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DA AMÉRICA À ANATÓLIA: UMA PERSPETIVA SOBRE O ENOTURISMO NO CONTEXTO DE PRÁTICAS E APLICAÇÕES SUSTENTÁVEIS

FROM AMERICA TO ANATOLIA: A PERSPECTIVE ON OENOTOURISM WITHIN THE CONTEXT OF SUSTAINABLE PRACTICES AND APPLICATIONS

DE AMÉRICA A ANATOLIA: UNA PERSPECTIVA SOBRE EL ENOTURISMO EN EL CONTEXTO DE PRÁCTICAS Y APLICACIONES SOSTENIBLES

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## RESUMO

**Introdução:** O enoturismo, um nicho em rápido crescimento na indústria do turismo, desempenha um papel crucial na promoção da sustentabilidade e na preservação do património cultural.

**Objetivo:** Explorar práticas sustentáveis de enoturismo em quatro regiões — Bordéus, Napa Valley, Toscana e Capadócia — examinando as suas abordagens à integração da sustentabilidade económica, ambiental e cultural.

**Métodos:** Este estudo recorre a uma análise documental qualitativa para examinar práticas sustentáveis de enoturismo nas quatro regiões. Foram analisados sistematicamente dados secundários provenientes de relatórios institucionais, documentos de políticas públicas e estatísticas do turismo, com o intuito de identificar abordagens específicas de cada região e avaliar a sua adaptabilidade às condições locais.

**Resultados:** Bordéus e Toscana demonstram uma integração excecional da produção vinícola biodinâmica e biológica com o seu património cultural, servindo de modelos de sustentabilidade. Napa Valley destaca-se pelo uso inovador de energias renováveis e pela incorporação do turismo de luxo nas suas ofertas de enoturismo. Já a Capadócia, apesar da sua geografia única e do potencial para a viticultura biológica, permanece pouco explorada, indicando oportunidades ainda por desenvolver para um turismo sustentável.

**Conclusão:** Os resultados sublinham a importância da agricultura biológica, de soluções com baixas emissões de carbono e da troca de conhecimento para a viabilidade a longo prazo do enoturismo. O alinhamento de estratégias turísticas sustentáveis com as condições locais promove o envolvimento da comunidade, a preservação ambiental e o crescimento económico, reforçando o enoturismo como um modelo sustentável e inclusivo.

**Palavras-chave:** enoturismo; sustentabilidade; turismo vinícola; agricultura biológica; património cultural

## ABSTRACT

**Introduction:** Oenotourism, a rapidly growing niche in the tourism industry, plays a crucial role in promoting sustainability and preserving cultural heritage.

**Objective:** To explore sustainable oenotourism practices in four regions—Bordeaux, Napa Valley, Tuscany, and Cappadocia—by examining their approaches to integrating economic, environmental, and cultural sustainability.

**Methods:** This study employs a qualitative documentary analysis to examine sustainable oenotourism practices across four regions. Secondary data from institutional reports, policy documents, and tourism statistics were systematically reviewed to identify region-specific approaches and evaluate their adaptability to local conditions.

**Results:** Bordeaux and Tuscany demonstrate exceptional integration of biodynamic and organic wine production with their cultural heritage, serving as models for sustainability. Napa Valley stands out for its innovative use of renewable energy and the incorporation of luxury tourism into its oenotourism offerings. Meanwhile, Cappadocia, despite its unique geography and potential for organic viticulture, remains underexplored, indicating untapped opportunities for sustainable development.

**Conclusion:** Findings underline the significance of organic farming, low-carbon solutions, and knowledge exchange for the long-term viability of oenotourism. Aligning sustainable tourism strategies with local conditions fosters community engagement, environmental preservation, and economic growth, advancing oenotourism as a sustainable and inclusive model.

**Keywords:** oenotourism; sustainability; wine tourism; organic farming; cultural heritage

## RESUMEN

**Introducción:** El enoturismo, un nicho de rápido crecimiento dentro de la industria turística, desempeña un papel crucial en la promoción de la sostenibilidad y la preservación del patrimonio cultural.

