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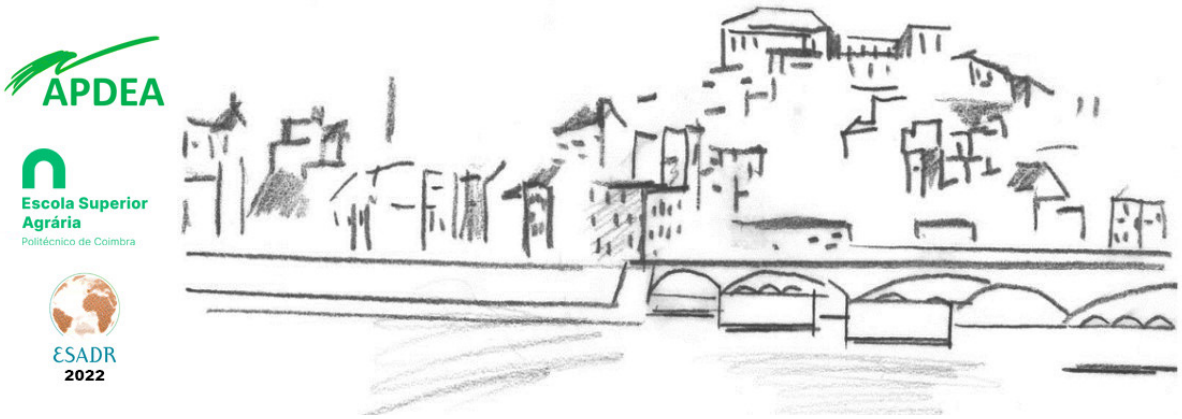

Assessing sustainability performance: a comprehensive overview of the Portuguese wine sector

Avaliação de desempenho em sustentabilidade: análise da perceção do sector vitivinícola em Portugal

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Abstract: Sustainability assessment is a very subjective and complex procedure. However, whether to cope with climate change, market pressures or new environmental policies, winegrowers are today looking for ways to improve and measure their performance. Nevertheless, there is still a great demand of more information and better evaluation methodologies as most of general assessment frameworks are environmentally focused, non-context-comprehensive or even unfit to evaluate permanent crops such as viticulture. To consider context-comprehensiveness is therefore seen as fundamental in research of this nature. Our objective is to explore nationwide perceptions of upper echelon individuals from the Portuguese wine industry regarding sustainability issues and better ways to assess it. By covering nine of the 14 wine regions in Portugal, the aim is to spot intercultural trends and get a wider picture of the sector´s sustainability awareness. A grounded theory approach was used for the complexity of the topic and for allowing to uncover potential perspective-paradoxes or trade-offs. After collecting data through in-depth interviews, an inductive qualitative-content analysis was applied using IRAMUTEQ software. Results displayed key criteria and insights grouped in four clusters from three distinct ramifications. Beyond the mention of critical factors about the sector´s environmental impacts from the production to packaging phase, distribution and transportation, concerns regarding intergenerational equity gap and non-equitable development opportunities for rural areas were also gathered. One ramification was based on the need to have access to proper sustainability assessment tools. From the urgency to develop a sustainability framework or even certification scheme for increasing consumer demands and export market pressures, to the importance to provide a practical toolkit with lifecycle guidelines, user-friendly and able to support decision-making, two clusters were created. This study reported findings can serve as a reference to wine managers and policy-makers pursuing sustainable development goals.

Keywords: assessment tools, discourse analysis, grounded theory approach, nationwide study, sustainability framework.

