

The connected consumer: New purchase triggers that are transforming the wine market?

Audrey Chaillet¹ and Alexandre Bastard¹

¹EtOH, 13 lotissement Arbucetta, 20620 Biguglia, France

Abstract. This review examines the changes in wine consumer purchasing habits caused by the emergence of digital technologies. The authors discuss new purchase triggers such as mobile apps, social networks, and online sales sites and their impact on consumers' perception and selection of wines. The review also examines the implications of these changes for wine producers, distributors, and retailers, particularly in terms of marketing, data management, and logistics. The authors emphasise that the digital transformation of the wine industry is creating new challenges for traditional industry players, but also new opportunities for innovative actors and startups. The review concludes that digital technologies have significantly altered wine consumers' purchasing habits and are transforming the wine industry. The authors stress that industry players must adapt to these changes by developing new marketing and distribution strategies, using data to better understand consumer preferences, and exploring new online sales channels.

1 Introduction

1.1 Background of the study

In the era of the digital revolution, consumers' purchasing behaviours have been significantly transformed. This shift is largely driven by technological advancements, which have led to the emergence of the 'connected consumer.' The connected consumer, characterised by their continuous online presence, leverages digital platforms to influence their purchasing decisions. This phenomenon has permeated various industries, and the wine industry is no exception. In recent years, digital technologies have emerged as new triggers influencing wine purchasing decisions [1].

1.2 Statement of the problem

While these technological shifts have been noted, there is a lack of comprehensive understanding regarding their impact on the wine market [2]. Specifically, it remains unclear how digital technologies as new purchase triggers are influencing consumers' wine selection and transforming the wine industry. Moreover, the implications of these changes for wine producers, distributors, and retailers remain underexplored [3].

1.3 Objectives of the study

This study aims to:

- Understand the role of digital technologies as new purchase triggers in the wine industry.
- Examine the impact of the connected consumer on the wine market.
- Investigate the implications of these changes for different players in the wine industry, including producers, distributors, and retailers.
- Identify the challenges and opportunities brought about by digital transformation in the wine industry.

1.4 Significance of the study

This study holds significant value for various stakeholders in the wine industry. By shedding light on the influence of digital technologies and the connected consumer on the wine market, this research may inform strategic decision-making for industry players. Moreover, it contributes to the broader discourse on the effects of digital transformation on traditional industries.

1.5 Scope and limitations

This study will focus on the impact of digital technologies on the wine industry, particularly in relation to new purchasing triggers. Although the connected consumer's influence on other aspects of the wine industry may be referenced, these areas will not be the primary focus. The research will largely rely on secondary data, including industry reports, case studies, and relevant literature. While this approach provides a broad view of the topic, it may limit the depth of insight into specific consumer behaviours or business practices. Further, due to the fast-paced nature of digital trends, the findings of this study will represent a snapshot in time and may require regular updating to remain current.

2 The connected consumer: An overview

2.1 Definition and characteristics of the connected consumer

The 'connected consumer' is a concept that has emerged from the convergence of the internet and consumer behaviour [4]. Broadly speaking, a connected consumer can be defined as an individual who utilises digital technologies, especially internet-enabled devices, to make informed purchasing decisions. These consumers are typically characterised by their constant online presence, often achieved through smartphones, tablets, laptops, or other smart devices.

Connected consumers tend to be highly informed, largely due to their ability to access a wealth of information instantaneously. They have a propensity for online research and often rely on user reviews, product comparisons, and social media influences to guide their purchasing decisions. They are also more likely to engage with brands digitally, through social media interactions, email communications, or e-commerce transactions.

2.2 The role of digital technologies in shaping the connected consumer

Digital technologies have been instrumental in shaping the connected consumer. The proliferation of internet-enabled devices has provided consumers with constant connectivity, enabling them to access information on-demand, interact with brands in real-time, and make purchases at their convenience.

Moreover, the rise of social media platforms and review sites has significantly impacted consumers' decision-making processes. These platforms not only provide a space for consumers to share their experiences and opinions but also serve as a source of information for others. As such, connected consumers often leverage these platforms to inform their purchasing decisions [4].

