Lausanne 2024 Abstract Submission

Title
The sustainability and transparency nexus in wine value chain literature: where are the gaps, and why do they matter?

I want to submit an abstract for:
Conference Presentation

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<tr>
<td>Inna Makarenko</td>
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<td><a href="mailto:inna.makarenko@helsinki.fi">inna.makarenko@helsinki.fi</a></td>
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Keywords
Sustainability, transparency, wine, value chains, supply chains, bibliometric analysis

Research Question
What is the role of transparency for sustainability dimensions in wine value chains - how can it contribute towards effective stakeholder communication, value creation and accelerate the progress towards SDGs?

Methods
Bibliometric analysis of 158 WoS-indexed publications on sustainability and transparency in wine chains through in-built WoS tools, VOS Viewer, and Biblioshiny from 2006 to 2023 is performed.

Results
Following bibliometric mapping with the analysis of dynamics, disciplines, SDG priorities, prominent topics, keywords, authors, networks, and most cited works, this paper highlights research gaps, with respect to missing dimensions.

Abstract
The COVID-19 pandemic and the impact of climate change have laid bare how multiple dimensions of sustainability are relevant for global agri-food value chains, including global wine value chains (Holweg & Helo, 2014; Phillips et al., 2022; Gannon et al., 2023). Global wine value chains are characterized by a high complexity of transactions, a high level of standardization and certification, and an increasing penetration of digital innovations (blockchain and
IoT technology). This implies that improving the sustainability and resilience of wine value chains is possible through increasing their transparency. Such increasing transparency not only promises to lead to greater efficiency gains but also to address equity concerns when it comes to pricing, market access and information asymmetries in the wine chain, hence to address social sustainability concerns. In this paper, we explore the role of transparency for different dimensions of sustainability in wine value (supply) chains towards effective stakeholder communication, preventing chain disruption and accelerating the progress towards SDGs. From a policy perspective, such progress is much desired as part of the EU’s ‘Farm to Fork Strategy’ implemented in 2020, since this strategy includes legislative and non-legislative initiatives to improve transparency in the food chain (Schebesta et al., 2020).

Previous reviews of sustainability in the global wine industry have focused on social sustainability, country case studies (South Africa, The USA, South Australia, New Zealand, France, Germany, and Italy), or wine grape growing systems (Trigo et al., 2023). However, other work has highlighted the need for more transparency in sustainability certification (Moscovici & Reed, 2018) and the absence of an integrated multi-criteria and quantitative framework for the assessment and communication of sustainability (Sgroi et al., 2023).

In light of the above evidence, it is clear that transparency dimensions related to sustainability in global wine value (supply) chains are an under-researched area, also lacking integration. Previous work on sustainability and transparency (Costa et al., 2022; Golicic, 2022) has focused on identifying greenhouse gas emission hotspots and thus carbon footprints in the wine supply chain (Ponstein et al., 2019; Navarro et al., 2017). Hence environmental stewardship seems to have typically received more attention than social sustainability in the wine value chain literature, keeping in mind that the wine supply chain literature is mostly focused on operations management and flow optimization aspects.

Strikingly, the social dimension was introduced in more recent papers (Gore et al., 2021). Among top-priority recommendations are facilitating the stakeholder engagement dialogue on price transparency and enhancing greater transparency about labour conditions and thus human rights and social transparency (De Steur et al., 2020; Broccardo et al., 2023; Piracci et al., 2022). Yet in spite of an apparent lack of a shared understanding of sustainability transparency dimensions in wine chains, there is an increasing digital innovation influence on the wine value chains (Westlund & Engström Roxendal, 2019; Costa et al., 2022). IoT, OCR, and blockchain technology can create a wine track and trace system evaluated in a real-life environment (Cakic et al., 2021), yet it remains unclear how this addresses the multiple dimensions of sustainability. While we observe increasing legislative sustainability initiatives addressing digitalization and transparency challenges, the academic evidence favouring the sustainability transparency dimensions in wine value chains seems controversial. Therefore, this paper aims to clarify the debate, using bibliometric mapping and a systematic literature review. More specifically, we use academic papers from the WoS database to investigate the transparency dimensions in wine value (supply) chains with the different bibliometric instruments, including (i.) in-built WoS tools by Clarivate Analytics as a Web of Knowledge platform extension for bibliometric analysis; (ii.) Biblioshiny, VosViewer as software for scientific mapping, network and occurrences investigation.

