]. We employed the two primary bibliometric analysis techniques, performance analysis and science mapping.

Performance analysis measured the scientific output and impact of the research, while science mapping identified the research themes, their relationships over time and current trends. The science mapping was based on co-word analysis (i.e., the frequency of co-occurrence of two keywords) and bibliographic coupling (i.e., degree of shared citations between publications).

2.2. Data collection

The data were obtained from the databases using the following queries:

WoS query: (TS=(wine)) AND TS=(market*)

Scopus query: wine AND market*

These queries allowed us to search for scientific documents which contained the keyword ‘wine’ and any keyword commencing with ‘market’ (e.g., market, marketing, marketplace, marketers) in document titles, abstracts, author keywords and ‘keywords plus’ (words that frequently appear in the titles of an article’s references, but do not appear in the title of the article itself).

First, bibliographic records were downloaded from both databases for the period 1982–2022 (1129 from WoS, 2412 from Scopus). Only documents in English (articles, review articles, book chapters, early access articles) were considered. Thus, book reviews, corrections, proceedings papers and editorial material were excluded. We took 1982 as the start-point of the analysis because it was the first year of consecutive annual scientific production; only 7 articles appeared between 1965 and 1982. After removing 607 duplicates, 2934 documents remained. This data allowed us to identify the leading journals in the field. We then selected the 20 most productive (number of publications) for the study (see Table 1). The selection was consistent with the ranking, based on academic researchers’ opinions and citation-based analyses, reported by Outreville et al. [21] for the field. Therefore, our bibliometric analysis takes data only from the core journals that published scientific works on wine marketing: drawing only on leading publications is a common bibliometric strategy for evaluating the intellectual structure and scientific knowledge in a research field [14,22]. Following these steps, and after applying the abovementioned criteria, the final data set consisted of 1135 documents covering the period 1990–2022 (1990 was the first year in which a scientific document was published in the selected journals).

2.3. Data analysis

SciMAT software was used to conduct the performance analysis and the co-word analysis. The performance analysis assessed publication and citation-related metrics. Co-word analysis identifies primary concepts in a field and is a powerful tool for uncovering and delineating interactions between fields in scientific research [23]. Initially proposed by Callon et al. [24], co-word analysis is a content analysis technique specifically designed to map the strength of association between terms in textual data. It directly examines sets of words shared by documents, which facilitates the mapping of relevant literature by identifying interactions between key terms. These interactions are represented as networks, where terms serve as nodes.

Following the construction of the network of relationships between words, a normalisation process was applied. So to do, we employed the Equivalence Index [25] as proposed by Cobo et al. [26]. Network normalisation relativises the relationship between two units of analysis (i.e., words); that is, it gives greater importance to words which appear with low frequency, but which consistently co-occur with the same keyword, than to words which appear with very high frequency and which co-occur with a large number of keywords [27]. After normalising the data, the simple centres algorithm was applied as the primary clustering method [23,28] to

Table 1
Top 20 journals by number of published documents.

Journal	Total docs	% sample	N. docs Scopus	Cit. Scopus	Avg. cit./ doc.	N. docs WoS	Cit. WoS	Avg. cit./ doc.
International Journal of Wine Business Research	272	24,0	257	5606	21,8	264	4097	15,5
British Food Journal	155	13,7	131	3202	24,4	130	2246	17,3
Journal of Wine Research	129	11,4	129	2341	18,1	NA	NA	NA
Journal of Wine Economics	100	8,8	31	156	5,0	96	1103	11,5
Wine Economics and Policy	76	6,7	76	1541	20,3	NA	NA	NA
Sustainability	57	5,0	48	459	9,6	56	483	8,6
Food Quality and Preference	50	4,4	41	2184	53,3	41	1776	43,3
Journal of Cleaner Production	34	3,0	30	2016	67,2	34	1809	53,2
Beverages	30	2,6	27	196	7,3	30	176	5,9
Quality - Access to Success	28	2,5	26	263	10,1	19	100	5,3
Agribusiness	27	2,4	22	661	30,0	24	522	21,8
Australian Journal of Grape and Wine Research	26	2,3	26	829	31,9	25	511	20,4
Food Research International	25	2,2	19	518	27,3	25	638	25,5
Journal of Food Products Marketing	24	2,1	24	446	18,6	0	0	0,0
International Journal of Contemporary Hospitality Management	20	1,8	16	472	29,5	15	465	31,0
International Journal of Wine Research	18	1,6	18	539	29,9	NA	NA	NA
Journal of International Food and Agribusiness Marketing	17	1,5	17	211	12,4	NA	NA	NA
International Journal of Entrepreneurship and Small Business	17	1,5	17	119	7,0	NA	NA	NA
Journal of Business Research	16	1,4	13	720	55,4	16	665	41,6
Oeno One	14	1,2	14	76	5,4	0	0	0,0
TOTAL	1135	100,0	982	22555		775	14591	

Note: NA = not applicable (journal not indexed in WoS in period under study).

construct the science maps. Subsequently, SciMAT applied Callon’s density and centrality measures [23,25] to each identified cluster for data visualisation (further explanations of these measures are provided below). Finally, the software evaluated the clusters based on performance and quality measures (citation-based metrics, number of documents) and associated, by applying a mapping function, the clusters with scientific articles from the corpus analysed [26]. This linkage between clusters (themes) and scientific documents aids analysts in interpreting the resulting maps.

One of the main advantages of SciMAT is its capability of conducting science mapping analyses within a longitudinal framework, which enables researchers to examine the evolution of a research field over consecutive time periods. SciMAT identifies thematic evolution when two thematic networks share at least one keyword, which indicates they are joined by a conceptual nexus [27]. Thematic areas have been defined as a group of themes that have evolved along different consecutive time periods [27]. A limitation of using SciMAT is that applying different configurations (e.g., defining different time periods for analysis) results in varied diagrams.

The longitudinal analysis in the present study first split the relevant time period into decades, a common practice in bibliometric studies [29,30]. Therefore, we initially considered four decades. However, a screening of the number of papers published in each decade led us to combine the first two (1990–2009) into a subperiod. In addition, because the clear majority of documents (83.9 %) were published between 2010 and 2022, we divided this period into two subperiods of seven (2010–2016) and six years (2017–2022). As in most similar studies, the number of documents published increased in each new subperiod. Thus, the study period was divided into three subperiods: i) an emergent period, from 1990 to 2009 (183 documents); ii) a growth period, from 2010 to 2016 (396 documents), and iii) a rapid expansion period, from 2017 to 2022 (556 publications). The results of the co-word analysis are, therefore, presented in a longitudinal evolution map and three strategic diagrams (one for each subperiod).

VOSviewer software was used for the bibliographic coupling [31]. This technique evaluates the extent of shared citations among publications (on the assumption that stronger connections imply similar content) [32]. A coupling relation is, therefore, established between two documents when they have a set of units (i.e., references) in common, which suggests it is probable that the documents belong to the same field of research [26]. This technique is recommended for identifying the latest developments in research fields [20]. We focused on bibliographic records covering 2019–2022. Bibliographic coupling enriches knowledge about recent literature in specific fields and overcomes the limitations of co-word analysis, thus providing a more comprehensive understanding of research trends [20].