In addition, advancements in data analytics and artificial intelligence have allowed for personalised marketing strategies. By gathering and analysing data on consumers' online behaviours, preferences, and interactions, companies can tailor their marketing efforts

to individual consumers, further influencing their purchasing decisions.

2.3 The connected consumer in the context of the wine industry

In the context of the wine industry, the connected consumer represents a transformative force. Wine consumers are increasingly leveraging digital technologies to inform their wine selection and purchasing processes. They are turning to online platforms for information about different wine varieties, regions, and brands, and often rely on user reviews and ratings to make their selections.

Furthermore, connected consumers are engaging with wine brands digitally, through social media interactions, email communications, and e-commerce transactions. They are also using mobile applications dedicated to wine, which provide features such as virtual tastings, food pairing suggestions, and direct purchasing options.

This shift towards digital has significant implications for the wine industry, influencing not only how consumers select and purchase wine, but also how wine producers, distributors, and retailers operate [3]. Understanding the connected consumer and their digital behaviours is thus critical for navigating the digital transformation of the wine industry.

3 Digital technologies as new purchase triggers

3.1 Overview of new purchase triggers in the digital era

The digital era has brought about a significant evolution in what triggers a consumer to make a purchase. In the context of the wine industry, these new triggers are frequently tied to online interactions and experiences facilitated by digital technologies.

One notable trigger is personalised marketing communications. With the advent of data analytics and machine learning, wine companies can now tailor their marketing messages to individual consumers based on their past behaviours and preferences. For example, a consumer who has previously bought or shown interest in organic wines might receive targeted emails or app notifications about new organic wines in stock or special offers on such wines. This personalization makes the marketing communication more relevant and engaging for the consumer, increasing the likelihood of a purchase.

User reviews and ratings are another key purchase trigger in the digital era. Many online platforms, from wine-specific apps like Vivino to general e-commerce websites like Amazon, feature user-generated reviews and ratings. These reviews and ratings provide a form of social proof, influencing potential buyers' perceptions of the product. For instance, a wine with high ratings and positive reviews is more likely to be perceived as good quality and value for money, prompting consumers to

buy it. Similarly, detailed reviews can provide information that aids consumers in their decision-making process, such as the wine's taste profile or how well it pairs with certain foods [5].

Social media influences and interactions also serve as a significant purchase trigger. Social media platforms like Instagram and Facebook have become spaces where consumers share their wine experiences, brands showcase their offerings, and influencers shape wine trends [6]. A beautifully photographed bottle of wine on an influencer's Instagram feed, a friend's post about a delightful wine tasting experience, or a winery's Facebook video telling the story behind their latest release can all influence consumers' perceptions and prompt them to make a purchase.

Digital technologies have introduced new purchase triggers by providing platforms for personalised marketing, user reviews and ratings, and social media influences. These triggers are shaping consumers' purchasing behaviours in profound ways, making the digital space an increasingly important arena for the wine industry.

3.2 Role of mobile applications in wine purchase decisions

Mobile applications have become a significant purchase trigger in the wine industry. They offer a variety of features designed to enhance the wine purchasing and consumption experience, which in turn influence consumers' decisions [7,8]. For example, some applications provide detailed information about different wine varietals, regions, and brands, aiding consumers in their selection process. Others offer virtual tastings or food pairing suggestions, enhancing the overall wine experience.

Moreover, many wine applications provide a platform for users to share reviews and ratings, which can significantly influence other consumers' purchasing decisions [9]. Some even offer direct purchasing options, allowing consumers to buy wine directly from the app, thus bridging the gap between information gathering and purchase.

3.3 Influence of social media on consumer's wine selection

Social media platforms have emerged as a significant influence on consumers' wine selection, serving as a forum for sharing experiences, shaping perceptions, and even facilitating purchases.

For example, a consumer might come across a post from a friend detailing a delightful tasting experience with a particular wine. Accompanied by visually appealing images, such a post can pique curiosity and stimulate interest in trying the same wine. Influencers, too, wield considerable power in shaping wine trends and preferences. An endorsement or positive review from a popular wine critic or lifestyle influencer on Instagram or Twitter can significantly boost a wine's popularity and demand.