Resumo: A avaliação da sustentabilidade é um processo muito subjetivo e complexo. No entanto, seja para fazer face às alterações climáticas, às pressões do mercado ou às novas políticas ambientais emergentes, o sector vitivinícola procura hoje melhores formas de aperfeiçoar e medir o seu desempenho em sustentabilidade. Há, contudo, ainda uma grande demanda por informação de qualidade, melhores dados e metodologias de avaliação. A maioria dos instrumentos de avaliação hoje disponíveis continuam a manter um foco essencialmente ambiental, são bastante genéricos em relação ao contexto sob avaliação, ou mesmo considerados inadequados para avaliar culturas permanentes, como é o caso da viticultura. Ter em consideração o contexto sob avaliação é visto como fundamental e crítico no que diz respeito a questões relacionadas com a sustentabilidade. O objetivo deste trabalho de âmbito nacional é explorar as várias perceções e ideias recolhidas junto de atores-chave do sector vitivinícola em Portugal, sobre questões relacionadas com uma produção de vinho mais sustentável e melhores formas de avaliar o desempenho do sector. Este estudo ao abranger nove das 14 regiões vitivinícolas em Portugal, permite detetar tendências interculturais e melhor compreender o nível de conhecimento e preocupação do sector relativamente a práticas mais sustentáveis e formas de avaliar o seu desempenho. Usou-se a Grounded Theory como abordagem metodológica tendo em conta a complexidade do tópico em estudo, assim como por permitir expor possíveis paradoxos, tensões e trade-offs existentes. Após a realização de entrevistas semiestruturadas para recolha de dados qualitativos, recorreu-se ao software IRAMUTEQ para efetuar uma análise indutiva de conteúdo textual. Os resultados exibiram quatro classes de vocabulário homogéneo, provenientes de três ramificações claramente distintas. Para além de frequentes comentários relacionados com os principais fatores responsáveis pelo impacto ambiental do setor, desde a fase de produção à fase de embalamento, distribuição e transporte, foram também expostas preocupações associadas com a uma fraca transmissão intergeracional da atividade assim como de oportunidades e dinâmicas não equitativas de desenvolvimento rural entre regiões. Uma das ramificações sustenta também a necessidade do sector ter acesso a ferramentas de avaliação de desempenho adequadas às particularidades da atividade, assim como um referencial ou esquema de certificação de sustentabilidade de modo a dar resposta às demandas dos consumidores ou pressões do mercado. A importância de fornecer um guia prático com diretrizes de todo o ciclo de vida, fácil de usar e capaz de apoiar a tomada de decisão dos intervenientes foi também demonstrada em duas classes textuais. Os resultados deste estudo podem ter interesse e servir como referência estratégica quer para produtores de vinho como responsáveis políticos com foco sobre os objetivos de desenvolvimento sustentável.

Palavras-chave: ferramentas de avaliação de desempenho, análise textual discursiva, grounded theory, estudo de âmbito nacional, framework de sustentabilidade.

1. INTRODUCTION

According to the recently published IPCC report (Intergovernmental Panel on Climate Change, 2021), global warming has already made irreversible changes to many of our planetary support systems and disturbed vulnerable agricultural ecosystems more susceptible to climate change adverse impacts – such as viticulture for its strong interdependence to socio-economic and environmental conditions (United Nations, 2019). In fact, the viability of renowned wine regions is already being impacted and their wine quality affected due to extreme weather events and rising global temperatures (Cichelli et al., 2016; Dibari et al., 2019; Santos et al., 2013).

For such, more than ever, the global wine industry is starting to recognise the benefits of embracing a more sustainable approach and looking for ways to improve their sustainability performance (Flores, 2018; Keichinger & Thiollet-Scholtus, 2017).

Considering sustainability perception to be very subjective and complex, generally embedded in ideologies and often attached to personal beliefs, cultural backgrounds or political views (Santiago-Brown et al., 2015), the main objective of the present study is to explore and analyse insights of upper echelon individuals from the Portuguese wine industry regarding sustainability performance and the importance of its assessment.

After interviewing face-to-face several experts of the Portuguese wine industry, their discourses were empirically analysed to better understand their knowledge on such matter and to display key concerns shared between participants. A grounded theory approach was used due to the complexity of the topic.

Thus, this study focuses on the contextual dimension and the interactions amongst multi-actors and experts of the wine industry, here represented by key individuals from wine companies, winegrowers´ commissions, non-profit organizations and academia. Findings can serve as a reference to wine managers and policy-makers pursuing sustainability goals or willing to implement better ways to assess wine businesses performance from a sustainability approach.