3. Results

3.1. Scientific performance

To answer RQ1 we assessed the evolution of research into wine marketing in terms of number of publications and their impact. Fig. 1 shows that relevant research was scarce until 2005. The number of publications has since increased considerably, particularly in recent years; documents published during the ‘rapid expansion period’ (2017–2022) account for 49 % of production for the entire

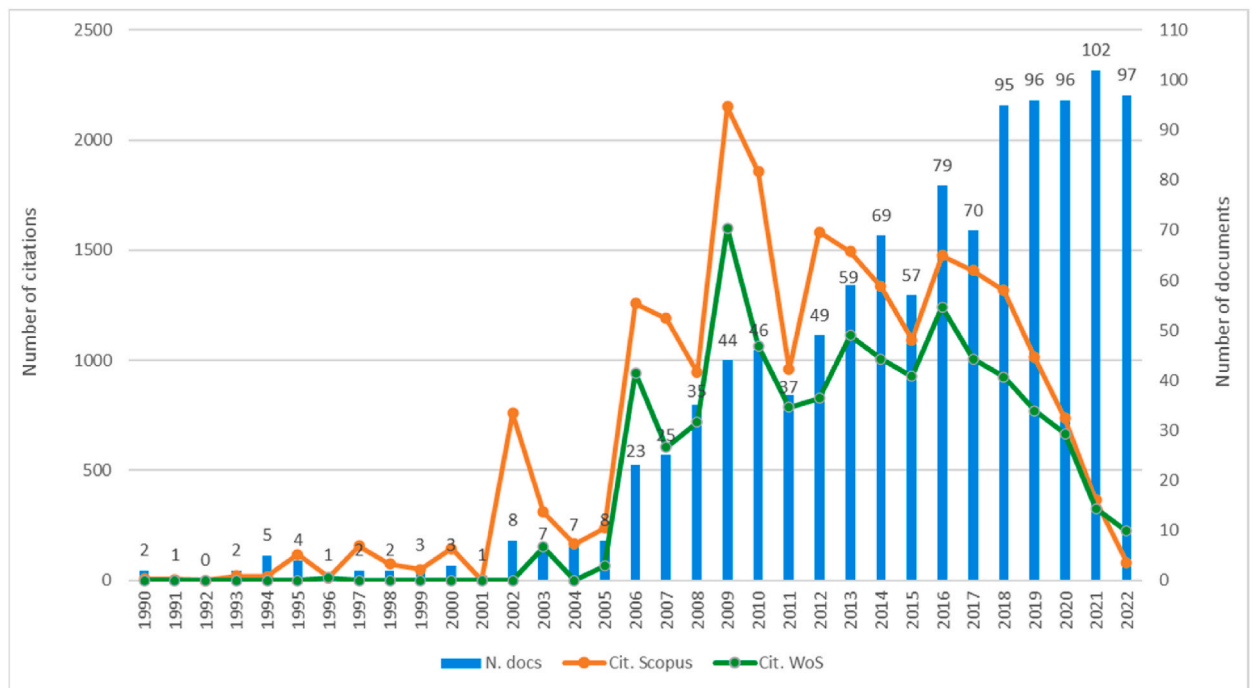


Fig. 1. Evolution in volume of scientific publications and citations (1990–2022).

Table 2
Most productive authors.

Author	Total docs	N. docs Scopus	Cit. Scopus	N. docs WoS	Cit. WoS
Bruwer, Johan (University of Adelaide, Australia)	24	22	1187	15	723
Thach, Liz (Sonoma State University, CA, USA)	16	16	605	5	154
Charters, Steve (Burgundy School of Business, France)	16	15	628	11	454
Galati, Antonino (University of Palermo, Italy)	15	15	455	9	250
Crescimanno, Maria (University of Palermo, Italy)	15	15	456	9	250
Lockshin, Larry (University of South Australia, Australia)	14	13	664	10	309
Dodd, Tim H. (Texas Tech University, TX, USA)	14	13	406	8	180
Velikova, Natalia (Texas Tech University, TX, USA)	13	11	190	8	144
Anderson, Kym (University of Adelaide, Australia)	12	5	34	11	156
Barber, Nelson (University of New Hampshire, NH, USA)	12	12	568	3	92
Spielmann, Nathalie (NEOMA Business School, France)	11	11	227	11	187
Olsen, Janeen (Sonoma State University, CA, USA)	11	11	479	3	177
Taylor, Christopher D. (University of Houston, TX, USA)	11	11	375	5	74
Corsi, Armando Maria (Ehrenberg-Bass Institute, Australia)	10	10	441	8	129
Dressler, Marc (University of Ludwigshafen, Germany)	10	10	117	6	64
D'Amico, Mario (University of Catania, Italy)	10	9	209	2	43
Alonso, Abel Duarte (Edith Cowan University, Australia)	10	9	165	9	158
Remaud, Hervé (KEDGE Business School, and Ehrenberg-Bass Institute, France)	9	9	419	6	236
Casini, Leonardo (University of Florence, Italy)	9	9	250	6	120
Bastian, Susan E.P. (University of Adelaide, Australia)	9	9	169	7	153

period. Scientific production in the field has had great impact, with 22,336 citations in Scopus and 14,981 citations in WoS.

Regarding RQ2, Table 1 lists the top 20 journals in the field. The *International Journal of Wine Business Research* was first in terms of production and impact, followed by *British Food Journal*, *Journal of Wine Research*, *Journal of Wine Economics* and *Wine Economics and Policy*. These five journals accounted for 64.6 % of the scientific production analysed in this study.

Table 2 ranks the authors who contributed (number of documents published) most to wine marketing research (RQ3). It should be noted that all authors, not just the first named in the citations, and their affiliations, were included in the analysis.

Johan Bruwer (University of Adelaide) published the most documents and attracted the most citations (in both WoS and Scopus). Most authors come from universities and research centres in important wine-producing regions (i.e., Australia, France, Italy, California). It is noteworthy that none of the authors are from Spain, one of the world's main wine producers.

Addressing RQ4, Table 3 lists the 20 most influential studies in the field. It is notable that Johan Bruwer, the most productive in the field, authored five of the thirty articles with the greatest impact.

The most impactful article [33] examined the attributes of the authenticity of ultra-premium wines, that is, heritage and pedigree, stylistic consistency, quality commitments, relationship to place and method of production; commercial motives were played down. The second most impactful article [34] identified the experiential nature of the motivations of wine tourists and proposed that these tourists search for enjoyment and pleasure. It should be remembered that the present study examines research into wine marketing, and not into wine tourism. Meanwhile, wine tourism-focused studies continue to be undertaken; for example, Gómez et al. [35] and Kotur [36] recently conducted bibliographic reviews of wine tourism research.

The third most impactful study examined sustainability in the wine industry [37] identifying the state-of-the-art and research gaps in consumers' perceptions, preferences and willingness to pay for wine with sustainable characteristics (e.g., organic production).

The remainder of the most impactful studies contributed to the evolution of wine marketing research based on different themes. The studies can be broadly classified into three specific areas, that is, consumer behaviours, market segmentation and sustainability.

First, several authors aimed to explain the drivers behind wine consumers' behaviours. For example, works provided evidence of: the importance of intrinsic and extrinsic cues in consumers' perceptions of wine quality [38–40]; the role of regional brand image [41]; the importance of wine back label statements [42]; the interplay of a wine's sensory characteristics and extrinsic attributes (e.g., packaging, price, brand awareness [43]; the importance of functional attributes (resveratrol enhanced wine) [44]; the importance of emotions [45], wine knowledge and wine involvement (i.e., importance/relevance of wine to the consumer) [46]. In addition, Goodman [47] evidenced that wine-choice drivers in retail store environments vary between countries, while Skuras and Vakrou [48] indicated that wine consumers' willingness to pay for origin-labelled wines varies based on social and demographic characteristics. To better understand consumer preferences, Cohen [49] proposed a best-worst scale, while Lockshin and Corsi [50] summarised the main findings on wine consumer behaviours published in academic journals.

A second group of the most cited papers focused on market segmentation. For example, Thach and Olsen [51] described Millennials' perceptions of, and attitudes towards, wine; Gil and Sánchez [52] identified, examining two Spanish wine producing regions, consumer segments distinguished by their preferences for the attributes of wines; Bruwer et al. [53] and Bruwer and Li [54] highlighted the importance of lifestyles in segmenting wine consumers. Liu and Murphy [55] examined Chinese consumers' wine

Table 3
Most cited articles.