Moreover, wine brands themselves utilise social media to engage with consumers and influence their selection. Wineries may use platforms like Instagram to showcase their vineyards, winemaking processes, or the people behind the brand, providing consumers with a narrative that can enhance the perceived value of their wines. Brands might also use social media to announce new releases, share food pairing ideas, or offer virtual tastings, all of which can influence consumers' wine selection.

Facebook, Instagram, and Pinterest have introduced features that enable businesses to tag products in their posts and direct users to their online stores. This feature allows consumers to go from viewing a post about a particular wine to purchasing that wine within a few clicks, making social media a powerful tool for driving wine sales.

3.4 The role of online sales platforms in the wine market

Online sales platforms have emerged as a new emerging force in the wine market. They serve as both a catalyst for purchases and a conduit for sales. These platforms span a broad spectrum, from general e-commerce giants like Amazon and specialty online retailers such as Wine.com, to wine-specific platforms like Vivino and CellarTracker, to direct-to-consumer offerings from individual wineries.

One of the key ways in which online sales platforms influence the wine market is through the comprehensive information they provide about each wine. For instance, a consumer browsing wines on an online platform can access a wealth of information about each wine, from its varietal, region, and producer, to tasting notes, food pairing suggestions, and serving temperatures. Some platforms also provide user reviews and ratings, adding a layer of peer opinion to the mix. This level of detail can greatly influence a consumer's wine selection and purchasing decisions [10]. For instance, a consumer might be prompted to try a new wine after reading several glowing reviews or discovering that it's made from a grape variety they love.

Online sales platforms also offer a level of convenience and accessibility that traditional brick-and-mortar wine shops cannot match. They allow consumers to browse an extensive selection of wines from around the world, often featuring filters and search tools that help users navigate the offerings based on factors like grape variety, region, price, and ratings. Once consumers make their selection, they can have their purchase delivered to their doorstep, a feature especially appreciated in the context of pandemic-related restrictions and the ongoing trend towards home delivery.

Direct-to-consumer platforms from wineries provide a unique purchase experience by allowing consumers to buy directly from the source. This can create a closer connection between the winery and the consumer, enhance the brand experience, and often allow access to special releases or winery-exclusive wines.

However, it's worth noting that online wine sales are not without their challenges. These include regulatory

complexities associated [11] with alcohol shipping, the need for proper storage and shipping to ensure wine quality, and the competitive nature of online retail.

4 Impact of digital technologies on the wine industry

4.1 Changing consumer behaviour and its impact on the wine industry

The advent of digital technologies has not only brought about significant changes in consumer behaviour but has also opened the door to a plethora of new possibilities in the wine industry. These possibilities, many of which are still being explored and understood, have the potential to fundamentally change the playing field.

Today's connected consumers have access to an abundance of online information, which directly influences their wine selection and purchasing behaviours. They rely heavily on digital platforms for information, reviews, and recommendations, leading to a shift in the dynamics of the wine market. For instance, wine apps such as Vivino and CellarTracker, which offer comprehensive databases of wines complete with ratings, reviews, and average prices, have become essential tools for many wine consumers [12].

Digital technologies have also transformed the retail landscape of the wine industry. Online sales platforms, including those dedicated to wine, like Wine.com, or general e-commerce platforms, like Amazon, offer consumers a convenient and efficient shopping experience. Direct-to-consumer platforms from wineries have become increasingly popular, allowing consumers to purchase wines directly from the source, often with access to exclusive releases or wines not available in traditional retail channels [13].

The shift towards digital has opened a world of opportunities for wine industry players. It has enabled them to reach a broader and more diverse audience, personalise their offerings based on data-driven insights, and engage with consumers in new and innovative ways. For example, some wineries are now offering virtual wine tastings or vineyard tours, leveraging digital platforms to connect with consumers regardless of geographic boundaries. Others are using augmented reality (AR) technology to enhance their wine labels, providing a unique and interactive experience that goes beyond the physical bottle [14].

However, these opportunities come with the imperative for wine industry players to adapt their strategies to meet the evolving needs and expectations of the connected consumer. This might involve enhancing their online presence, leveraging digital platforms for marketing and sales, investing in data analytics to better understand consumer preferences and behaviours, and exploring innovative ways to engage with consumers in the digital realm.