**Objetivo:** Explorar prácticas sostenibles de enoturismo en cuatro regiones — Burdeos, Valle de Napa, Toscana y Capadocia — examinando sus enfoques para integrar la sostenibilidad económica, ambiental y cultural.

**Métodos:** El estudio utiliza un análisis documental cualitativo para examinar las prácticas sostenibles de enoturismo en las cuatro regiones. Se revisaron sistemáticamente datos secundarios procedentes de informes institucionales, documentos de políticas públicas y estadísticas turísticas para identificar enfoques específicos de cada región y evaluar su adaptabilidad a las condiciones locales.

**Resultados:** Burdeos y Toscana demuestran una integración excepcional de la producción vinícola biodinámica y orgánica con su patrimonio cultural, sirviendo como modelos de sostenibilidad. El Valle de Napa se destaca por su uso innovador de energías renovables y por incorporar el turismo de lujo en su oferta enoturística. Por su parte, Capadocia, a pesar de su geografía única y su potencial para la viticultura ecológica, sigue estando poco explorada, lo que indica oportunidades aún no desarrolladas para un desarrollo sostenible.

**Conclusión:** Los hallazgos subrayan la importancia de la agricultura orgánica, las soluciones bajas en carbono y el intercambio de conocimientos para la viabilidad a largo plazo del enoturismo. Alinear estrategias turísticas sostenibles con las condiciones locales fomenta la participación comunitaria, la preservación ambiental y el crecimiento económico, consolidando al enoturismo como un modelo sostenible e inclusivo.

**Palabras clave:** enoturismo; sostenibilidad, turismo del vin; agricultura orgánica; patrimonio cultural

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## INTRODUCTION

Oenotourism has increasingly emerged as a dynamic and rapidly expanding subfield within the tourism industry, establishing a strong linkage with sustainability practices. As a niche form of tourism, wine tourism not only contributes to regional economies but also plays a vital role in environmental protection and the preservation of cultural heritage (Santini et al., 2021). Prominent destinations such as Bordeaux, Napa Valley, and Tuscany exemplify successful sustainable oenotourism models through the integration of biodynamic farming techniques, renewable energy use, and the promotion of local cultural values (Smith et al., 2022).

Despite these advancements, the literature still offers limited insight into how such best practices can be adapted to lesser-known or developing regions. This gap underscores the need for a deeper exploration of how sustainability-oriented tourism practices can be translated into varying geographical and socio-economic contexts. In particular, regions such as Cappadocia warrant further academic attention due to their untapped potential in both sustainable viticulture and tourism development (Gössling et al., 2018).

The core research problem lies in the diverse manifestations of sustainable oenotourism practices and their environmental, economic, and cultural repercussions across different destinations. A more nuanced understanding is required of how these varied approaches influence both the touristic appeal and long-term developmental trajectories of regions with differing capacities and contexts.

This study is grounded in the rationale that oenotourism, as highlighted in current scholarship, serves as a valuable instrument for achieving both environmental stewardship and economic resilience. However, its strategic adaptation to underdeveloped destinations remains largely underexplored. Examining successful cases such as Bordeaux and Napa Valley could offer replicable models for regions like Cappadocia, where the synergy between viticulture and sustainable tourism is still emerging.

The significance of this research lies in its potential to inform future pathways for integrating sustainability into oenotourism development. While existing literature largely centers on well-established destinations, this study broadens the lens to encompass developing regions, thereby contributing to a more inclusive understanding of sustainable tourism. Emphasis is placed on enhancing tourism revenues, advancing eco-conscious practices, and fostering local community development, which collectively reinforce the theoretical and practical contributions of the study (Graça et al., 2023).