We observe that the research output on sustainability and transparency publications on wine chains shows a strong upward trend after the SDG adoption in 2015, with rapid growth in 2020. Strikingly, Environmental Sciences, Green Sustainable Science Technology, and Environmental Studies are the most widely used categories, highlighting the environmental focus of the papers. Differentiating publications by centrality (relevance) and development degree (density) on sustainability and transparency issues in wine chains unfolds a portfolio of sustainability topics, including management and life cycle assessment, corporate social responsibility, circular economy and waste optimization. The most influential clusters by the number of nodes and link strengths between them are wine sector-specific management cluster, and transparency assessment cluster, with the most influential nodes being life-cycle assessment, environmental impact, water footprint, and greenhouse gas emission. Blockchain and climate change are the most recent nodes in the publication sample. In sum, the most significant flows in the literature connect sustainability, the wine and wine industry, carbon emission and carbon footprint, suggesting that the environmental focus on sustainability transparency in wine chains is central, yet the social sustainability dimension is largely under-researched. Our paper provides specific suggestions how to fill this research gap, and why this is relevant.

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The sustainability and transparency nexus in wine value chain literature: where are the gaps, and why do they matter?

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January 30, 2024

Abstract

This paper systematically explores the role of transparency in the context of different dimensions of sustainability in the wine value (supply) chain literature. We identify transparency dimensions in the context of different sustainability and resilience dimensions, utilising a bibliometric analysis of 158 WoS-indexed publications through in-built WoS tools, VOS Viewer, and Biblioshiny from 2006 to 2023. The preliminary study includes a mapping of the scientific landscape and the beginning of a systematic literature review of the most cited publications, with the aim to offer a comprehensive overview and highlighting areas for further research relevant to economists and management scholars. The preliminary analysis suggests several gaps in methodological frameworks and sustainability dimensions for advancing our understanding of the sustainability and transparency nexus in the context of the wine value chains literature, particularly with respect to social sustainability dimensions.

Keywords: sustainability transparency, wine, value chains, supply chains, bibliometric analysis

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2 Inna Makarenko is gratefully acknowledging the support of the MSCA4Ukraine project, which is funded by the European Union.
1. Introduction

Economists and business scholars maintain a lively debate on shareholder versus stakeholder principles in the corporate governance debate, some calling for a “modern” stakeholder value system (Bottenberg, Tuschke & Flickinger, 2017; Desjardine et al., 2023). At the same time, the COVID-19 pandemic and the impact of climate change have laid bare how multiple dimensions of sustainability are relevant for global agri-food value chains, including global wine value chains (Holweg & Helo, 2014; Phillips et al., 2022; Gannon et al., 2023). Global value chains are characterized by a high complexity of transactions (Gereffi et al., 2005; Gereffi et al. 2012), a high level of standardisation and certification, and an increasing penetration of digital innovations including blockchain and IoT technology (Galati et al., 2021). Yet improving the sustainability and resilience of wine value chains is perhaps most promising through their greater transparency (Costa et al., 2022).

In this paper, we are exploring the role of transparency for different dimensions of sustainability in wine value (supply) chains towards effective stakeholder communication and value creation, preventing chain disruption and accelerating the progress towards SDGs. From a regulatory perspective, the EU, as a leading region in the wine industry with 65% of the world's wine production, 60% of global consumption, and 70% of exports (Katunar et al., 2022), has implemented the Farm to Fork Strategy in 2020. The strategy includes legislative and non-legislative initiatives to improve transparency in the food chain (Schebesta et al., 2020) and thus highlights the practical relevance of transparency measures and measurement. In the following sections, we aim to systematically consider the nexus of sustainability and transparency themes in the wine value chains literature, to identify potential research gaps.
2. Literature