Authors and reference	Year	Title	Source	Cit. Scopus	Cit. WoS	Total cit.
Beverland [33]	2006	The 'real thing': Branding authenticity in the luxury wine trade	Journal of Business Research	364	321	431
Bruwer and Alant [34]	2009	The hedonic nature of wine tourism consumption: An experiential view	International Journal of Wine Business Research	243	215	317
Schäufele and Hamm [37]	2017	Consumers' perceptions, preferences and willingness-to-pay for wine with sustainability characteristics: A review	Journal of Cleaner Production	220	190	266
Forbes et al. [56]	2009	Consumer attitudes regarding environmentally sustainable wine: an exploratory study of the New Zealand marketplace	Journal of Cleaner Production	172	209	258
Charters and Pettigrew [38]	2007	The dimensions of wine quality	Food Quality and Preference	204	170	240
Fotopoulos et al. [57]	2003	Wine produced by organic grapes in Greece: Using means - end chains analysis to reveal organic buyers' purchasing motives in comparison to the non-buyers	Food Quality and Preference	198	152	234
Lockshin and Corsi [50]	2012	Consumer behaviour for wine 2.0: A review since 2003 and future directions	Wine Economics and Policy	232	NC	232
Johnson and Bruwer [41]	2007	Regional brand image and perceived wine quality: The consumer perspective	International Journal of Wine Business Research	192	143	232
Barber et al. [58]	2009	Wine consumers' environmental knowledge and attitudes: Influence on willingness to purchase	International Journal of Wine Research	228	NC	228
Balestrini and Gamble [39]	2006	Country of origin effects on Chinese wine consumers	British Food Journal	179	147	221
Gabzdylowa et al. [59]	2009	Sustainability in the New Zealand wine industry: Drivers, stakeholders and practices	Journal of Cleaner Production	181	158	217
Pomarici and Vecchio [60]	2014	Millennial generation attitudes to sustainable wine: an exploratory study on Italian consumers	Journal of Cleaner Production	177	140	213
Björk and Kauppinen-Räsänen [64]	2016	Local food: a source for destination attraction	International Journal of Contemporary Hospitality Management	155	145	208
Lange et al. [40]	2002	Impact of the information provided to consumers on their willingness to pay for Champagne: Comparison with hedonic scores	Food Quality and Preference	177	162	200
Mueller et al. [65]	2010	Message on a bottle: The relative influence of wine back label information on wine choice	Food Quality and Preference	160	134	194
Rugani et al. [61]	2013	A comprehensive review of carbon footprint analysis as an extended environmental indicator in the wine sector	Journal of Cleaner Production	168	149	180
Cohen [49]	2009	Applying best-worst scaling to wine marketing	International Journal of Wine Business Research	137	115	168
Skuras and Vakrou [48]	2002	Consumers' willingness to pay for origin labelled wine: A Greek case study	British Food Journal	163	NC	163
Thach and Olsen [51]	2006	Market segment analysis to target young adult wine drinkers	Agribusiness	138	112	153
Barreiro-Hurlé et al. [44]	2008	Is there a market for functional wines? Consumer preferences and willingness to pay for resveratrol-enriched red wine	Food Quality and Preference	124	106	153
Point et al. [62]	2012	Life cycle environmental impacts of wine production and consumption in Nova Scotia, Canada	Journal of Cleaner Production	141	127	150
Mueller et al. [43]	2010	Combining discrete choice and informed sensory testing in a two-stage process: Can it predict wine market share?	Food Quality and Preference	119	113	150
Ferrarini et al. [45]	2010	The emotional response to wine consumption	Food Quality and Preference	130	117	148
Gil and Sánchez [52]	1997	Consumer preferences for wine attributes: A conjoint approach	British Food Journal	147	NC	147
Schamel [63]	2006	Geography versus brands in a global wine market	Agribusiness	124	89	140
Bruwer et al. [53]	2002	Segmentation of the Australian wine market using a wine-related lifestyle approach	Journal of Wine Research	139	NC	139
Liu and Murphy [55]	2007	A qualitative study of Chinese wine consumption and purchasing: Implications for Australian wines	International Journal of Wine Business Research	105	83	132
Bruwer and Li [54]	2007	Wine-related lifestyle (WRL) Market segmentation: Demographic and behavioural factors	Journal of Wine Research	131	NC	131
Famularo et al. [46]	2010	Region of origin as choice factor: Wine knowledge and wine tourism involvement influence	International Journal of Wine Business Research	106	82	131
Goodman [47]	2009	An international comparison of retail consumer wine choice	International Journal of Wine Business Research	108	90	130

Note: Although citation count could act as a proxy for article quality (on the assumption that the most cited articles are of higher quality) this approach penalises recently published papers, so this metric must be treated with caution.

Table 4
Time periods, themes and keywords.

Period 1990–2009	Period 2010–2016	Period 2017–2022
Price	Consumer behavior	Consumer behavior
<i>Wine quality</i>	<i>Consumers</i>	<i>Consumers</i>
<i>Consumers</i>	<i>Brand</i>	<i>Brand</i>
<i>Country of origin</i>	<i>Marketing strategy</i>	<i>Consumption</i>
<i>Age</i>	<i>Perceptions</i>	<i>Perceptions</i>
<i>Competitiveness</i>	<i>Consumption</i>	<i>Segmentation</i>
<i>Designations of origin</i>	<i>Segmentation</i>	<i>Willingness to pay</i>
<i>Ratings</i>	<i>Region</i>	<i>Preferences</i>
<i>Price elasticity</i>	<i>Involvement</i>	<i>Wine tourism</i>
<i>Bordeaux wine</i>	<i>Attributes</i>	<i>Attributes</i>
<i>Preferences</i>	<i>Insights</i>	<i>Involvement</i>
<i>Reputation</i>	<i>Attitudes</i>	<i>Organic</i>
<i>Origin</i>	<i>Gender</i>	<i>Choice</i>
<i>Packaging</i>	<i>Image</i>	<i>Loyalty</i>
<i>Loyalty</i>	<i>Purchase decisions</i>	<i>Attitudes</i>
Consumer behavior	Wine quality	Sustainability
<i>Segmentation</i>	<i>Price</i>	<i>Innovation</i>
<i>Brand</i>	<i>Preferences</i>	<i>Consumer preferences</i>
<i>Consumption</i>	<i>Country of origin</i>	<i>Governance</i>
<i>Winemaking</i>	<i>Expertise</i>	<i>Green</i>
<i>Equity</i>	<i>Cabernet sauvignon</i>	<i>Food consumption</i>
<i>Ethnocentrism</i>	<i>Vitis vinifera</i>	<i>Corporate social responsibility</i>
<i>Product differentiation</i>	<i>Bordeaux wine</i>	<i>Consumer attitude</i>
<i>Simulation</i>	<i>Expert</i>	<i>Environmental impact</i>
<i>Attitudes</i>	<i>Impact</i>	<i>Natural wine</i>
<i>Image</i>	<i>Labels</i>	<i>Stakeholders</i>
<i>Impact</i>	<i>Reputation</i>	<i>World</i>
<i>Purchase</i>	<i>Sales</i>	<i>Carbon footprint</i>
<i>Region</i>	<i>Supply chain</i>	<i>Valuation</i>
<i>Choice</i>	<i>Origin</i>	<i>Price premium</i>
	Wine tourism	Wine quality
	<i>Wine tourists</i>	<i>Price</i>
	<i>Food tourism</i>	<i>Impact</i>
	<i>Destination</i>	<i>Sensory</i>
	<i>Experience</i>	<i>Origin</i>
	<i>Satisfaction</i>	<i>Product</i>
	<i>Authenticity</i>	<i>Demand</i>
	Choice	<i>Bordeaux wine</i>
	<i>Willingness to pay</i>	<i>Labels</i>
	<i>Extrinsic cues</i>	<i>Red wine</i>
	<i>Product</i>	<i>Region</i>
	<i>Values</i>	<i>Country of origin</i>
		<i>Climate</i>
		<i>Marketing strategy</i>
		<i>Reputation</i>
		Performance
		<i>Strategy</i>
		<i>Management</i>
		<i>Supply chain</i>
		<i>Business</i>
		<i>Firm</i>
		<i>Competitive strategy</i>
		<i>Critical success factors</i>
		<i>Family firms</i>
		<i>Entrepreneurial orientation</i>
		<i>Resilience</i>
		<i>Small and medium enterprise</i>
		<i>Environment</i>
		Satisfaction
		<i>Experience</i>
		<i>Motivation</i>
		<i>Destination</i>
		<i>Food tourism</i>
		<i>Perceived value</i>
		Social media
		<i>Customer engagement</i>
		<i>Communication strategies</i>
		<i>Online</i>
		<i>Website</i>
		<i>Facebook</i>

consumption and purchasing behaviours, showing that, in China, drinking red wine is considered trendy and healthier than drinking spirits.

The third group of works addressed wine sustainability. Forbes et al. [56] found that, when consumers perceive a wine is produced using sustainable practices, they regard it as being of better quality; Fotopoulos et al. [57] evidenced the importance of consumers' personal values on their wine shopping behaviours for organic wines; Barber et al. [58] examined the role of consumers' involvement with a product and the environment, their knowledge of environmental issues and attitudes towards the environment, showing that these factors impacted on consumers' willingness to buy environmentally friendly wines; Gabzdylova et al. [59] found that wine producers' personal values, preferences and satisfaction with their work were the most important drivers for viticulturists to follow sustainable practices; Pomarici and Vecchio [60] assessed the effect of labels certifying environmental, social and ethical attributes on Millennials' willingness to buy; Rugani et al. [61] showed the benefits that a carbon footprint indicator could provide to both producers and consumers; Point et al. [62] indicated that viticulture and the trips that consumers make to buy the product contributed most to wine's total environmental impact.