Therefore, the aim of this study is to investigate the relationship between sustainability practices and oenotourism across four destinations—Bordeaux, Napa Valley, Tuscany, and Cappadocia—and to generate region-sensitive recommendations for the adaptation of sustainable strategies. Through a comparative documentary analysis, the study examines the economic, environmental, and cultural dimensions of oenotourism, with the dual purpose of evaluating current practices and offering a theoretical basis for their application in diverse contexts.

## 1. LITERATURE REVIEW

### 1.1.Oenotourism

Oenotourism, as a specialized tourism segment related to wine and viticulture, has gained significant attention worldwide in recent years. It has become an important tool for strengthening local economies and promoting sustainable practices (Camarero et al., 2020). This form of tourism not only enriches visitor experiences through wine tastings and vineyard tours but also enables tourists to establish a deep connection with the cultural heritage of wine-producing regions (Santini et al., 2021).

From a theoretical standpoint, oenotourism can be situated within the Experience Economy framework proposed by Pine and Gilmore (1999), which emphasizes the creation of memorable, immersive experiences as a key value proposition in contemporary tourism. Wine-related activities offer rich sensory and educational dimensions that go beyond passive consumption, positioning oenotourism as a driver of emotional engagement. Moreover, drawing on Bourdieu's (1984) theory of cultural capital, wine knowledge and wine region experiences contribute to the symbolic and cultural enrichment of visitors, reinforcing their social identity and attachment to place.

The economic impact of oenotourism is significant, contributing to local economies by creating employment opportunities, supporting local businesses, and encouraging the adoption of sustainable farming practices (Smith et al., 2022). Sustainability in oenotourism is not only about adopting environmentally friendly farming methods but also about minimizing the negative impacts of tourism activities on local communities. Sustainable tourism aims to contribute to local economies while also protecting the environment (Gössling et al., 2018). In the context of oenotourism, it is crucial to promote responsible wine consumption and encourage eco-friendly production methods (Fradera, 2023). Additionally, educational efforts and raising awareness are critical in ensuring that local populations can benefit from economic opportunities more equitably (Santini et al., 2021).

### 1.2.Oenotourism and Sustainability

Oenotourism has gained considerable attention as a pivotal element in the economic and environmental sustainability of wine-producing regions. The economic potential of oenotourism is widely recognized in both academic literature and industry reports. Theoretically, this relationship is well explained by Elkington's (1997) Triple Bottom Line (TBL) framework, which conceptualizes sustainability as the integration of environmental integrity, economic viability, and social equity. Oenotourism exemplifies this triad through its capacity to generate local income, preserve ecological landscapes, and engage stakeholders in collective action. Furthermore, the Stakeholder Theory (Freeman, 1984) reinforces the importance of collaboration between key actors—such as winemakers, local communities, tourists, and policymakers—in co-producing sustainable tourism strategies.

Studies document oenotourism's contribution to job creation, revenue generation, and regional development (Vicente et al., 2021), while acknowledging that equitable distribution of benefits remains a challenge. From an environmental perspective, oenotourism can promote biodiversity conservation and eco-friendly viticulture (Graça et al., 2023; Marco Lajara et al., 2023). However, the sector must be strategically managed to avoid overexploitation of natural resources (Dinya, 2023). The COVID-19

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pandemic further revealed structural vulnerabilities, highlighting the need for adaptive, sustainability-driven tourism models (Kastenholz et al., 2022).

### 1.3. Sustainable Practices and Applications

Sustainable wine production encompasses a variety of methods designed to reduce environmental impacts while ensuring economic profitability. The concept of sustainability in viticulture is multifaceted, addressing social, economic, and environmental aspects of wine production (Capitello & Sirieix, 2019).

This paradigm aligns closely with Ecological Modernization Theory (EMT), which asserts that environmental improvements can be achieved through the modernization of institutions, technological innovation, and strategic environmental governance (Mol & Sonnenfeld, 2000). The adoption of organic and biodynamic practices, along with renewable energy systems, exemplifies this theoretical stance by showing how environmental protection can coexist with economic growth.