Much of the literature on the nexus of wine and sustainability has focused on environmental sustainability. Yet recently, Forbes et al. (2020) conducted a comprehensive review of sustainability in the global wine industry, focusing on social sustainability and country case studies (South Africa, The USA, South Australia, New Zealand, France, Germany, and Italy). Other works have explored tools and standards in the context of wine grape growing systems (Trigo et al., 2023). However, the need for more transparency in sustainability certification (Moscovici & Reed, 2018) and the absence of an integrated multi-criteria and quantitative framework for the assessment and communication of sustainability (Sgroi et al., 2023) are apparently a striking issue in the wine chains literature. In this context, transparency dimensions of sustainability are an under-researched area. Several papers are devoted to one of the pillars of sustainability, hence one of the triple-bottom line dimensions. Nevertheless, Costa et al. (2022) highlights that in the wine sector, sustainability needs to integrate dimensions from economics, ecology, and community dimensions for both grape and wine production, where the increase of transparency dimensions is vital. Similarly, Golicic (2022) highlights the importance of environmental practices followed by financial sustainability.

Earlier studies on sustainability and transparency clearly highlight the environmental pillar of sustainability and its impact on wine value chains, especially with respect to greenhouse gas emission assessments. Ponstein et al. (2019) identify greenhouse gas emission hotspots in the wine supply chain, which are particularly striking with respect to packaging as a low-hanging fruit for regulators. Navarro et al. (2017) identify the carbon footprint as the wine chain's most widely used environmental indicator. In sum, it seems that much of the literature has focused on the environmental pillar, and in particular environmental
stewardship has received more attention in the wine industry, in practice and in the literature, than social sustainability (Sgroi et al., 2023; Pullman et al., 2010).

Yet the social dimension is addressed in more recent papers. For example, is investigated in the Italian wine chain according to the UN Guiding Principles on Business and Human Rights (Gore et al., 2021). Among top-priority recommendations arising from Gore et al. (2021) are facilitating the stakeholder engagement dialogue on price transparency and enhancing greater transparency about labour conditions with respect to human rights. Social transparency and sustainability in SME’s in the wine chain have been addressed by several papers with a focus on greenwashing and multidimensional sustainability assessment (De Steur et al., 2020; Broccardo et al., 2023), as well as a focus on social sustainability labelling (Piracci et al., 2022).

Besides an apparent lack of shared understanding of sustainability and transparency dimensions in wine chains, a second striking finding is the strong digital innovation focus in the wine value chain literature and practice (Westlund & Engström Roxendal, 2019; Costa et al., 2022). Cakic et al. (2021) suggest that IoT, OCR, and blockchain technology can create a wine track and trace system in a real-life environment, providing additional trust and transparency to all stakeholders.

Considering the above evidence, which is at this stage merely a rough initial sketch of the literature on the nexus of sustainability and transparency in the context of wine chains, the literature does not seem to provide a clear picture of how transparency matters for whom (consumers, value chain businesses, regulators) and as part of which sustainability dimensions in wine value chains. Therefore, bibliometric mapping and a systematic literature review was deemed
helpful in the clarification of these issues, thereby also answering the question to whom the identification of these gaps may bring value.

3. Data and Methods

We used academic papers from the WoS database to investigate the transparency dimensions in wine value (supply) chains with the different bibliometric instruments, including 1) in-built WoS tools by Clarivate Analytics as a Web of Knowledge platform extension for bibliometric analysis; 2) Biblioshiny, VosViewer as software for scientific mapping, network and occurrences investigation.\(^3\) In-built WoS tools were employed for selection, initial filtration and import of publications from WoS.

Our search string includes three main areas combined with the Boolean operator “AND”: 1) ‘value chain’ – related to supply chain management; 2) ‘sustainab*’ – related to sustainability focus; 3) ‘trans*’- about transparency focus and 4) wine – related to specific agri-food sector as an object of the research. The time span covers the earliest available period in WoS, which started in 2006 and finished in 2023 as a complete year. Additional sample characteristics are the following:

- 81 sources of publication;
- 575 authors with a 25.95 % share of international co-authorship;
- 21.65% of the annual growth rate;
- 4.2 years of document average age.