4.2 Digital transformation and its implications for wine producers, distributors, and retailers

4.2.1 Marketing strategies in the digital era

The digital era has indeed necessitated a re-envisioning of marketing strategies in the wine industry. While traditional marketing channels maintain their relevance, they need to be complemented and integrated with digital strategies to fully engage today's connected consumers [15].

Traditional channels such as print advertising, in-store promotions, and wine tastings are still effective means of reaching certain consumer segments and providing tactile experiences that digital cannot replicate. However, they should be viewed as part of a broader, omnichannel marketing strategy that blends the physical and digital realms [16].

Wine producers, distributors, and retailers must now leverage digital platforms to engage with and understand consumers in more dynamic and personalised ways. Social media, for example, offers an excellent platform for brand storytelling and consumer engagement. Producers can use these platforms to share their story, showcase their wines, and engage directly with consumers. For example, wineries might share behind-the-scenes videos of the winemaking process, host live Q&A sessions with the winemaker, or create user-generated content campaigns to encourage consumer engagement and user-generated content.

Search engine optimization (SEO) and online advertising are also crucial in the digital era, helping increase brand visibility in a crowded online space. Producers can use SEO strategies to ensure their websites and online content appear prominently in search engine results, thereby attracting more organic traffic. Similarly, online advertising on search engines and social media platforms can help reach a wider audience and target specific consumer segments based on their online behaviours and preferences.

Email marketing offers another effective digital tool for personalised communications. Producers can use email newsletters to keep consumers updated on new releases, special promotions, events, and more. By segmenting their email lists based on consumer data, they can ensure their communications are relevant and personalised to each recipient's interests and preferences [17]. In essence, digital technology enables a brand to be omnipresent, always connected with the consumer. The relationship with the customer should never cease; the brand must be a part of the customer's life and events, creating a continuous and engaging customer journey.

4.2.2 Data management for understanding consumer preferences and triggers

In the digital era, data management has become a pivotal element for every industry. The digital footprints left by

connected consumers generate an enormous amount of data [18]. If well-managed and analysed, this data can offer invaluable insights into consumer preferences, behaviours, and trends, thereby significantly influencing the way businesses operate. Indeed, data management today offers the potential to conduct concrete, reliable, and real-time market research, providing invaluable insights that can significantly drive strategic decisions [18].

For example, online browsing and purchasing data can reveal which types of wines are most popular among different consumer segments, as well as the factors that influence their selection and purchasing decisions. This information can guide wineries in their product development, helping them create wines that better cater to consumer tastes and market demands. Similarly, data on consumer engagement with digital marketing content can inform marketing strategies, enabling wineries to create more effective and targeted campaigns.

Social media platforms and wine-specific mobile applications like Vivino provide another rich source of data. By analysing user reviews, ratings, and interactions, wineries can gain a more nuanced understanding of consumer perceptions and preferences, as well as identify emerging trends in real-time.

Moreover, data can also play a critical role in sales strategies. Through predictive analytics, for instance, wineries can forecast future sales trends based on historical data, market trends, weather forecast, demographics, social media trends, helping them optimise inventory management and sales forecasting.

While we are still in the early stages of leveraging data in the wine industry, the potential it holds for transforming the way brands approach their strategies is immense. As data management capabilities evolve, we can anticipate a shift towards more micromanaged and personalised strategies. Rather than adopting a one-size-fits-all approach, wineries will be able to tailor their products, marketing efforts, and customer service to the preferences and behaviours of individual consumers, optimising resource allocation, product innovation and enhancing customer satisfaction.

To effectively leverage the potential of data, wine industry players need to invest in data management capabilities and skills. This might involve integrating data management systems, hiring data analysts or data scientists, and providing training to staff on data-driven decision-making. By doing so, they can ensure they are well-equipped to navigate the digital era and stay ahead of the competition.

4.2.3 Logistics and distribution in the context of online sales

The concept of the traditional value chain is being revolutionised by digital transformation. In the past, a bottle of wine might have gone from the vineyard to the bottler, then to a storage facility, distributor, retailer, and finally to the consumer. Each step in this process added time, costs, and occasionally, complexities.