Moreover, Rogers' (2003) Diffusion of Innovations Theory helps explain the differing rates at which these sustainable practices are adopted across regions. While "innovator" regions such as Napa Valley lead with technological sophistication, "early adopter" regions like Cappadocia face structural constraints and institutional lag, which slow the uptake of sustainability initiatives. These theories provide explanatory and predictive tools for understanding the spatial and temporal diffusion of sustainability in wine tourism.

## 2. METHODS

This study adopts a qualitative research design to explore the intersection of oenotourism and sustainability across different regional contexts. Specifically, a documentary analysis method was employed to systematically examine how sustainable practices are implemented and integrated into wine tourism strategies in four selected regions. Although the original framing of the study referenced phenomenological elements due to its interpretive lens, the design aligns more accurately with a qualitative content analysis of documentary sources grounded in constructivist assumptions. Therefore, the study refrains from employing phenomenological techniques such as lived experience interviews and instead focuses on deriving meaning from existing secondary materials.

The sample of the study consists of document-based sources from four wine tourism destinations—Bordeaux (France), Napa Valley (USA), Tuscany (Italy), and Cappadocia (Türkiye)—selected through purposive sampling based on three criteria: (1) level of development in oenotourism, (2) geographical diversity, and (3) the presence of distinct sustainable viticulture practices. These regions represent a combination of established and emerging destinations, enabling comparative insights into the adaptability of sustainability strategies across diverse contexts.

Secondary data were collected from publicly available institutional reports, statistical documents, government publications, and tourism development plans published between 2020 and 2025. Key sources included:

- Bordeaux Wine Council (CIVB), French Ministry of Agriculture and Forestry
- California Sustainable Winegrowing Alliance, Visit Napa Valley
- Italian Ministry of Agriculture, Tuscany Wine Consortium, VIVA Sustainability Program
- Turkish Ministry of Culture and Tourism, Cappadocia Local Government Reports

All documents were selected based on relevance to sustainable viticulture, regional tourism strategies, and policy integration. The inclusion of multilingual sources was managed through expert translation and cross-checking by tourism researchers fluent in French, Italian, and Turkish.

The collected documents were subjected to qualitative content analysis, focusing on recurring themes across environmental, economic, and cultural dimensions of sustainability. Coding was performed manually using a thematic framework developed through an iterative review of the literature. The process involved initial open coding, followed by axial categorization to identify patterns across regions. Although no qualitative analysis software was used, intercoder reliability was ensured through peer review with two tourism scholars, who cross-examined the coding decisions for consistency and thematic validity. The analysis prioritized extracting transferable strategies and context-specific insights related to sustainable oenotourism practices.

To enhance the trustworthiness of the findings, triangulation was applied through the use of multiple data sources from independent institutions. Additionally, expert validation of both source credibility and analytical categories strengthened the interpretive reliability of the results.

However, the study has certain limitations. First, it relies exclusively on secondary data, which may omit real-time developments or localized informal practices not reflected in official documents. Second, the absence of field interviews or ethnographic engagement restricts the depth of experiential understanding, particularly regarding community perceptions. Finally, the lack of software-assisted coding, while offset by peer review, may present challenges in replicability.

Future studies could benefit from integrating mixed methods, including stakeholder interviews, participatory observation, and GIS-based environmental mapping, to enrich the comparative analysis of sustainable oenotourism frameworks.

## 3. RESULTS

The findings of the study reveal the intersection of oenotourism and sustainability practices within the context of four destinations. Bordeaux, Napa Valley, Tuscany, and Cappadocia each offer unique strengths and practices in the context of sustainable wine production and tourism. Bordeaux stands out as a global leader in organic and biodynamic wine production. The region has adopted sustainability-focused approaches, such as Demeter certification, and developed strategies to reduce the carbon footprint in wine production processes.