2. SUSTAINABILITY INITIATIVES WITHIN THE WINE INDUSTRY

Whether to cope with climate change risks and impacts, market pressures, new environmental policies and even reduced available inputs, the global wine industry of today perceives sustainability as a competitive factor (Flores, 2018). Such sustainability awareness is also related to the recognition of the industry as being responsible for important environmental affairs and severe impacts either on the ecosystem or on surrounding communities and territories (Christ & Burritt, 2013).

In general, the wine industry has been pragmatically addressing sustainability issues since early 90s. The Lodi Winegrape Commission is considered the pioneer for launching in 1992 an integrated pest management (IPM) program for California winegrowers (Ohmart, 2008; Ross & Golino, 2008). Several guidelines and sustainability programs for winegrowing and wine production have since, been developed by institutions or organizations around the world.

Even though these sustainability initiatives were primarily embraced by the new world wine countries such as Australia, New Zealand, South Africa, Chile and more recently Argentina (Pomarici & Vecchio, 2019), several regional success cases have been reported amongst acknowledged old world wine countries, such as the Wines of Alentejo Sustainability Programme (WASP). WASP was the first wine sustainability programme in Portugal. It was launched in 2015 by the Alentejo Regional Wine Growing Commission (CVRA), the body that controls, protects and certifies Alentejo wines, and initially developed in collaboration with the University of Évora as a set of guidelines capable to support winegrowers from the region to produce wine in a more sustainable way (Wines of Alentejo Sustainability Programme, 2021).

Despite awareness towards sustainability and its assessment being progressively incrementing amongst the wine world, there is still a great demand of more and better information, quality data and improved methodologies to assess performance and sustainability credentials during the entire production process (Costa et al., 2020; Ferrara & De Feo, 2018; Matos & Pirra, 2020; Vázquez-Rowe et al., 2013).

Moreover, even though further action together with the creation of a number of frameworks and certification schemes have also improved, the reality is that we are still presented with poor transparency or lack of standardisation and agreement among interested parties (Ferrara & De Feo, 2018; Flores, 2018; Hayati, 2017; Vázquez-Rowe et al., 2013). Not only the meaning of producing wine in a more sustainable way is still vague and ambiguous, but there is not an internationally recognised assessment tool or indicators adequate to holistically evaluate winegrowing systems´ performance (Christ & Burritt, 2013; Corbo et al., 2014; Santiago-Brown et al., 2015; Thiollet-Scholtus & Bockstaller, 2015).

Bottom line, there is a prevalent and universal gap of relevant information on a wider scale concerning sustainable winegrowing assessment, and this knowledge-gap tends to restrict the exploitation of possible patterns associated to a particular culture or territory, helpful to design proper policies and guidelines for specific sustainability programs.

3. METHODS AND SOURCES

For the complexity of the topic and a clear lack of relevant and available data (Costa et al., 2020; Matos & Pirra, 2020; Santos et al., 2019), this study was based on a Grounded Theory approach.

This approach is considered appropriate to uncover potential perspective-paradoxes, in particular when dealing with a situation where little is actually known or studied on a contextual-basis. Grounded Theory is a qualitative research methodology capable of generating new theory grounded in the field (Mcghee et al., 2007). In other words, the discovery of new theory from data is enabled (Dunne, 2011).

This work focus on the analysis of several in-depth interviews (n=33) conducted in 2021 with upper echelon individuals from the Portuguese wine industry. Key decision makers were purposefully selected with different duties and responsibilities in the sector, as the goal was to involve experts that could speak to their own experiences as well as to the wine industry as a whole. A nonprobability sampling approach was therefore applied (Patton, 2002) as the grand majority of recruited participants have strategic roles determining some kind of organizational decision-making that tend to drive their organization towards sustainability outcomes.

All conducted interviews were face-to-face with leading specialists across 9 of the 14 wine regions of Portugal. Due to COVID-19 restrictions, interview sessions were carried out online via Teams (version 1.4.00.16575) until a saturation level was achieved (Patton, 2002).