Other themes arise in the most cited papers. For example, Schamel [63] analysed the effects of quality, brand and geographical indicators on price premiums, while Björk and Kauppinen-Räsänen [64] explored the factors that affect tourists' behaviours in a focus on local food markets (including wine).

3.2. Scientific mapping

We conducted keyword analysis for the three periods using SciMAT. To address RQ5 and RQ6 we examined the evolution of research themes across the three periods and the main themes in each period. Table 4 shows the themes and keywords analysed in the periods. VOSviewer was used to identify bibliographic couplings and research trends (addressing RQ7).

3.2.1. Evolution of research themes

The evolution map (Fig. 2) illustrates the development of research themes over time. The solid, coloured lines depict the main thematic areas and their evolution. These principal thematic areas are formed by themes which share the same, identical main keyword. The principal thematic areas also connect themes where the main keyword of one theme is present in the network of the other theme (the keyword that lends its name to the theme). Thus, main thematic areas illustrate themes that were examined from similar perspectives over time [27]. The dotted lines indicate keyword sharing between themes. The thickness of the lines reflects the level of co-occurrence of keywords between any two themes, while the size of the spheres reflects the number of documents associated with each theme [26].

The evolution of wine marketing-focused research exhibited moderate cohesion (most themes being linked) across the time periods. As the solid lines in Fig. 2 show, three distinct streams evolved. Research into 'consumer behaviour' was predominant. This pivotal subject appeared in all periods, although during the second the SciMAT software categorised a portion of the research under the 'choice' theme. The 'price' theme emerged during the first period and evolved over the next periods into research on 'wine quality'. Wine tourism-related research surfaced during the second period. In the third period, both research on 'satisfaction' and 'consumer behaviour' featured studies focused on wine tourism, and three new themes, 'sustainability,' 'performance' and 'social media', emerged.

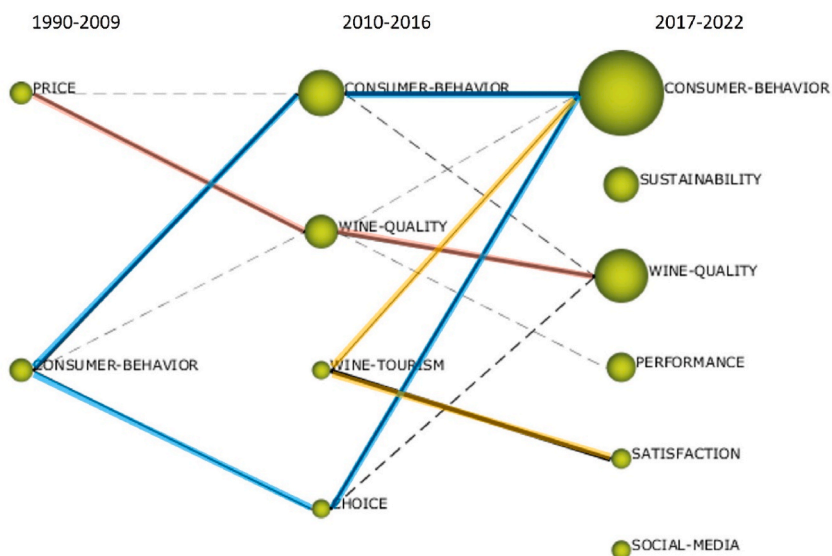


Fig. 2. Longitudinal evolution map. Source. SciMAT.

It is noteworthy that, beyond the evolution of wine marketing-related research themes, academics followed various methodological approaches. For instance, during the emergent period (1990–2009), descriptive studies had a strong presence. In some cases, these studies featured paired samples tests. Experimental designs (e.g., conjoint and choice experiments) also developed in this period, together with studies that applied cluster analysis in market segment-focused research. The growth period (2010–2016) witnessed an expansion of method types and analysis techniques. In addition to the above approaches, a great proportion of the research used correlation and regression models. In the rapid expansion period (2017–2022), a wide range of approaches and techniques were applied to wine marketing research. In particular, in contrast to the previous periods, there was strong growth in review articles, case studies and the application of data mining and machine learning techniques to data scraped from the web and social media (e.g., consumer reviews, product ratings).

3.2.2. Strategic diagrams

The strategic diagrams for each period (Figs. 3–5) showcase the main themes in the field. The size of the spheres reflects the number of articles published on the themes. Themes are visually displayed based on two criteria, centrality and density. Centrality reflects the degree of interaction a network shares with other networks, which indicates its significance in the overall development of the research field. Density measures the internal cohesion between the keywords that describe themes. These two measures classify themes into four quadrants.

- Motor themes: These appear in the upper-right quadrant (Q1) of the diagrams (high centrality and density). They represent well-developed, mainstream themes of great importance in the field. Motor themes are externally connected with other themes.
- Peripheral themes: These appear in the upper-left quadrant (Q2) (low centrality but high density). Peripheral themes are highly specialised and internally well-developed, but are isolated because they lack connections to external networks.
- Marginal themes: These appear in the lower-left quadrant (Q3) (low density and centrality). Marginal themes are underdeveloped and represent emerging or declining topics.
- Basic themes: These appear in the lower-right quadrant (Q4) (strong centrality but low density). While these themes are not well developed, they are important in the field. They are considered as being transversal, that is, basic in the field.

3.2.2.1. *Emergent period (1990–2009)*. This period featured two themes, ‘consumer behaviour’ and ‘price’. The analysis of consumer behaviour has been the primary research theme in wine marketing, attracting the most publications and citations. Related studies

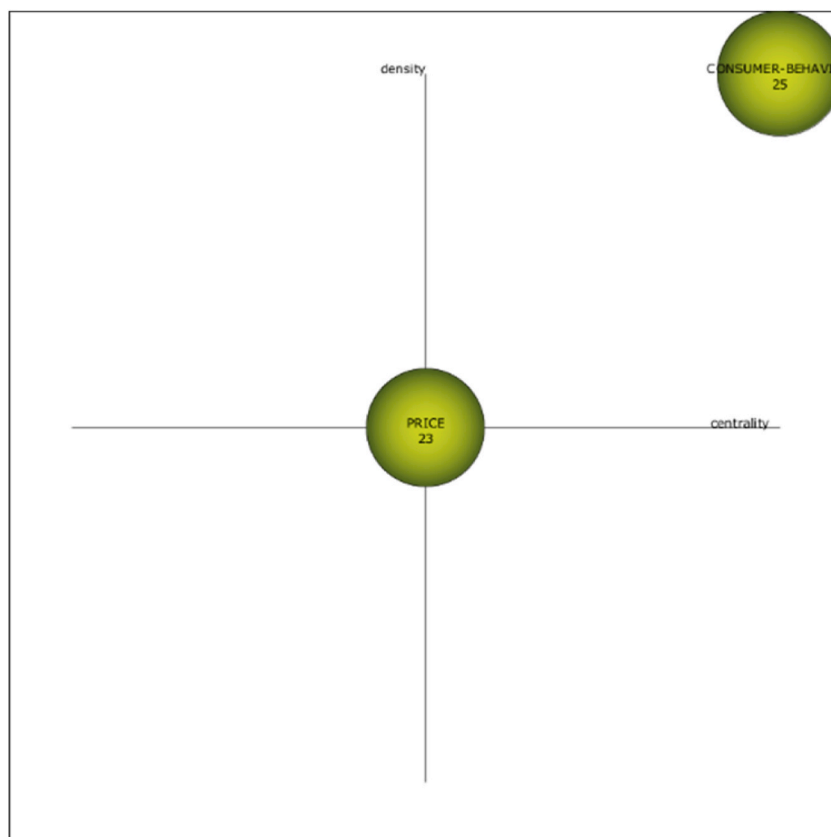


Fig. 3. Strategic diagram, 1990–2009. Source. SciMAT.

examined the key determinants of consumer attitudes [66], purchasing behaviours and decision-making processes [47,67]. These determinants include the wine's country of origin, winery atmosphere, grape variety, prior experiences with the wine and peer recommendations.