In the digital era, however, there are numerous examples of how these stages can be streamlined or even eliminated. For instance, a winery could partner with a third-party logistics company that specialises in direct-to-consumer delivery, bypassing traditional storage and distribution channels. This could significantly reduce storage costs and increase speed to market [19].

The rise of online sales platforms also allows for new ways of storing wine. For example, a platform could act as a virtual marketplace, connecting consumers directly with wineries or storage facilities. In this model, the financial ownership of the wine changes hands, but the physical product may stay in the same place until it's ready to be shipped to the consumer. This can reduce costs and increase efficiency, particularly for fine wines that require special storage conditions.

Another example is the rise of drop-shipping in the wine industry. In this model, online retailers sell the wine but don't actually hold any inventory. When a consumer makes a purchase, the order is forwarded to a third party (often the producer or a wholesaler), who fulfils the order and ships the wine directly to the consumer. This model can significantly reduce storage costs and risks for the retailer, while allowing them to offer a wider range of wines.

Digital transformation has also enabled the rise of innovative distribution models. One example is the proliferation of wine subscription services [20], which provide a personalised selection of wines delivered directly to the consumer's doorstep on a regular basis. This model not only provides a convenient and personalised experience for the consumer but also creates a predictable, recurring revenue stream for the business.

Digital technologies are reshaping the wine industry's value chain, creating opportunities for increased efficiency, cost savings, and improved consumer experiences. However, to seize these opportunities, wine industry players need to rethink their traditional roles and explore new ways of doing business..

4.3 Challenges and opportunities for traditional and innovative players in the wine industry

The digital transformation in the wine industry poses both challenges and opportunities, necessitating a delicate balance for industry players. Traditional players, with established norms and practices, may find this shift intimidating, as it requires significant investments in technology, a re-skilling of the workforce, and a reimagining of strategic planning. However, the failure to embrace the digital era can result in a loss of relevance and competitiveness as consumers gravitate towards more digitally adept brands.

An important facet to consider is that digital transformation doesn't entail a complete overhaul of the traditional model. Many aspects of the wine industry – the importance of quality, the value of expertise, the power of storytelling – remain as relevant as ever. Indeed, digital technologies can enhance these elements, providing new ways to demonstrate quality, share expertise, and tell compelling stories.

Moreover, the digital sphere amplifies the importance of excellence, as it provides consumers with a wealth of information and choice. Brands that consistently deliver high-quality products, offer exceptional customer experiences, and meet the increasing demands for transparency and authenticity will be the ones to stand out in a crowded digital market [21].

Virtual tastings, for example, can bring the winery experience directly to consumers' homes, allowing winemakers to share their passion and knowledge in a new, highly interactive format. Similarly, digital platforms can enable wineries to tell their stories in richer, more engaging ways, using multimedia content, interactive features, and direct communication with consumers. In these ways, digital transformation can strengthen, rather than replace, the traditional model, and amplify the qualities that make a brand truly exceptional [22].

For the innovative players and startups, the digital transformation opens up a world of opportunities. Smaller or newer players can leverage digital technologies to reach consumers directly, bypassing traditional barriers to entry, and compete with established brands on a more level playing field. They can experiment with new business models and strategies, from direct-to-consumer sales to subscription services, and find their niche in the market.

However, the increased visibility and accessibility afforded by digital technologies also mean increased competition. Brands that fail to differentiate themselves, to offer something unique and compelling, may struggle to attract and retain consumers. Thus, while digital technologies provide the tools to succeed in the modern wine industry, they also raise the bar in terms of what is required to succeed.

In essence, the digital transformation of the wine industry is a double-edged sword, offering vast opportunities to those who can adapt and innovate, but posing real challenges to those who can't [23]. As the market continues to evolve, those who can best leverage digital technologies to meet the changing needs and expectations of consumers, while maintaining a relentless commitment to excellence, quality, and customer experience, will be the ones to thrive. The rest may find themselves struggling to remain visible, attractive, and responsive to the shifting demands of the connected consumer, with potential financial repercussions over time.