Interviews were semi-structured despite managed according to a dialogue script on sustainability assessment and the relevance to measure performance credentials. For content analysis we used IRAMUTEQ software (version 0.7 alpha 2) and Excel. IRAMUTEQ software is suitable for this study purpose as it offers accuracy and rigor to qualitative textual data analysis (Ramos et al., 2019), but before employing an inductive qualitative-content analysis, all the information collected (interviews-recording) was transcribed and organised through a coding process for content analysis.

Several tests were then executed, from simple to multivariate textual analysis: (i) classical textual statistics to identify frequency of words, single words (hapax coefficient), grammatical classes, and root-based words (stemming); (ii) search for group specifications and factorial correspondence analysis (FCA); (iii) cluster analysis through Reinert's method using descending hierarchical classification (DHC); and (iv) analyses of similarity.

4. RESULTS

For the DHC analysis, corpus processing presented 1,298 active forms and the retention of the total corpus used by the software was 79.39% being therefore considered acceptable (Camargo & Justo, 2013).

The dendrogram-tree presented in Figure 1a shows the stabilisation of four emerging clusters occurring after three macro ramifications. Ramification R1 branched into cluster 3 (24.19%), ramification R2 originated cluster 4 (19.80%), and the last ramification R3 diverged into cluster 2 and cluster 1, together representing 56% of the total corpus.

Afterwards, a FCA was also achieved so both analysis could be interpreted together and discourses linked into variables. As focus shift from the individuals to the way their discourses were organised and interacting, a better understanding of the complex web of relationships between participants´ perspectives was conceivable (Plumecocq, 2014).

In Figure 1b, we have all the identified clusters presented in a Cartesian plane by colour. The separation of all three ramifications is clear, in particular between R2 and R3 on the horizontal axis with cluster 1 (red) and cluster 2 (green) placed in the top-left quadrant (Q1) and cluster 4 (purple) in the bottom-left quadrant (Q3). Regarding R1, cluster 3 (blue) isolation from the others is also established, mostly if considering the vertical axis as such is exposed between both right quadrants (Q2 and Q4).

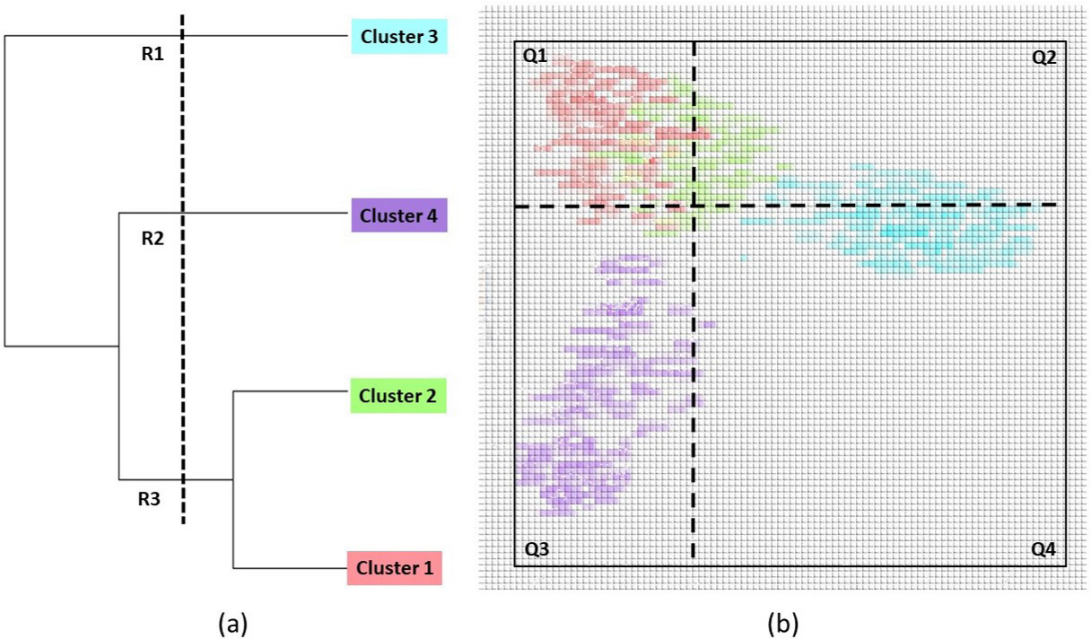

Figure 1. Multivariate textual analysis illustrations: (a) Dendrogram tree with four emerging clusters; (b) Factorial representation of clusters in a Cartesian plane by colour.