Concurrently, significant behavioural research focused on identifying market segments. Lifestyle measures [53], purchase frequency [68,69], the differentiation strategies employed by wineries [70] and consumption occasions [71] are among the key segmentation parameters. Other studies examined the specific characteristics of particular segments, such as heavy wine consumers [72].

Another central research theme is wine pricing. Researchers identified several factors that influence wine pricing, such as its origin (country and region) [39], its quality (objectively and subjectively assessed) [73,74] and its quality ratings [75,76]. Initial studies emphasised the importance of pricing as a competitive priority in production strategies [77]. From the consumer's perspective, research identified price as a key driver of wine preferences [52,78]. Price was shown to be determinant of consumer utility [68] and to influence perceived wine quality [79,80].

3.2.2.2. Growth period (2010–2016). Four themes are salient in the growth period, 'consumer behaviour,' 'wine quality,' 'choice' and 'wine tourism.' Consumer behaviour remained a motor theme, attracting the most publications and citations. Similarly, studies continued to investigate factors that influence wine choice, including taste, region of origin, gender, brand, price and ratings [81–83] and consumption behaviours related to wine knowledge, consumer involvement and consumption motives [84–86]. The period also witnessed the emergence of new approaches to wine consumption behaviours, such as the influence of labels certifying a wine's environmental, social and ethical attributes [60], corporate social responsibility [87] and environmentally friendly packaging [88] on wine choice and purchase intentions.

In addition, studies identified wine consumer segments based on product attributes [89], quality perceptions [90], attitudes/behaviours [91,92], usage rates [93], involvement, lifestyle, motives [94] and which sales channels the consumers used [95]. Notably, some studies examined generational differences in wine choice and consumption [96,97].

'Wine quality' emerged as a motor theme during the period, ranking second both in terms of production and impact. A significant research stream evaluated criteria (i.e., brand, region and country of origin, denomination of origin, vintage, label aesthetic, bottling, awards) that significantly influenced both consumers' [90,98] and experts' [99,100] perceptions of wine quality. Research also demonstrated the impact of wine quality on consumers' willingness to pay higher prices [101,102].

Many studies assessed the relationship between wine quality and pricing. Expert ratings in specialised guides were commonly used

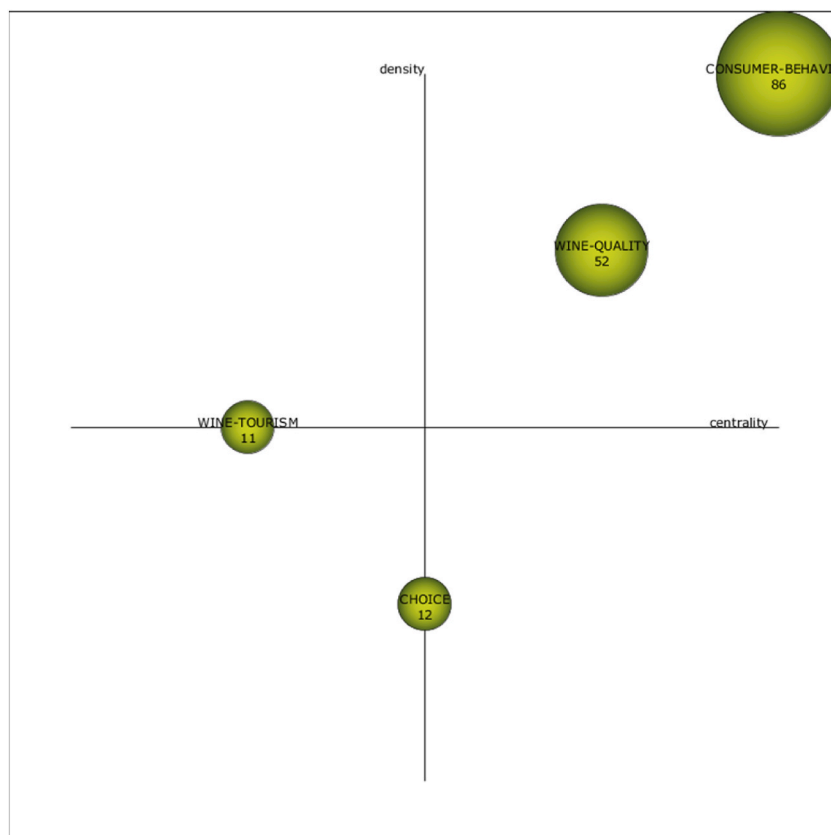


Fig. 4. Strategic diagram, period 2010–2016. Source. SciMAT.

as indicators of quality [103], and several authors considered them an indicator of wine reputation [104].

From a managerial perspective, research examined the factors that influenced the wine industry’s adoption of voluntary quality standards and the relationship between their adoption and wineries’ economic performance [105]. Other studies related variations in climatic conditions in the grape growing season to variations in wine quality [106,107] and examined the problems faced in, and solutions developed for, safeguarding wine quality during shipment and storage [108].

‘Wine tourism’ was an emerging theme in the growth period. Although specialised tourism journals published articles on wine tourism, wine journals also published commercially focused articles on wine tourism. Studies examined wine tourist segments [109] and their profiles [110,111]. Other research assessed the impact of destination attributes [112] and the experiences of tourists visiting wineries [113,114] on revisit intentions. From a managerial viewpoint, articles analysed the factors that facilitated/impeded the development of wine tourism in emerging markets [115,116], and emphasised the importance of developing website strategies to attract visitors to wineries and to boost sales [117].

The ‘choice’ theme evolved from the consumer behaviour theme identified in the emergent period. The theme was addressed, first, by research that aimed to explain consumers’ decision-making processes, encompassing the influence of wine-related subjective knowledge [118], experiential attitudes, perceived risk [119] and willingness to pay a particular price [120,121]; second, by research into consumers’ preferences for sustainable, organic [122,123] and dealcoholized wines [124]; and, third, by analyses of the differences between generations X and Y in their perceptions of value, and in their product involvement [125]. This is a relatively poorly developed theme.

3.2.2.3. Rapid expansion period (2017–2022). In this period six themes stand out: ‘consumer behaviour’, ‘wine quality’, ‘sustainability’, ‘performance’, ‘satisfaction’ and ‘social media’. Consumer behaviour continued as a motor theme, attracting the most scientific production and making the most impact. Various behavioural aspects of consumer wine preferences were assessed: the purchase occasion (personal consumption vs gift-giving) [126], the consumption context (restaurant vs wine bar) [127], exposure levels (single vs repeated) [128] and alternative packaging options [129].

Increasing research attention was paid to consumer attitudes, perceptions, preferences and willingness-to-pay for organic [130, 131], sustainable [37,132] and low-alcohol wines [133].

As in the previous period, assessments were made of gender-based consumer preferences and buying behaviours [134,135]. Market segmentation studies remained key, using criteria such as consumers’ knowledge of wine [136], emotions [137], preferences for

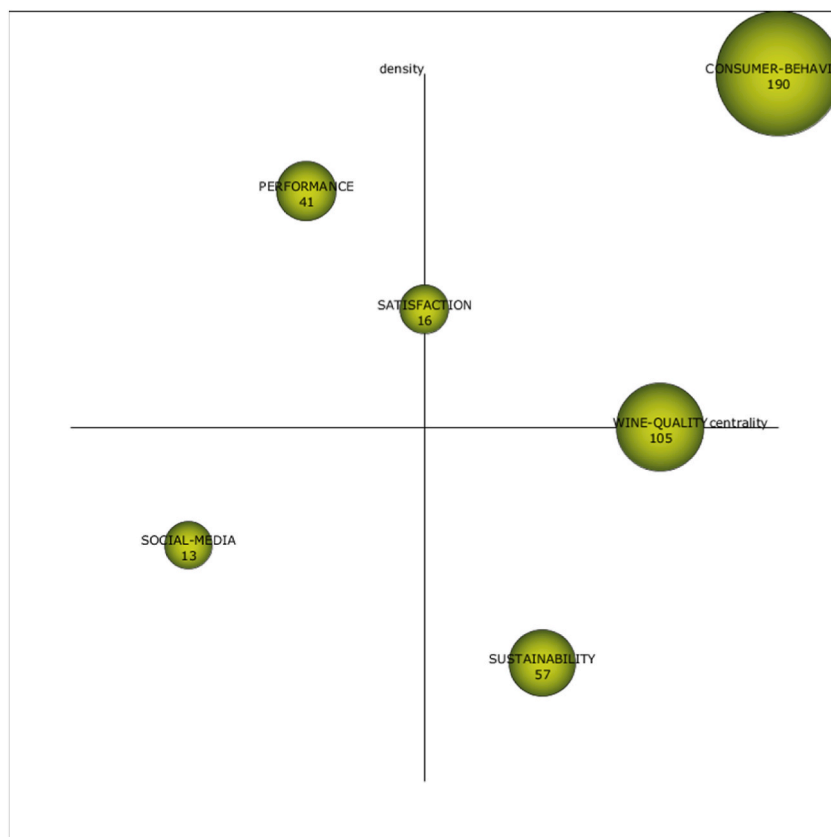


Fig. 5. Strategic diagram, period 2017–2022. Source. SciMAT.

organic and environmentally friendly products [138] and biological, experiential, psychological [139] and lifestyle factors [140].