5 Case studies

5.1 Successful adaptation of digital technologies by wine industry players

There are many examples of wine industry players successfully adopting digital technologies. For instance, the company Vivino has effectively harnessed the power of its mobile application to create a community of wine lovers. With its extensive database of wines, user-

generated ratings and reviews, and direct purchasing options, Vivino has reshaped how many consumers select and purchase wines [24]. Similarly, companies like Naked Wines and Winc have leveraged the direct-to-consumer model facilitated by digital platforms, connecting winemakers and consumers directly and offering personalised wine recommendations and deliveries. These companies illustrate how effective use of digital technologies can enhance the consumer experience and disrupt traditional industry dynamics.

5.2 Analysis of innovative start-ups in the wine industry

Start-ups are relentlessly probing every conceivable facet to aid the wine industry in identifying the most advantageous market-fit. This is the Holy Grail for any enterprise: the capacity to produce an attractively priced product that effortlessly connects with its consumers. In any field, the rate of new businesses emerging is almost matched by those that don't survive the competitive landscape. However, this is an expected phenomenon in a world that's at the nexus of rampant innovation and intense competition.

Prominent among the Wine Tech ventures in the domain of consumer analytics, Vivino stands out. Originally providing a free wine review and commentary platform, Vivino has successfully pivoted to a marketplace model, attesting to its adaptability and the potential of digital transformation [25].

In the space of data aggregation, Wine Searcher has carved a niche, collating macro-level data to offer a comprehensive perspective on the wine market to consumers and businesses. Another company that has made notable strides in the field is Wine Intelligence. It employs digital technologies and data analysis to deliver insightful knowledge to wine businesses globally, thus helping them comprehend market trends and consumer behaviours.

Notably, there have been ambitious attempts to innovate and create AI-based intelligent sommeliers and recommendation tools. An example was EtOH's myVINUM, a promising initiative that was unfortunately discontinued.

However, despite the various technological innovations available, the industry still faces barriers. These challenges include identifying a profitable business model, securing necessary investment resources, and convincing professional clients to adjust their strategies, integrating digital tools into their decision-making processes as a crucial aspect of maintaining competitiveness. Consequently, there remains ample room for the development of innovative, accessible solutions that enable the wine industry to better understand and respond to consumer expectations and purchase triggers. The quest for improved solutions continues as the digital transformation journey of the wine industry unfolds.

5.3 The Elusive Quest for profitable digital strategies: A review of current challenges

As we delve into case studies examining the impact of digital transformation on the wine industry, a prevailing theme emerges: the struggle to discover a profitable digital strategy. A digital transformation strategy requires substantial investments and considerable risk-taking, as there is no guaranteed recipe for success. Consumers are in the throes of significant behavioural shifts, and technological advancements are occurring at breakneck speeds.

In this era of rapid evolution, businesses often find themselves launching multi-million dollar ideas, such as ventures into the metaverse, only to see these efforts crumble overnight. It's a high-stakes game of trial and error, where the landscape is continually shifting and the rules are still being written.

For example, many wine industry players have invested heavily in developing robust e-commerce platforms, only to discover that the costs of logistics and customer acquisition can easily outstrip the revenue generated by online sales [26]. Similarly, efforts to leverage social media for marketing and customer engagement have met with mixed results, as the algorithms that dictate visibility and reach are continually changing, and the costs of paid promotion can quickly escalate.

Moreover, the data management capabilities required to effectively leverage consumer data can be costly and complex to implement, particularly for smaller wineries that lack the resources of their larger counterparts. Yet without these capabilities, businesses risk missing out on the valuable insights that data can provide, making it more difficult to compete in the digital marketplace.

These challenges underscore the complexity and uncertainty of digital transformation in the wine industry. While the potential benefits are significant, finding a profitable and sustainable digital strategy remains an elusive goal for many businesses. As the industry continues to grapple with these challenges, it becomes increasingly clear that success in the digital era will require not only technological investment but also strategic flexibility, a deep understanding of the changing consumer, and a willingness to embrace risk and learn from failure [27].