Thus, regarding the vertical axis, a solid isolation from R1 is exposed and some kind of relationship may be perceived between clusters from R2 and R3, by remaining in the left-quadrants. But, in order to better explore the role of the horizontal and vertical axis, and understand all the relationships and connections between clusters, an association between stronger words and clusters was performed by acknowledging that IRAMUTEQ uses the chi-square test ($\chi 2$) for creating a dictionary of words. A lower chi-square value represent a lesser relationship between the variables (Plumecocq, 2014).

From such, it was observed a clear collection of more environmental and ecological concerns in cluster 3 from R1, ramification distantly displayed in the right-quadrants. Based on the analyses and scrutiny of gathered information from this study´s interviews, several key factors were mentioned as important to consider when rationalising about the sector´s environmental impacts, whether regarding viticulture practices, winemaking processes, packaging, and even distribution or transportation approach and distance.

Results therefore plainly show an eminent debate and concern on environmental sustainability and wine industry´s associated impacts by generating a distinctive and isolated ramification leading into a single cluster (cluster 3) placed apart in the Cartesian plane (Q2 and Q4). This understanding was somehow expected as defended in literature there is still a predominant environmental focus among wine sustainability research and sustainability assessment. This statement is particularly true if measuring specific impact categories such as carbon and water footprint based on Life Cycle Assessment methodology (Ferrara & De Feo, 2018; Lamastra et al., 2016). Also, environmental sustainability is receiving increased attention around the entire wine industry, from retailers to consumers, producers, or even governments and environmental groups (Anzivino et al., 2021; Christ & Burritt, 2013; Flores, 2018; Silverman et al., 2005).

Finally, while R1 was mostly about environmental burdens that should be considered when evaluating the impact of vineyard management and wine making practices, the other clusters were mostly regarding governance-related issues. While R2, gathered opinions on intergenerational

equity concerns and non-equitable development opportunities amongst different wine regions (cluster 4), R3 collected mostly commentaries on the pressing need to have access to a proper sustainability assessment tool, specifically made for the sector.

This final ramification (R3) only after several sub divisions was able to generate two strong clusters. Despite close to each other, while cluster 2 collected remarks on the importance to provide a practical toolkit with lifecycle guidelines, user-friendly and able to support decision-making, cluster 1 gathered observations on the urgency to develop a national or regional sustainability framework or certification scheme for growing consumer demands and export market pressures.

Thus, in summary this ramification was in general grounded on concerns attached to current export market pressures that most wine businesses are experiencing globally. It was then endorsed the need to develop a proper and practical framework capable to evaluate different stages of the process lifecycle, accessible and able to clearly communicate with decision-makers, consumers and stakeholders on the overall.

5. CONCLUSIONS

To close, despite numerous studies have browsed the dimensions of sustainability in the wine industry, with this study we applied a novel research approach by performing an inductive qualitative-content analysis after collecting impressions of several wine experts at national level.

However, regarding the relevance level of critical elements when assessing sustainability of the wine industry, although there is an overall consensus on the importance to sustain all components of sustainability, obtained results are in harmony with the literature respecting the predominant focus on environmental issues and the impact of the sector on natural resources and rural communities.

The main environmental issues mentioned by the interviewees included pesticides, herbicides and water use for irrigation on vineyards; energy use and winery waste or by-products; and glass packaging and its transportation. Regarding rural communities and related wine regions the most critical concerns were based on intergenerational inequity and non-equitable regional development opportunities. Finally, the need to develop a proper and practical toolkit for different stages of the process lifecycle, user-friendly and capable to support the winegrower and winemaker to make decisions towards sustainability-related goals while answering to export market pressures was also endorsed.