The longitudinal map (Fig. 2) shows that research into wine tourism in the second period was largely absorbed by the consumer behaviour theme in the third. Consequently, research strongly focused on: identifying wine tourist market segments [141,142]; the factors that influence purchase intentions during wine tasting sessions [143]; consumers' motivations, expectations and responses to wine tourism experiences [144,145] and the information sources they use to choose wineries to visit [146].

'Wine quality' was the second most prominent theme in terms of production. Many studies analysed, from the consumer's viewpoint, the factors affecting perceptions of wine quality, including place of origin [147], labelling strategies [148,149] and wine bottle closure types (screw cap vs cork) [150]. Studies also analysed the impact of wine quality certifications [151] and sensory quality signals [152] on consumers' purchasing decisions and wine sales.

Given that expert reviews are an important information source for consumers' decision-making, studies also examined the subjective perceptions and intrinsic qualities of wine that influenced experts' judgments of wine quality [153,154].

From the managerial perspective, other studies delved into the impact of specific production conditions and winemaking techniques on wine quality [155,156]. As in the previous period, studies analysed the relationship between wine quality and price [157, 158].

'Sustainability', referring to the long-term sustainability of the sector, emerged in this period as a basic theme, with social, economic and environmental dimensions. It was the second most impactful theme during the period, after 'consumer behaviour'. While not fully developed, it is important in the field.

Studies explored winegrowers' sustainable wine production-related attitudes and behaviours [159,160] and sought to identify the factors that facilitate and hinder wineries' adoption of sustainability-oriented practices [161,162]. Some studies, using the industry's environmental and economic indicators, conducted comparative life cycle assessments of wines and wine packaging systems [163, 164]. From a governance perspective, proposals were made for sustainability-focused strategic business models [165,166] and strategic models designed to evaluate the effects of alternative sustainable management policies on the economic efficiency of supply chains [167].

Much research, taking the consumer's viewpoint, analysed the factors that influence their willingness to pay a price premium for organic wine (e.g., [130,168]).

'Performance' is a specialised theme, well-developed internally, but somewhat isolated from other networks. Research examined the drivers of organisations' economic performance and market share. In this regard, studies assessed specific business strategies: carbon footprint issues, grouping, collaboration with partners-suppliers, adoption of advanced technologies and product innovation [169,170]. Other studies examined company characteristics, including size, age, labour productivity, financial autonomy and short-term debt ratios [12,171].

Attention also focused on entrepreneurial orientation [172,173] and new business models, based on inter-firm alliances and vertical quasi-integration [174] in terms of their impact on organisational economic performance and market share. Some studies specifically focused on family-owned wineries, assessing the impact of company characteristics/strategies (age, organisational systems, brand heritage identity, family culture, relational social capital, co-competition) on their marketing performance [175–177].

The 'satisfaction' theme evolved from 'wine tourism'; it examined wine tourists' experiences in various settings, including hotels [178], wine routes [179,180], wine festivals [181,182] and food and wine destinations [183]. Given that satisfaction is a key variable of tourists' experiences, studies also tried to understand its multidimensional nature [184].

'Social media' is an emerging, but still underdeveloped, theme. Studies examined the determinants of consumers' engagement with the social media content posted online by wine brands. It was found that message content type (informational, entertaining, remunerative, relational), and whether the message encouraged responsible behaviours, played a significant role in consumer engagement [185,186]. Other research, taking the consumer's perspective, established the existence of a relationship between social media usage and online wine purchasing [187].

Digital marketing strategies were important in this theme. Some studies provided descriptive insights into wineries' marketing strategies [188,189] and others identified the drivers of online popularity (based on website visits) (e.g., [190]).

3.2.3. Identification of research trends

The bibliographic coupling analysis assessed the last three years of the period (2019–2022), common in this type of analysis. The results of the bibliographic coupling are depicted in the network map at Fig. 6, where each node represents a scientific article, and the links between articles depict bibliographic couplings. Node size reflects their significance in the analysis, and the distance between articles reflects their relatedness. The articles are colour-coded based on the cluster (research stream) to which they belong. The analysis identified six research trend clusters (RQ7): i) strategy; ii) sustainability; iii) consumer behaviour; iv) wine tourism; v) wine economics; and vi) sensory aspects.

The red cluster represents the 'strategy' theme. Some studies within this area intersect with the 'sustainability' cluster (discussed below), an indication that wineries are increasingly integrating sustainability thinking into their business strategies. Articles analysed/compared winery and wine-making cooperatives' business models, from different perspectives, including the impact of COVID-19 [191], innovation [174,192] and sustainability [165]. Some of these studies revealed that Sicilian cooperatives primarily feature partial and vertical integration. Italian wineries operating in competitive markets tend to prioritise knowledge acquisition and internal assimilation over transforming and exploiting acquired knowledge. In Germany, wineries were observed to be following seven strategic business models, with three emphasising sustainability, two emphasising social opportunities and innovation and two which took more superficial approaches, that is, they addressed sustainability only in their administrative/regulatory processes.

Studies within this cluster also examined marketing strategies followed in the industry. Co-creation and sustainability emerged as

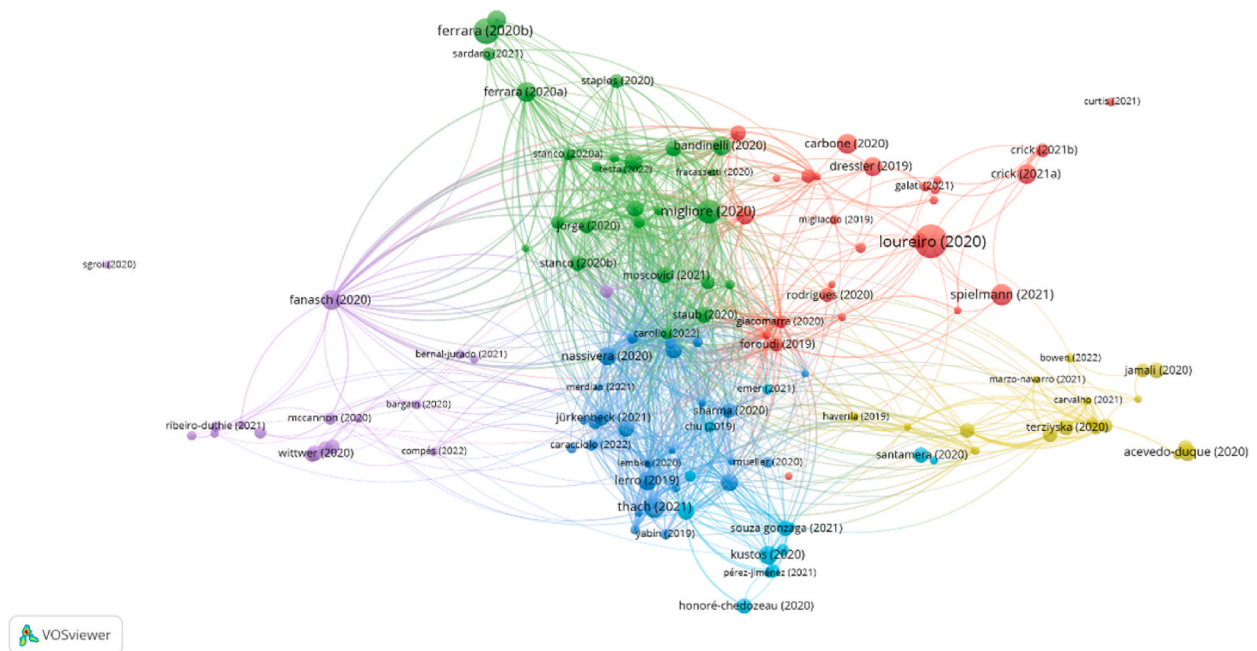


Fig. 6. Bibliographic coupling results. Research trends networks. Source: VOSviewer.

crucial elements in the brand strategies of small and medium-sized enterprises [193]. Location plays a significant role, with research highlighting the importance of place and corporate heritage identity for family-owned wineries' marketing strategies. In addition, country of origin was seen to have different impacts on consumers' behaviours as a function of their age [194–196]. As to digital strategies, research has shown that there are notable differences in the degree of digitalisation in the German wine industry; in general, the larger cooperatives' processes are more digitalised than are the smaller [197]. In terms of competition strategies, the research suggested that, in the United States, leveraging social capital to build relationships with partners enhanced the performance outcomes of firms' product-market strategies, both domestically and internationally [175].