The annual growth rate and document average provide proof of relatively new concepts and areas of the research explored. Applying the methodology of bibliometric mapping, our preliminary analysis pays attention to output and

\(^3\) We note that notions of ‘supply chains’ and ‘value chains’ are frequently used interchangeably (Steiner, 2017; Steiner, 2007), yet consider that an operations management and efficiency focus characterizes mostly the supply chain perspectives (Chopra & Meindl, 2016) and contrasts with more circular-economy focused, cradle-to-cradle thinking in sustainability-focused value chains (Hellweg & Canals, 2014).
citation dynamics, discipline composition of the 158 papers sample, SDGs priority, key topics, most relevant keywords and clusters, most productive authors, authors collaboration and networks, and finally – most cited paper.

4. Results

Scientific mapping with the analysis of dynamics, disciplines, SDGs priority, prominent topics, keywords and clusters, authors, networks, and most cited papers highlights the necessity of greater awareness for an all-dimension transparency in wine chains literature and practice. While this implies a greater need for a holistic understanding of which transparency dimensions matter in and across which sustainability dimensions, this also suggests that there may be important practical implications with regard to governance (regulator) and sustainable supply chain management in practice.

4.1. Output and citation dynamics

The dynamics of the output in sustainability and transparency publications on wine chains is highly upward-trending after the SDG adoption in 2015, with rapid growth in 2020 (Figure 1).
Figure 1. Sustainability and transparency publications in wine chains in 2006-2023: papers dynamic and citation.
Source: elaborated by authors (WoS).

4.2. Discipline composition

Environmental Sciences, Green Sustainable Science Technology, and Environmental Studies are the most widely used categories, supporting the environmental focus of the papers (Table 1).

Table 1. Sustainability and transparency publications in wine chains in 2006-2023: top-10 WoS categories, papers.

<table>
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<tr>
<th>Web of Science Categories</th>
<th>Record Count</th>
<th>% of 158</th>
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<tbody>
<tr>
<td>Environmental Sciences</td>
<td>60</td>
<td>37.736</td>
</tr>
<tr>
<td>Green Sustainable Science Technology</td>
<td>51</td>
<td>32.075</td>
</tr>
<tr>
<td>Environmental Studies</td>
<td>41</td>
<td>25.786</td>
</tr>
<tr>
<td>Food Science Technology</td>
<td>26</td>
<td>16.352</td>
</tr>
<tr>
<td>Engineering Environmental Management</td>
<td>19</td>
<td>11.950</td>
</tr>
<tr>
<td>Management</td>
<td>18</td>
<td>11.321</td>
</tr>
<tr>
<td>Agronomy</td>
<td>17</td>
<td>10.692</td>
</tr>
<tr>
<td>Agricultural Economics Policy</td>
<td>12</td>
<td>7.547</td>
</tr>
<tr>
<td>Business</td>
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Management science, business and economics, which are potentially highly relevant for transparency research, have low shares (5.0-7.5%).

4.3. SDGs priority

The evidence suggests that 85.5% of papers out of 158 are assigned to 3 SDGs: 12 responsible consumption and production, 2 zero hunger, and 13 climate change (Figure 2).

![Figure 2. SDG priority in publications on sustainability and transparency in wine chains in 2006-2023.](image)

Source: elaborated by authors (WoS).

While SDG 2 is relevant for agri-food in general and wine chains specifically, and SDG 13 highlights the role of agri-food in climate risk mitigation, SDG 12 has several dimensions. First, these are relating to sustainability standards in vineyard, winery and waste management, with wine certification and labelling addressing the industry benchmarks and creating the basis for transparency.
Second, they are relating to data disclosure and a transparent environment for stakeholder communication as a specific target of SDG 12. And finally, it is the responsible consumption of the wine by the consumers and the spreading of the wine culture that relates to SDG 12.

4.4. Key topics

Differentiating publications by centrality (relevance) and development degree (density) on sustainability and transparency in wine chains gives a list of motor topics (Figure 3). Sustainability is included in the same cluster as management and life cycle assessment and corporate social responsibility – into performance, circular economy and performance. Waste optimisation is close to them, while chain dynamics, standards, and global value chains are older among the motor topics.