Theoretically, this work fills a literature gap by gathering and analysing relevant countrywide information often difficult-to-access on such complex and actual topic as sustainability assessment. From a practical point of view, the current study may serve as a reference to wine managers and policy-makers to eventually design proper policies and guidelines for regional development.

It should be acknowledged that this study did not reach all the full extent of wine regions in Portugal or wine advocates of the sector. Also, there are several limitations of using qualitative analysis and grounded theory as research methodology.

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References

Anzivino, A., Galli, M., & Sebastiani, R. (2021). Addressing tensions and paradoxes in sustainable wine industry: the case of the association "Le Donne del Vino". *Sustainability*, *13*(8), 4157. http://dx.doi.org/10.3390/su13084157.

Camargo, B., & Justo, A. M. (2013). *IRAMUTEQ. Tutorial para uso do software de análise textual IRAMUTEQ*. Florianópolis: Universidade Federal de Santa Catarina.

Christ, K. L., & Burritt, R. L. (2013). Critical environmental concerns in wine production: an integrative review. *Journal of Cleaner Production*, *53*, 232-242. http://dx.doi.org/10.1016/j.jclepro.2013.04.007.

Cichelli, A., Pattara, C., & Petrella, A. (2016). Sustainability in mountain viticulture. The case of the Valle Peligna. *Agriculture and Agricultural Science Procedia*, *8*, 65-72. http://dx.doi.org/10.1016/j.aaspro.2016.02.009.

Corbo, C., Lamastra, L., & Capri, E. (2014). From environmental to sustainability programs: a review of sustainability initiatives in the Italian wine sector. *Sustainability*, *6*(4), 2133-2159. http://dx.doi.org/10.3390/su6042133.

Costa, J. M., Oliveira, M., Egipto, R. J., Cid, J. F., Fragoso, R. A., Lopes, C. M., & Duarte, E. N. (2020). Water and wastewater management for sustainable viticulture and oenology in South Portugal-a review. *Ciência e Técnica Vitivinícola*, *35*(1), 1-15. http://dx.doi.org/10.1051/CTV/20203501001.

Dibari, C., Padovan, G., Merante, P., Leolini, L., Santos, J. C. A., Bindi, M., & Moriondo, M. (2019, June 24-25). Transferring scientific knowledge of climate change impact on European viticulture: the Clim4Vitis project. In *ADAPT2CLIMA 2nd International Conference* (pp. 3–4). Valbonne: Euro-Mediterranean Information System on Know-How in the Water Sector.

Dunne, C. (2011). The place of the literature review in grounded theory research. *International Journal of Social Research Methodology*, *14*(2), 111-124. http://dx.doi.org/10.1080/13645579.2010.494930.

Ferrara, C., & De Feo, G. (2018). Life cycle assessment application to the wine sector: a critical review. *Sustainability*, *10*(2), 395. http://dx.doi.org/10.3390/su10020395.

Flores, S. S. (2018). What is sustainability in the wine world? A cross-country analysis of wine sustainability frameworks. *Journal of Cleaner Production*, *172*, 2301-2312. http://dx.doi.org/10.1016/j.jclepro.2017.11.181.

Hayati, D. (2017). *A literature review on frameworks and methods for measuring and monitoring sustainable agriculture*. Rome: Food and Agriculture Organization of the United Nations.

Intergovernmental Panel on Climate Change – IPCC. (2021). *Climate change 2021: the physical science basis*. Cambridge: Cambridge University Press.

Keichinger, O., & Thiollet-Scholtus, M. (2017). SOECO: socio-economic indicators for viticulture and innovative cultural systems. *BIO Web of Conferences*, 9, 04012. https://doi.org/10.1051/bioconf/20170904012.