Research also identified the key factors that influence wineries' performance, showing the importance of internal, resource-based factors (e.g., company size, labour productivity, financial ratios) [171], social capital [175], geographical indications, country of origin [198,199], stakeholder engagement, open innovation and co-creation [200]. The identification of these factors can guide the development of future strategies.

The green cluster represents recent research into 'sustainability'; this can be divided into two perspectives, the managerial and the consumer's viewpoint. From a managerial viewpoint, studies assessed sustainability practices and the degree of adoption of these practices, examining environmental, social and economic aspects along the wine chain [166,201]. Some examples are the water-saving technologies applied in vineyards [202], and wine packaging alternatives to glass bottles (bag-in-box, aseptic carton, polyethylene terephthalate bottles) [129,164,166].

Extensive research, undertaken from the consumer's perspective, highlighted the connectedness between the 'sustainability' and 'consumer behaviour' themes (green and blue clusters, respectively). Studies explored consumers' preferences for organic wine, sustainability-related wine attributes [203,204] and motivations for the consumption of natural wine [205]. The findings underscored that consumers prioritise attributes, such as 'geographical indications', 'grape variety', 'sustainable certification', 'vintage' and 'price' when purchasing wine. In addition, wines from Old World wine-producing countries, wines aged in barriques and/or sealed with an oak cork, were perceived as the most natural.

Much research delved into consumers' willingness to pay premium prices for natural, eco-certified and healthy (such as resveratrol-enriched) wines, which may be based on both strategic decisions (organic production methods, certification guarantees) and consumers' characteristics, such as their attitudes, behaviours (drinking frequency and occasion) and sociodemographic and lifestyle profiles [130,132,206–208].

The blue cluster represents research into 'consumer behaviour'. Recent studies have investigated consumer preferences for wines by gender and generational cohort [209–212]. The findings indicated that there are no gender-based differences in consumption frequency. Baby Boomers drink sparkling wine less frequently. Millennials and Gen Z consume wine less often, and prefer social on-premise settings when they do. Millennials show a slightly higher willingness to pay more, and tend to prefer carbon-neutral brands. Gen Z demonstrate a higher preference for sparkling wine than do other age groups, and show more interest in labels and packaging. They also base their decisions on varietal character and alcohol level.

Many articles in this theme identified wine market segments based on consumer characteristics and purchasing behaviours [213], lifestyle [140,214] and emotions experienced while consuming wine [137]. Other research examined factors that positively or

negatively affect consumers' wine purchasing behaviours, such as risk perception and their engagement with the product [215], specific design attributes (e.g., labels, type of bottle, bottle seal, brand name) [149,216], sensory quality signals (variety, sensory description, interpretive sensory label) [152] and the music genre played while tasting the wine [217]. Moreover, a scale that measures consumer xenocentrism (preference for foreign products for the purposes of social aggrandisement) in the context of wine has recently been validated [218].

The yellow cluster represents recent 'wine tourism' research. From the wine tourists' perspective, themes and attributes linked to their wine-related experiences were extracted from their online reviews [178,219]; wine tourists' experiences in hotels in producing regions were grouped under the dimensions of wine product, lodging, food service, scenery, staff, transportation and recommendations. In addition, major winescape-related elements were identified: guided tours, core wine product, tour planning and logistics, complementary activities, food and dining and nature and prominent scenery [220]. Some research also used the data from online reviews to identify linkages between wine tourism and wellness, concluding that wine provides benefits to the body, mind, spirit and environment. Moreover, in the context of tasting rooms, studies showed that tourist satisfaction was determined by physical aspects (e.g., furniture, decoration, views, cleanliness, staff conduct) and the trust they held in the staff (e.g., in their transactions) [184]; again, in the tasting room context, the positive emotions generated by the product's novelty were shown to explain purchase intentions [143]. In addition, consumers' motivations to visit wine destinations were identified; these included local attractions and culture, wine-related motivations, adventure, nature and sports, price, nightlife and shopping [145,221].

From a managerial viewpoint, it was found that studies under this theme also related to the red, 'strategy' cluster, and explored opportunities for wineries to bolster their business tourism-related marketing strategies, such as enhancing the experiential aspect of their wine tourism offers and focusing on diaspora marketing [144,222]. In addition, emphasis was placed on the role of wine cellars as cultural attractions in rural tourism development [223]. This cluster also includes review articles in which wine tourism is treated as an important theme in gastronomic heritage settings [224], wine and grape science [225] and, more broadly, in the tourism field [226].

The purple cluster represents commercially focused research into 'wine economics'. Studies examined the economics of production, distribution/trading, exports/imports, wine consumption and advertising investment. For example, some studies assessed the determinants of wine exports [227]. Furthermore, global wine market models and projections analysed the trade-reducing effects of recent worldwide events (e.g., Brexit, additional tariffs on imports, COVID-19) [228,229]. In addition, demand patterns of wine in the United States' population were analysed using economic (e.g., per capita income and prices) and demographic data [230]. More specifically, McCannon [231] applied a computational linguistic algorithm and hedonic price regression to show that wine descriptions convey information to US consumers that affect their demand and, ultimately, wine prices.

Studies in this cluster also assessed the relationships between the trading factors associated with wine industry performance. For instance, Nesselhauf et al. [232] found price to be the most important factor for consumers when they buy environment-friendly wines, and Fanasch et al. [233] showed that the costs of sustainable certification in wines might be avoided on the basis that self-declaration may be sufficient to charge a price premium. Dong et al. [234] applied machine learning classification algorithms to 15,000 online reviews to predict the quality of wines. These studies further emphasised the interplay between wineries' strategies (red cluster), consumer behaviours (blue cluster) and economic performance measures (purple cluster).

The cyan cluster represents research into 'sensory' aspects. In this theme, research assessed consumers' preferences, gastronomic experiences and perceptions of wine quality in terms of its sensory characteristics, including colour, aroma and mouthfeel [235]. For example, Chinese consumers prefer 'dry red', 'refreshing and soft taste', 'still type', 'moderate aroma degree and mellow aroma' and 'sweet wine' sensory attributes [236]. Other studies analysed the sensory and chemical properties of wines that make them regionally distinctive, and how this association impacted on consumers' decision-making, explicitly linking this cluster with the consumer behaviour cluster [237–239]. For example, 'mint', 'cooked vegetal', 'viscosity', 'dark fruit' and 'savoury' attributes were identified in Shiraz/Syrah wines. In addition, experimental research using food-wine pairings, based on sensory profiles, showed that suitable pairings enhanced liking, expected wine prices, positive emotions, memorability, loyalty ratings and word-of-mouth recommendations.

Research under this theme showed that wine assessors, when categorising wines, are driven by sensory characteristics; conversely, when categorising wine labels, they are mainly driven by their knowledge and experience [240]. Emerging biotechnologies are being used to preserve freshness in wines (using aroma volatile compounds and organic acids) and to produce wines that align with consumer demand [241]. Artificial aging technologies that simulate the traditional barrel maturation of wine are becoming increasingly popular due to their capacity to shorten aging times, improve wine quality and reduce production costs while meeting market demands [242].

4. Conclusions

The present study analyses the evolution of research into wine marketing. To the authors' knowledge, this is the first bibliometric study to focus specifically on wine marketing, and that uses data from both WoS and Scopus (in a longitudinal approach). By doing so, this study contributes to the wine marketing literature by theoretically outlining the intellectual structure of the field over a three-decade period.