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Additionally, its UNESCO World Heritage vineyards and gastronomy festivals contribute to wine tourism both culturally and economically. Bordeaux serves as an important example of how sustainability and cultural heritage can be integrated. Napa Valley is distinguished by its innovative technologies and high-quality wine tourism experiences. The region employs advanced irrigation systems and renewable energy as part of its sustainable agricultural practices, presenting proactive approaches to climate change challenges. Furthermore, luxury wine tasting events and vineyard hotels position Napa Valley as a significant economic model within the wine tourism sector. Napa’s focus on premium experiences highlights the economic dimension of sustainable tourism. Tuscany is another example that harmonizes local production traditions with sustainable viticulture practices. The region promotes sustainability through local certifications like the VIVA Sustainability Program and initiatives such as the Slow Food movement. With its historic vineyards and renowned wines such as Chianti Classico, Tuscany demonstrates how wine tourism can be integrated with cultural heritage. The region’s wine routes and gastronomy tours contribute to regional economic growth by linking the touristic appeal of sustainable tourism with cultural heritage. Cappadocia, on the other hand, stands out as a destination with untapped potential in wine tourism, offering significant opportunities. The region differentiates itself with its unique geography and microclimatic conditions. Local viticulture practices, organic production strategies, and methods to combat drought provide a noteworthy foundation for sustainability. Additionally, the integration of balloon tours with vineyard tourism brings a new and innovative dimension to sustainable tourism. However, the contribution of tourism to the region is still limited, and this potential needs to be more effectively leveraged. Overall, the findings show that oenotourism is linked to sustainability practices in different ways across destinations. Established wine regions such as Bordeaux and Tuscany present successful models in integrating sustainability and cultural heritage, while Napa Valley emphasizes technological innovations and premium tourism experiences. Cappadocia, on the other hand, is positioned as a destination with untapped potential, offering new opportunities for sustainable wine tourism. In this context, the varying sustainability strategies and touristic attractions of each destination demonstrate that oenotourism is a vital tool for achieving economic, environmental, and cultural sustainability goals.

Table 1 - Research Findings

Criteria	Bordeaux (France)	Napa Valley (USA)	Tuscany (Italy)	Cappadocia (Türkiye)
Sustainable Production Methods	Leader in organic and biodynamic wine production. Low carbon footprint projects (e.g. energy-efficient vineyard machinery). Carbon-neutral viticulture practices. (Demeter, 2025; GSTC Report, 2022)	Technology-supported irrigation systems. Renewable energy use (solar panels). Increase in organic certified vineyard areas. (California Certified Sustainable Winegrowing Alliance, 2023)	Small-scale organic viticulture is at the forefront. Biodynamic production with local grape varieties (e.g. Vernaccia). Packaging solutions that reduce carbon footprint. (VIVA Sustainability Program, 2025)	Increase in organic wine production. Sustainable viticulture with local and endemic grape varieties. Agricultural strategies to combat drought. (Turkish Ministry of Agriculture Report, 2023)
Certifications and Policies	Demeter certified biodynamic wines. Compliance with EU organic farming standards. Carbon reduction policies of the French Ministry of Agriculture and Forestry. (EU Organic Database, 2022)	Organic wine production in California is 34% certified. California Certified Sustainable Winegrowing (CCSW) certification is widespread. (CCSW Annual Report, 2023)	Environmental sustainability is measured with VIVA Sustainability certification. Local production supported by the Slow Food movement. (Italian Ministry of Agriculture Report, 2022)	Organic wine certification is supervised by the Turkish Ministry of Agriculture. Environmental sustainability policies are developing in the region. (Cappadocia Local Government Report, 2022)
Oenotourism Activities	Vineyard routes on the UNESCO World Heritage List. Wine tasting events and gastronomy festivals. (Bordeaux Wine Council (CIVB) Report, 2023)	Luxury wine tasting events (e.g. “BottleRock Napa Valley”). Wine-tourism integration at vineyard hotels. (Visit Napa Valley Tourism Report, 2023)	Local wine routes and cultural events (e.g. Chianti Classico tour). Tuscany’s historic vineyard landscapes add to the touristic appeal. (Tuscany Wine Tourism Annual Report, 2022)	Vineyard tours have been integrated with the natural structure of Cappadocia. Balloon tours have been combined with vineyard tours. (Turkish Tourism Development Agency, 2023)
Tourism Income and Attractiveness	The most popular wine destination in Europe. 20% of tourism revenues come from wine and gastronomy. (CIVB Statistics, 2023)	The most visited wine region in the US. Most tourism revenue comes from premium wine experiences (California Wine Institute, 2023)	Wine tourism revenues account for 35% of regional tourism revenues. UNESCO-supported historical vineyards and local food culture are at the forefront. (Italian Tourism Board, 2022)	Although viticulture revenues are increasing, tourism contribution is limited. Increasing interest with the combination of viticulture and balloon tours. (Cappadocia Local Government Report, 2022)
Adaptation to Climate Change	Cooling techniques (e.g. subsurface irrigation). Biotechnological innovations. (Bordeaux Climate Initiative, 2023)	Energy savings with solar energy. Innovative irrigation techniques (e.g. drip irrigation). (California Sustainable Winegrowing Alliance, 2023)	Tendency towards local and drought-resistant grape varieties. Sustainable practices with agricultural support programs. (Italian Ministry of Agriculture Report, 2022).	Drought-resistant viticulture methods. Integration of local vegetation with viticulture. (Turkish Ministry of Agriculture Report, 2023)