Lamastra, L., Balderacchi, M., Di Guardo, A., Monchiero, M., & Trevisan, M. (2016). A novel fuzzy expert system to assess the sustainability of the viticulture at the wine-estate scale. *The Science of the Total Environment*, *572*, 724-733. http://dx.doi.org/10.1016/j.scitotenv.2016.07.043.

Matos, C., & Pirra, A. (2020). Water to wine in wineries in Portugal Douro Region: comparative study between wineries with different sizes. *The Science of the Total Environment*, *732*, 139332. http://dx.doi.org/10.1016/j.scitotenv.2020.139332.

Mcghee, G., Marland, G. R., & Atkinson, J. (2007). Grounded theory research: literature reviewing and reflexivity. *Journal of Advanced Nursing*, *60*(3), 334-342. http://dx.doi.org/10.1111/j.1365-2648.2007.04436.x.

Ohmart, C. (2008). Innovative outreach increases adoption of sustainable winegrowing practices in Lodi region. *California Agriculture*, *62*(4), 142-147. http://dx.doi.org/10.3733/ca.v062n04p142.

Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). London: Sage Publications.

Plumecocq, G. (2014). The second generation of ecological economics: how far has the apple fallen from the tree? *Ecological Economics*, *107*, 457-468. http://dx.doi.org/10.1016/j.ecolecon.2014.09.020.

Pomarici, E., & Vecchio, R. (2019). Will sustainability shape the future wine market? *Wine Economics and Policy*, *8*(1), 1-4. http://dx.doi.org/10.1016/j.wep.2019.05.001.

Ramos, M., Valderez, L., & Amaral-Rosa, M. (2019). IRAMUTEQ software and discursive textual analysis: interpretive possibilities. In A. P. Costa, L. P. Reis & A. Moreira (Eds.), *Computer supported qualitative research advances in intelligent systems and computing* (pp. 58-72). Cham: Springer. https://doi.org/10.1007/978-3-030-01406-3.

Ross, K., & Golino, D. (2008). Wine grapes go green: the sustainable viticulture story. *California Agriculture*, *62*(4), 125-126. http://dx.doi.org/10.3733/ca.v062n04p125.

Santiago-Brown, I., Metcalfe, A., Jerram, C., & Collins, C. (2015). Sustainability assessment in wine-grape growing in the New World: economic, environmental, and social indicators for agricultural businesses. *Sustainability*, *7*, 8178-8204. http://dx.doi.org/10.3390/su7078178.

Santos, J. A., Grätsch, S. D., Karremann, M. K., Jones, G. V., & Pinto, J. G. (2013). Ensemble projections for wine production in the Douro Valley of Portugal. *Climatic Change*, *117*, 211-225. http://dx.doi.org/10.1007/s10584-012-0538-x.

Santos, M., Galindro, A., Santos, C., & Marta-Costa, A. (2019). Sustainability evolution of North and Alentejo vineyard regions. *Revista Portuguesa de Estudos Regionais*, (50), 49-63.

Silverman, M., Marshall, R. S., & Gordano, M. (2005). The greening of the California wine industry: implications for regulators and industry associations. *Journal of Wine Research*, *16*(2), 151-169. http://dx.doi.org/10.1080/09571260500331574.

Thiollet-Scholtus, M., & Bockstaller, C. (2015). Using indicators to assess the environmental impacts of wine growing activity: the INDIGO ® method. *European Journal of Agronomy*, *62*, 13-25. http://dx.doi.org/10.1016/j.eja.2014.09.001.

United Nations. (2019). *Global sustainable development report 2019: the future is now – science for achieving sustainable development*. New York: United Nations Publications.

Vázquez-Rowe, I., Rugani, B., & Benetto, E. (2013). Tapping carbon footprint variations in the European wine sector. *Journal of Cleaner Production*, *43*, 146-155. http://dx.doi.org/10.1016/j.jclepro.2012.12.036.

Wines of Alentejo Sustainability Programme – WASP. (2021). Retrieved in 2021, October 28, from http://sustentabilidade.vinhosdoalentejo.pt/en/wines-of-alentejo-sustainability-programme

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