Figure 3. Sustainability and transparency publications in wine chains in 2006-2023: the keywords' most prominent topics by density and centrality.
4.5. **The most relevant keywords and clusters.**

The highest density and relevance of the abovementioned topics are supported by keyword frequency. Management, sustainability, life-cycle assessment, performance, and impact are the most frequently used keywords in the publications investigated. They are assigned to sustainability and chain management themes. The second frequency level is assigned to transparency-related keywords such as climate change, environmental impact, frameworks, and corporate social responsibility.

![Word cloud showing the most frequently used keywords in sustainability and transparency publications in wine chains in 2006-2023](image)

**Figure 4.** The most frequently used keywords in sustainability and transparency publications in wine chains in 2006-2023

Source: elaborated by authors (Biblioshiny).
Figures 5a and 5b provide preliminary results on the keywords in publications by the level of co-occurrences. The most influential clusters by the number of nodes and link strengths between them are (in descending order):

**Orange** – sustainability cluster with the most influential nodes circular economy, waste and by-products.

**Yellow** – wine sector-specific cluster with the most influential nodes wine, governance, corporate social responsibility, determinants and standards.

**Red** – management cluster with the most influential nodes performance, wine industry, supply chains, supply chain management and corporate sustainability.

**Blue** – transparency assessment cluster with the most influential nodes life-cycle assessment, environmental impact, water footprint and greenhouse gas emission.

![diagram](image)

a) General cluster’s view
b) The most influential cluster highlights

Figure 5. Keywords co-occurrence bibliometric map on sustainability and transparency publications in wine chains in 2006-2023 (network mode),

Source: elaborated by authors (VOS Viewer based on WoS data).

Technology clusters with the blockchain (brown), food and climate change (purple) and quality in the value chain (green cluster) are the minor ones. But some of the nodes, such as blockchain and climate change, are the most recent in the publication sample (Figure 6), along with the life cycle assessment, circular economy, and corporate social responsibility.
Figure 6. Keywords co-occurrence bibliometric map on sustainability and transparency publications in wine chains in 2006-2023 (chronology mode),

Source: elaborated by authors (VOS Viewer based on WoS data).

The Sankey diagram (Figure 7) shows the relations between keywords, sources, and authors in sustainability and transparency publications in wine chains. The most significant flows connect sustainability, the wine and wine industry, carbon emission and carbon footprint. It suggests that an environmental focus on sustainability transparency in wine chains is central to this research sample.
Figure 7. Three field plots (Sankey diagram) on sources (left), authors (middle) and keywords (right) on sustainability and transparency publications in wine chains in 2006-2023

Source: elaborated by authors (Biblioshiny based on WoS data).

Furthermore, the authors listed on the Sankey diagram are the most productive in the selected sample in 2006-2023 (Figure 8).

4.6. **Most productive authors, author collaborations and networks,**
Figure 8. Author’s production in sustainability and transparency in wine chains in 2006-2023.

Source: elaborated by authors (Biblioshiny based on WoS data)

In the sample investigated, there are no significant network connections between the authors (Figure 9). A set of independent researchers with stable co-authorship link strength can be observed.
Figure 9. Co-authorship bibliometric map on sustainability and transparency publications in wine chains in 2006-2023

Source: elaborated by authors (Biblioshiny based on WoS data).

4.7. The most cited papers

Of further interest are the most cited papers during the period investigated (Figure 10). Top papers have a strong focus on blockchain implementation in wine chain transparency assessment, corporate sustainability practices and communications, carbon and overall environmental assessment across the chain.

Figure 10. The most cited papers on sustainability and transparency in wine chains in 2006-2023 globally, total citation

Source: elaborated by authors (Biblioshiny based on WoS data).