6 Conclusion and recommendations

6.1 Summary of findings

The review has explored how the rise of the connected consumer and the accompanying digital technologies are transforming the wine industry. It was found that these consumers, equipped with a wealth of online information and digital tools, have new expectations and behaviours, which have significantly influenced the wine selection and purchasing processes. Additionally, digital technologies have introduced new purchase triggers, ranging from mobile applications to social media influences to online sales platforms. This digital transformation has profound implications for wine

industry players, affecting marketing strategies, data management, and logistics and distribution practices. Furthermore, the review examined several case studies, illustrating both successful and unsuccessful attempts to adapt to digital transformation.

6.2 Conclusion on the impact of digital technologies on the wine industry

Digital technologies have undeniably altered the landscape of the wine industry. They have reshaped consumer behaviours, introduced new purchase triggers, and necessitated changes in industry practices. As such, the ability to understand and adapt to these changes is critical for success in the digital era.

6.3 Recommendations for industry players to adapt to digital transformation

Industry players are recommended to embrace digital technologies and incorporate them into their strategies. This includes leveraging digital platforms for consumer engagement and marketing, utilising data analytics to understand consumer preferences and inform business decisions, and investing in logistics infrastructure and capabilities to support online sales. Furthermore, industry players should consider innovative business models facilitated by digital technologies, such as direct-to-consumer sales and subscription services. It is also essential to approach digital transformation strategically, taking into account not only the opportunities but also the operational and financial implications of digital strategies.

6.4 Future research directions

Future research could delve deeper into specific aspects of the digital transformation of the wine industry, such as the effectiveness of different digital marketing strategies or the operational challenges of online sales. Moreover, as digital technologies continue to evolve, research should keep pace, examining the impact of emerging technologies, such as artificial intelligence or blockchain, on the wine industry. Additionally, comparative studies across different regions or segments of the wine market could provide valuable insights into how digital transformation plays out in different contexts.

References

1. H. Wen and X.Y. Leung, "Virtual wine tours and wine tasting: The influence of offline and online embodiment integration on wine purchase decisions," *Tour. Manag.* **83**, 104250, Apr. 2021, doi: 10.1016/j.tourman.2020.104250
2. E. Janšto, P. Polakovič, K. Hennyeyová, and I. Slováková, Eds., "Analysis of the Current Support of E-marketing Activities in Selected Enterprises of the Wine Sector in Slovakia," *AGRIS -Line Pap. Econ. Inform.*, 2019, doi: 10.22004/ag.econ.303922