The following conclusions can be drawn from the results. First, there has been a sharp growth in wine marketing-related research in recent years, which justifies investigating the knowledge generated in the field, its evolution and current trends. Moreover, the citation metrics extracted from WoS and Scopus show that this research has had significant academic impact. This reinforces the conclusion that marketing plays a pivotal role in the wine industry: New World producing countries have leveraged marketing techniques to expand their global market share, while Old World producers use them to sustain their market positions, particularly in the face of declining domestic consumption.

Second, it was shown that the journals with the highest production did not necessarily focus exclusively on wine. In fact, the most productive and impactful journals were in fields as diverse as business, economics, food science and technology, agricultural economics and policy, environmental science and green and sustainable science and technology. This demonstrates the multidisciplinary nature of research into wine marketing.

Third, it is noteworthy that the most productive authors were mostly affiliated with universities and research centres in wine-producing regions. This highlights the influence of cultural, economic and industrial contexts on centres of scientific production, and the potential for knowledge transfer from universities to industry and society. Johan Bruwer (University of Adelaide, Australia) is the most productive author, and has had the highest impact; five of his publications are among the 20 most influential in the field.

Fourth, the co-word analysis revealed that wine marketing-related research themes have grown and diversified over time. The two main research streams that persisted throughout the period were consumer behaviour and quality and price, with wine tourism research also salient in the second and third periods.

Consumer behaviour was the most important and impactful theme during the whole period. In all periods, studies addressed market segmentation and analysed the factors that determine consumer attitudes, behaviours, preferences and, ultimately, decision-making. From the second period onwards, sustainability and corporate social responsibility gained ground. These results underscore a persistent challenge facing the wine industry, that is, there are many, diverse market segments, characterised by generation-based differences in wine preferences and consumption habits, and by traditional factors, such as lifestyle, purchase frequency and quality perceptions. Consequently, there is a pressing need to understand and effectively target younger populations; suggestions are made, below, that can guide future research in addressing this critical segment.

The price and quality stream was the second most important and impactful throughout the three periods. In the emergent period, the factors that affect pricing and the influence of price on consumer preferences were identified. However, during the growth and rapid expansion periods, quality-related issues expanded beyond the quality-price relationship; studies examined the attributes that influence consumers' and experts' perceptions of wine quality and the relationship between perceived quality and willingness to pay more. Notably, managerial-focused research looked at producers' adoption of quality standards and explored whether, and how, contextual and wine production conditions influenced quality.

The wine tourism stream emerged in the growth period. In the rapid expansion period, this stream was partially absorbed by the consumer behaviour theme, although it initiated the new theme of wine tourist satisfaction. In the growth period, the emphasis was on identifying wine tourist segments and describing their profiles, but studies also began to explore the wine tourist experience and to provide managerial recommendations for sectoral growth. In the rapid expansion period, when the wine tourism industry was relatively developed, studies examined the wine tourist experience and tourist satisfaction, their determinants and consequences, in various contexts, such as wine routes, wine festivals and wine tourism destinations. Wine tourism has emerged as an alternative revenue stream for wineries, with its potential being bolstered by its role in fostering sustainable development in rural destinations. To ensure the success of their tourism endeavours, wineries must design, implement and monitor wine tourism strategies. To do so, wineries should engage key regional stakeholders in the process, and attract visitors who are enthusiastic about co-creating the wine tourism experience.

Fifth, it is notable that three new themes appeared in the final period: sustainability, performance and social media. Sustainability, an important managerially oriented theme, focuses primarily on the adoption of sustainable practices. Consumer willingness to pay a premium for organic wines also provoked interest. In this regard, one of the main practical implications of the present study is its identification of the crucial role of sustainability for firms' competitiveness. Sustainably orientated wine producing practices will impact on product innovation, production processes and organisational strategies. Consequently, the industry must address the barriers that hinder the adoption of sustainability, such as resource constraints and conflicting motivations. Furthermore, as consumer interest in environmental issues continues to rise, efforts must be made to effectively communicate the results of firms' sustainability practices and the suitability of environmental innovations which are not currently accepted, such as alternative packaging to glass bottles.

The 'performance' theme explored the economic performance and market share of wineries, their drivers, and the business models they use to achieve enhanced outcomes. In a complex and competitive landscape, characterised by the implementation of sustainable practices, wineries should go beyond addressing only internal and resource-based factors. Embracing open innovation, and co-creation practices, can enhance their performance in this dynamic environment.

'Social media' was identified as an emergent, but still underdeveloped, theme. In this context, consumer engagement is key, and research has tried to determine which content drives engagement on digital platforms. In addition, wineries' digital marketing strategies received attention.

Social media platforms are key channels for wine brands; they function both as promotional tools and as valuable sources of consumer insights. The digital ecosystem presents an interesting avenue for future research from which the industry can benefit. Future research in wine marketing might explore understudied social media platforms with high penetration rates among young people, such as TikTok, as this demographic exhibit distinct wine consumption behaviours and consume less than other age groups. Specifically, investigating the persuasive impact of wine-related user-generated content shared by influencers could offer valuable insights. This research could examine factors such as source effect, by analysing how the influencer's volume of followers (ranging from micro to macro influencers), sponsorship disclosure and the creative format of the message (image, video, text with hashtags) influence audiences' attitudes and behavioural intentions. This research can help industry practitioners to tailor their digital marketing communication strategies to effectively reach, and engage with, their target audiences on emerging platforms. Recognising that a one-size-fits-all approach to digital marketing is not advisable across the diverse social media platforms and audience segments, adapting strategies founded on research-based insights could enhance marketing effectiveness. Moreover, beyond traditional metrics, such as reach and

engagement, future research might evaluate the persuasive impact of source effects, sponsorship disclosure and creative formats on conversion rates and positive word-of-mouth, which could provide actionable insights for the wine industry that can drive positive business outcomes.

Sixth, a study objective was to identify research trends. The bibliographic coupling identified six (three of which had been previously identified): strategy, sustainability, consumer behaviour, wine tourism, wine economics and sensory aspects.

The new research trend 'strategy' is reflected in studies into wineries' and wine cooperatives' business models, and into strategies adopted in the sector, and on their outcomes. Thus, this trend has a strong managerial orientation.

Another new research trend is 'wine economics', featuring economic approaches to exports/imports and market projections and the exploration of winery performance-related metrics.

Last, the sensory aspects of wine and their relationship with marketing is a trend that has gained importance in recent years. In particular, growing interest has been shown in the influence of the chemical and sensory attributes of wine on consumer preferences and quality perceptions. Moreover, innovations in other fields, such as biotechnology, might help produce wines that align with consumer demands.

5. Limitations

This work has some limitations. First, the initial data collection (key terms and databases chosen) had a significant impact on the scientometric analysis's findings. This research was based on bibliographic data extracted from leading journals indexed on the WoS and Scopus databases. One limitation of these databases is that English language publications are overrepresented; they seldom include articles published in other languages (e.g., French, Italian, Spanish) which could have a significant impact on this area of study. In addition, although the present study draws on the most important databases, we analysed only the top 20 most productive journals covering the topic. This approach runs the risk of overlooking contributions that could offer unique perspectives or different viewpoints on wine marketing. Future research might use more databases (e.g., Google Scholar) and draw on more journals, thus, providing a broader spectrum of research, which would enrich the results.

Second, the study applied publication and citation-related analyses, co-word analysis and bibliographic coupling. While these techniques are the most suitable for addressing the research questions and fulfilling the objectives of the study, other bibliometric techniques, such as co-citation and co-authorship analysis, might provide further insights.

Third, our study concentrates on identifying and exploring research themes within the wine marketing field, their evolution over time, and current trends. In addition to identifying/exploring themes, future research could delve deeper into the main findings using meta-analytic approaches and/or systematic reviews.

Disclosure statement

The authors report there are no competing interests to declare.

Declarations

Review and/or approval by an ethics committee was not needed for this study as it didn't involve direct interaction with individuals or their sensitive data. For the same reason, there was no reason to seek informed consent.

Data availability statement

Data will be made available on request.

CRediT authorship contribution statement

Jesús Martínez-Navarro: Writing – review & editing, Writing – original draft, Visualization, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Ricardo Sellers-Rubio:** Writing – review & editing, Writing – original draft, Visualization, Supervision, Methodology, Investigation, Data curation, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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