The most productive authors

<p>| Wine Supply Chain Network Configuration under a Water Footprint Cap | Aivazidou, Eirini; Aidonis, Dimitrios; Tsolakis, Naoum; Achillas, Charisios; Vlachos, Dimitrios | 10.3390/su14159494 |</p>
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<th>Title</th>
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<tr>
<td>Investigating dynamic interconnections between organic farming adoption and freshwater sustainability</td>
<td>Aivazidou, Eirini; Tsolakis, Naoum</td>
<td>10.1016/j.jenvma.n.2021.112896</td>
</tr>
<tr>
<td>A water footprint management framework for supply chains under green market behaviour</td>
<td>Aivazidou, Eirini; Tsolakis, Naoum; Vlachos, Dimitrios; Iakovou, Eleftherios</td>
<td>10.1016/j.jclepro.2018.06.171</td>
</tr>
<tr>
<td>How Does the Wine Sector Perform and Communicate Sustainability? The Italian Case</td>
<td>Bertorelli, Sara; Gubelli, Stella; Bramanti, Valentina; Capri, Ettore; Lamastra, Lucrezia</td>
<td>10.3390/su151712700</td>
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<tr>
<td>Examining environmental proactivity in the Spanish wine industry: The moderating role of size</td>
<td>Carchano, Marcos; Carrasco, Inmaculada; Gonzalez, Angela</td>
<td>10.1002/agr.21882</td>
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<td>Greening Wine Exports? Changes in the Carbon Footprint of Spanish Wine Exports</td>
<td>Carrasco, Inmaculada; Sebastian Castillo-Valero, Juan; Corcoles, Carmen; Carchano, Marcos</td>
<td>10.3390/ijerph18179035</td>
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<tr>
<td>Water management accounting and the wine supply chain: Empirical evidence from Australia</td>
<td>Christ, Katherine L.</td>
<td>10.1016/j.bar.2014.10.003</td>
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<td>Coopetition as a Potential Strategy for Corporate Sustainability</td>
<td>Christ, Katherine L.; Burritt, Roger L.; Varsei, Mohsen</td>
<td>10.1002/bse.1967</td>
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<tr>
<td>Towards environmental management accounting for trade-offs</td>
<td>Christ, Katherine Leanne; Burritt, Roger; Varsei, Mohsen</td>
<td>10.1108/SAMPJ-12-2015-0112</td>
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<tr>
<td>Life Cycle Assessment of the Canned Fruits Industry: Sustainability through Waste Valorization and Implementation of Innovative Techniques</td>
<td>Drosou, Fotini; Kekes, Tryfon; Boukouvalas, Christos</td>
<td>10.3390/agriengineering5010026</td>
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<td>Searching for competitive advantage through sustainability: A qualitative study in the New Zealand wine industry</td>
<td>Flint, Daniel J.; Golicic, Susan L.</td>
<td>10.1108/09600030911011441</td>
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<td>Exposure of Portuguese viticulture to weather extremes under climate change</td>
<td>Fonseca, Andre; Fraga, Helder; Santos, Joao A.</td>
<td>10.1016/j.cliser.203.100357</td>
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<td>Modeling Phenology, Water Status, and Yield Components of Three Portuguese Grapevines Using the STICS Crop Model</td>
<td>Fraga, Helder; Costa, Ricardo; Moutinho-Pereira, Jose; Correia, Carlos M.; Dinis, Lia-Tania; Goncalves, Igor; Silvestre, Jose; Eiras-Dias, Jose; Malheiro, Aureliano C.; Santos, Joao A.</td>
<td>10.5344/ajev.2015.15031</td>
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<tr>
<td>Changes in sustainability in the global wine industry</td>
<td>Golicic, Susan L.</td>
<td>10.1108/IJWBR-03-2021-0021</td>
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<tr>
<td>Building business sustainability through resilience in the wine industry</td>
<td>Golicic, Susan L.; Flint, Daniel J.; Signori, Paola</td>
<td>10.1108/IJWBR-02-2016-0005</td>
</tr>
<tr>
<td>Blockchain Technology in Wine Chain for Collecting and Addressing Sustainable Performance: An Exploratory Study</td>
<td>Luzzani, Gloria; Grandis, Erica; Frey, Marco; Capri, Ettore</td>
<td>10.3390/su132212898</td>
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<tr>
<td>Climate Projections for Precipitation and Temperature Indicators in the Douro Wine Region: The Importance of Bias Correction</td>
<td>Martins, Joana; Fraga, Helder; Fonseca, Andre; Santos, Joao Andrade</td>
<td>10.3390/agronomy11050990</td>
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<tr>
<td>The Role of Corporate Social Responsibility in the Wine Industry: The Case Study of Veneto and Friuli Venezia Giulia</td>
<td>Pizzol, Lisa; Luzzani, Gloria; Criscione, Paolo; Barro, Luca; Bagnoli, Carlo; Capri, Ettore</td>
<td>10.3390/su132313230</td>
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### The hidden costs of environmental upgrading in global value chains