3. "Digital Wine: How Platforms and algorithms will Reshape The Wine Industry." <https://thesis.unipd.it/handle/20.500.12608/39706> (accessed May 18, 2023)
4. A.D.J. Cooke and P.P. Zubcsek, "The Connected Consumer: Connected Devices and the Evolution of Customer Intelligence," *J. Assoc. Consum. Res.* **2**(2), 164-178, Apr. 2017, doi: 10.1086/690941
5. A. Miklošik, "Changes in purchasing decision-making process of consumers in the digital era," *Eur. J. Sci. Theol.* **11**(6), 167-176, 2015
6. A.S. Kumpel, V. Karnowski, and T. Keyling, "News Sharing in Social Media: A Review of Current Research on News Sharing Users, Content, and Networks," *Soc. Media Soc.* **1**(2), 2056305115610141, Jul. 2015, doi: 10.1177/2056305115610141
7. M. Hendijani Fard and R. Marvi, "Viral marketing and purchase intentions of mobile applications users," *Int. J. Emerg. Mark.* **15**(2), 287-301, Jan. 2019, doi: 10.1108/IJOEM-06-2018-0291
8. "Notre App Fiche interactive sur abonnement ★ EtOH Digital," *EtOH Digital*. <https://etoh.digital/application-fiche-interactive/> (accessed May 19, 2023)
9. B.C. Smith, "Getting More Out of Wine: wine experts, wine apps and sensory science," *Curr. Opin. Food Sci.* **27**, 123–129, Jun. 2019, doi: 10/ggn6kc
10. C. Thrane, "Expert reviews, peer recommendations and buying red wine: experimental evidence," *J. Wine Res.* **30**(2), 166-177, Apr. 2019, doi: 10.1080/09571264.2019.1614548
11. F. T. Commission, "Possible anticompetitive barriers to e-commerce: Wine," *Wash. DC7 Author*, 2003
12. "Value wine using wine apps like CellarTracker & Vivino," *JF Tobias*, Mar. 14, 2018. <https://jftwines.com/wine-resources/wine-valuation/value-wine-apps-cellartracker-vivino/> (accessed May 19, 2023)
13. H. Mick, "Direct to consumer: Growing wine sales by strengthening online engagement with customers," *Aust. N. Z. Grapegrow. Winemak.* **670**, 78-80, doi: 10.3316/informit.927256886043990
14. M. Vrigkas, G. Lappas, A. Kleftodimos, and A. Triantafillidou, "Augmented Reality for Wine Industry: Past, Present, and Future," *SHS Web Conf.* **102**, 04006, 2021, doi: 10.1051/shsconf/202110204006
15. M. Johnson and R. Barlow, "Defining the Phygital Marketing Advantage," *J. Theor. Appl. Electron. Commer. Res.* **16**(6), Art. no. 6, Sep. 2021, doi: 10.3390/jtaer16060130
16. A. Asmare and S. Zewdie, "Omnichannel retailing strategy: a systematic review," *Int. Rev. Retail Distrib. Consum. Res.* **32**(1), 59-79, Jan. 2022, doi: 10.1080/09593969.2021.2024447
17. H.H. Chang, Y.-H. Wang, and W.-Y. Yang, "The impact of e-service quality, customer satisfaction and loyalty on e-marketing: Moderating effect of perceived value," *Total Qual. Manag. Bus. Excell.* **20**(4), 423-443, Apr. 2009, doi: 10.1080/14783360902781923
18. R.I. Mogos and C. Acatrinei, "Designing Email Marketing Campaigns-A Data Mining Approach Based On Consumer Preferences," *Ann. Univ. Apulensis Ser. Oeconomica*, **17**(1), 15, 2015
19. T. Bouzdine-Chameeva, A. Jaegler, and P. Tesson, "Value Co-Creation In Wine Logistics: The Case of Dartess," *IEEE Eng. Manag. Rev.* **47**(1), 115-125, 2019, doi: 10.1109/EMR.2019.2898631
20. A.S. Krishen, O. Berezan, S. Agarwal, and S. Kachen, "Affective commitment recipes for wine clubs: Value goes beyond the vine," *J. Bus. Res.* **157**(113464), Mar. 2023, doi: 10.1016/j.jbusres.2022.113464
21. J. Drennan, C. Bianchi, S. Cacho-Elizondo, S. Louriero, N. Guibert, and W. Proud, "Examining the role of wine brand love on brand loyalty: A multi-country comparison," *Int. J. Hosp. Manag.* **49**, 47-55, Aug. 2015, doi: 10.1016/j.ijhm.2015.04.012
22. A.B. Crittenden, V.L. Crittenden, and W.F. Crittenden, "The digitalization triumvirate: How incumbents survive," *Bus. Horiz.* **62**(2), 259-266, Mar. 2019, doi: 10.1016/j.bushor.2018.11.005
23. A. Malik, "Creating competitive advantage through source basic capital strategic humanity in the industrial age 4.0," *Int. Res. J. Adv. Eng. Sci.* **4**(1), 209-215, 2019
24. N. Kotonya, P. De Cristofaro, and E. De Cristofaro, "Of Wines and Reviews: Measuring and Modeling the Vivino Wine Social Network," *ArXiv180410982 Cs*, Apr. 2018, Accessed: Aug. 06, 2018. [Online]. Available: <http://arxiv.org/abs/1804.10982>
25. M. Gazdik, "How Vivino built the world's largest wine marketplace from scratch," Jul. 30, 2020. <https://www.linkedin.com/pulse/how-vivino-built-worlds-largest-wine-marketplace-from-marian-gazdik/> (accessed May 19, 2023)
26. J. Gebauer and M. Ginsburg, "The US Wine Industry and the Internet: An Analysis of Success factors for Online Business models," *Electron. Mark.* **13**, 59–66, May 2003, doi: 10.1080/1019678032000039877
27. A.M. Williams, I. Rodríguez Sánchez, and V. Škokić, "Innovation, Risk, and Uncertainty: A Study of Tourism Entrepreneurs," *J. Travel Res.* **60**(2), 293-311, Feb. 2021, doi: 10.1177/0047287519896012