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Based on the research findings, a three-dimensional approach is proposed for the development of sustainable oenotourism: environmental sustainability, economic development, and cultural integration. This approach is shaped by considering the unique dynamics of each destination and supports the transformation of the oenotourism sector into a more sustainable structure. In terms of environmental sustainability, the widespread adoption of biodynamic and organic viticulture practices across all destinations should be targeted. Innovative methods to reduce carbon footprints, as seen in Bordeaux and Tuscany, should be made applicable in other destinations. For example, approaches learned from Napa Valley's innovative irrigation systems or Tuscany's Slow Food movement can be adapted to developing destinations like Cappadocia. Furthermore, international collaboration platforms should be established to facilitate knowledge and technology transfer among destinations. From the perspective of economic development, wine tourism should be more effectively integrated into the overall tourism revenues of destinations. A wide range of strategies can be developed, from luxury experiences to economic support for local producers. For instance, the integration of balloon tourism with viticulture in Cappadocia could be combined with Napa Valley's premium experience models to enhance the region's touristic appeal and economic contribution. Additionally, digital platforms that increase local and international market access for small-scale producers could be created. In the dimension of cultural integration, linking wine tourism with local heritage and traditions is critical for preserving the identity of destinations and offering tourists more authentic experiences. Examples such as Tuscany's historic vineyards or Bordeaux's viticulture heritage recognized by UNESCO can serve as inspiration for projects that highlight Cappadocia's local grape varieties and unique geography. Moreover, educational programs and awareness campaigns promoting sustainable production methods and tourism practices should be implemented in all destinations. This contextual approach aims to contribute to the sustainable development of oenotourism by considering the potential and strengths of each destination. In this way, the economic and environmental benefits for local communities can be enhanced, while strengthening the connection between tourists and these destinations, thereby creating a long-term sustainability model.

#### 4. DISCUSSION

The findings of this study align with the broader literature on sustainable tourism and confirm the role of oenotourism as a viable strategy for fostering regional development through environmental, economic, and cultural channels. As emphasized by Gössling et al. (2018), achieving a balance between ecological preservation and economic benefits remains central to the sustainability paradigm. Likewise, Santini et al. (2021) underscore that the integration of cultural heritage into tourism activities enhances local identity and community resilience. Building on these perspectives, the study proposes several context-sensitive recommendations targeting key stakeholders.