**Ponte, Stefano**

[10.1080/09692292020.1816199](10.1080/09692292020.1816199)

### Bursting the bubble? The hidden costs and visible conflicts behind the Prosecco wine 'miracle'

**Ponte, Stefano**


### Is sustainability governance abetting inequality? Reflections from the South African wine value chain

**Ponte, Stefano; das Nair, Reena; Chisoro, Shingie**


### The horizontal governance of environmental upgrading: Lessons from the Prosecco and Valpolicella wine value chains in Italy

**Ponte, Stefano; De Marchi, Valentina; Bettiol, Marco; di Maria, Eleonora**


**Sebastian Castillo-VALERO, Juan; Carrasco, Inmaculada; Carchano, Marcos; Corcoles, Carmen**

[10.3390/foods10071664](10.3390/foods10071664)

### Toward sustainable supply chain orientation (SSCO): mapping managerial perspectives

**Signori, Paola; Flint, Daniel John; Golicic, Susan**


### Adopting environmentally-friendly certifications: Transaction cost and capabilities perspectives within the Italian wine supply chain

**Stranieri, Stefanelia; Varacca, Alessandro; Casati, Mirta; Capri, Ettore; Soregaroli, Claudio**

[10.1108/SCM-12-2020-0598](10.1108/SCM-12-2020-0598)

### Distributing wine globally: financial and environmental trade-offs

**Varsei, Mohsen; Christ, Katherine; Burritt, Roger**

[10.1108/IJPDLM-01-2016-0012](10.1108/IJPDLM-01-2016-0012)

### Sustainable supply chain network design: A case of the wine industry in Australia

**Varsei, Mohsen; Polyakovskiy, Sergey**

[10.1016/j.omega.2015.11.009](10.1016/j.omega.2015.11.009)

### The top-10 most cited papers

<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>Blockchain technology adoption, architecture, and sustainable agri-food supply chains</td>
<td>Saurabh, Samant; Dey, Kushankur</td>
<td>10.1016/j.jclepr.2020.124731</td>
</tr>
<tr>
<td>The energy and carbon intensity of wine distribution: A study of logistical options for delivering wine to consumers</td>
<td>Cholette, Susan; Venkat, Kumar</td>
<td>10.1016/j.jclepr.2009.05.011</td>
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<td>The environmental impact of packaging in food supply chains does life cycle assessment of food provide the full picture?</td>
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5. Conclusion

This paper has aimed to explore the sustainability and transparency nexus in wine value chains literature, relevant to management and economics scholars, with the objective to identify research gaps, and highlight why they may matter. The preliminary evidence investigated so far reveals a sharp recent increase in publications on sustainability and transparency in wine chains, particularly after the adoption of SDGs in 2015, with rapid growth in 2020.

The most prevalent categories in the publications are Environmental Sciences, Green Sustainable Science Technology, and Environmental Studies, emphasizing the environmental focus of the papers with limited economics and management focus. Among the SDGs, 85% of the 158 papers are associated with three goals: 12 (Responsible consumption and production), 2 (Zero hunger), and 13 (Climate change).

Our preliminary analysis classifies publications based on centrality and development degree, identifying key topics such as sustainability, management,

Clusters of influence within the research sample include sustainability, wine sector-specific management, and transparency assessment. The most influential nodes in these clusters are life-cycle assessment, environmental impact, water footprint, greenhouse gas emission, blockchain, and climate change. Significant flows in the research connect sustainability, the wine and wine industry, carbon emission, and carbon footprint. This suggests that the environmental focus on sustainability transparency in wine chains is central to the overall research landscape, leaving ample scope for more work on social sustainability dimensions by management and economics scholars.

References