First, local governments and regional planning authorities should prioritize the development of sustainability-oriented incentives for small-scale wine producers, particularly in emerging destinations like Cappadocia. For instance, Tuscany's collaboration with the VIVA Sustainability Program and the Slow Food movement demonstrates how public-private partnerships can enhance traceability, certification, and promotional visibility for local producers. Similarly, municipalities in Cappadocia could initiate grants or cooperative models that support organic conversion, drought-resistant viticulture, and localized branding of endemic grape varieties. Such initiatives would not only stimulate environmental stewardship but also ensure that economic returns remain within the local community.

Second, destination marketing organizations (DMOs) should integrate multi-sensory storytelling techniques and immersive digital tools to promote oenotourism experiences. As Napa Valley illustrates through its virtual vineyard tours and luxury event packaging (California Sustainable Winegrowing Alliance, 2023), technology can enhance both visitor engagement and sustainability by reducing over-tourism and distributing tourist traffic. In the context of Cappadocia, integrating AR/VR technologies into vineyard and balloon tour narratives could diversify offerings while preserving physical resources. DMOs should also create dynamic online platforms where consumers can trace the environmental footprint of wines, reinforcing transparency and responsible consumption.

Third, wine cooperatives and tourism entrepreneurs should collaborate to develop experiential tourism bundles that link oenotourism with other local attractions such as gastronomy, rural crafts, and geology. For example, Bordeaux's UNESCO vineyard trails are paired with seasonal gastronomy festivals, which extend average tourist stay and diversify income streams. A similar model in Cappadocia could combine vineyard visits with pottery workshops in Avanos or eco-trekking in Ihlara Valley, thereby enhancing destination cohesion and creating employment opportunities across sectors.

Fourth, national and regional tourism authorities should establish interregional knowledge-sharing platforms. These platforms would allow best practices in carbon-neutral viticulture, community-based tourism, and landscape preservation to be transferred from leading destinations (e.g., Bordeaux, Napa) to developing regions. Structured training programs, internship exchanges for winemakers, and collaborative certification systems could professionalize sustainable oenotourism across borders. For example, the French CIVB (Conseil Interprofessionnel du Vin de Bordeaux) could partner with Turkish agricultural institutions to provide biodynamic training programs in Cappadocia.

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Fifth, community engagement should be embedded in the governance structure of oenotourism development. As noted in the stakeholder theory (Freeman, 1984), sustainable tourism initiatives are more resilient when they are co-produced by those who are affected by them. Tuscany's integration of producer cooperatives and community councils into tourism planning offers a replicable model. In regions like Cappadocia, involving residents in product design, heritage interpretation, and marketing decisions could foster a sense of ownership and mitigate resistance to change.

These recommendations point to the necessity of multilevel collaboration—across sectors, regions, and knowledge systems—for sustainable oenotourism to thrive. Importantly, each destination must tailor these strategies to its own socio-ecological realities and institutional capacities. Ultimately, sustainability in wine tourism is not a universal formula, but a contextual practice that evolves through adaptation, innovation, and participatory governance.

## CONCLUSION

The findings of this study delve into the relationship between oenotourism and sustainability practices, evaluated within the context of four distinct destinations: Bordeaux, Napa Valley, Tuscany, and Cappadocia. The results highlight that each destination offers unique advantages in terms of sustainable viticulture practices, touristic appeal, and economic contributions. Bordeaux, as a leading region in biodynamic and organic farming, serves as an exemplary model for sustainable wine production. In this regard, Bordeaux's organic production processes and carbon footprint reduction strategies are directly linked to sustainable tourism objectives (Smith et al., 2022).

Napa Valley, on the other hand, stands out as a destination that successfully integrates technological innovations and luxury wine experiences with economic development. Renewable energy and innovative irrigation methods provide an effective model for combating the impacts of climate change (California Sustainable Winegrowing Alliance, 2023). Tuscany represents a successful model in integrating sustainable viticulture with cultural heritage. Local production traditions, supported by certifications such as the VIVA Sustainability Program, are effectively combined with tourism. This demonstrates that the economic, environmental, and cultural dimensions of sustainable tourism can be balanced (Capitello & Sirieix, 2019). Cappadocia, meanwhile, is a lesser-explored wine tourism destination with significant potential. Its unique geography and local viticulture practices provide a solid foundation for sustainable oenotourism (Turkish Ministry of Agriculture, 2023).

This study contributes to the theoretical discourse on sustainable tourism by demonstrating how oenotourism serves as a multidimensional model that simultaneously addresses environmental integrity, economic viability, and cultural resilience. It underscores the importance of adapting sustainability strategies to the contextual realities of each destination—an aspect often overlooked in universal policy frameworks. Additionally, the study highlights the transformative potential of innovation, stakeholder engagement, and heritage integration within sustainable tourism models.

On a practical level, the findings offer destination-specific recommendations to local governments, wine cooperatives, and tourism planners. These include strengthening support mechanisms for small-scale producers, promoting experience-based tourism bundles, leveraging digital tools to communicate sustainability narratives, and fostering cross-regional knowledge exchange. By contextualizing these practices within local governance systems, this research encourages a shift from generic sustainability policies toward more inclusive, place-based approaches.

While the study provides meaningful insights, it is not without limitations. The exclusive reliance on secondary data restricts the ability to capture real-time community perspectives and evolving local practices. Furthermore, the absence of fieldwork and software-assisted coding may limit the replicability of the analysis. Nonetheless, triangulation through multiple document sources and expert review strengthens the validity of the findings.

Importantly, the findings of this study align with the theoretical frameworks employed throughout the research. In accordance with Elkington's (1997) Triple Bottom Line model, the results reflect a clear articulation of environmental (e.g., biodynamic production in Bordeaux and Tuscany), economic (e.g., luxury wine tourism in Napa Valley), and cultural (e.g., heritage-based wine routes in Tuscany and Cappadocia) sustainability components (Smith et al., 2022; Santini et al., 2021; Turkish Ministry of Agriculture, 2023). Furthermore, stakeholder collaboration, emphasized in Freeman's (1984) Stakeholder Theory, was evident in destinations such as Napa and Tuscany, where multi-actor governance models—including producers, public institutions, and tourism actors—played a key role in advancing sustainability goals (Graça et al., 2023). In addition, practices in Napa Valley also exemplify the principles of Mol and Sonnenfeld's (2000) Ecological Modernization Theory, particularly in terms of leveraging technological innovation for environmental and economic synergy. Finally, Pine and Gilmore's (1999) Experience Economy framework is substantiated through the immersive, multi-sensory, and culturally rooted tourism offerings seen in all four destinations. These theoretical alignments enrich the analytical value of the findings and demonstrate how sustainable oenotourism can be contextualized and operationalized across diverse regional models.

In light of these limitations, future research should pursue multi-method designs that incorporate field observations, interviews with local stakeholders, and quantitative analysis of tourism impact metrics. Comparative studies involving additional regions—particularly in the Global South—could uncover new models of sustainability that differ from those developed in Western wine

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destinations. Moreover, investigations into tourist perceptions, resident attitudes, and cross-sectoral policy implementation would deepen our understanding of the social dimensions of oenotourism. Exploring the role of emerging technologies such as AI and blockchain in enhancing transparency and traceability in sustainable wine tourism may also open new research frontiers.

## AUTHORS' CONTRIBUTION

Conceptualization, S.B., B.K. and V.A.; data curation, S.B., B.K. and V.A.; formal analysis, S.B., B.K. and V.A.; funding acquisition, S.B., B.K. and V.A.; investigation, S.B., B.K. and V.A.; methodology, S.B., B.K. and V.A.; project administration, S.B., B.K. and V.A.; resources, S.B., B.K. and V.A.; software, S.B., B.K. and V.A.; supervision, S.B., B.K. and V.A.; validation, S.B., B.K. and V.A.; visualization, S.B., B.K. and V.A.; writing – original draft, S.B., B.K. and V.A.; writing-review and editing, S.B., B.K. and V.A.

## CONFLICT OF INTEREST

The authors declare no conflict of interest.

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