

Where the sky is no limit — The transformation of wine marketing through text-to-video generation AI model

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Abstract. Tools using Generative Artificial Intelligence signify a pivotal shift in the creation of digital content, in particular for industries like the wine sector that depend on rich visual storytelling. The emergence of AI models that can generate video content from textual input therefore present possibly significant opportunities to enhance brand narratives and consumer engagement for organizations of all sizes. This study explores the application of text-to-video (T2V) AI models in the wine sector for different purposes, examining in which areas this technology could be deployed as well as its advantages and challenges, particularly in relation to its intended uses. Despite the limitation in practical use cases, our findings provide valuable insights into the viability of T2V AI tools in enhancing brand narratives, improving consumer engagement, and ultimately driving sales. Additionally, we propose several research questions for future exploration to further explore the impact and potential of the application as well as the identified challenges.

1. Introduction

The introduction of tools driven by Artificial Intelligence (AI) in digital content creation represents a significant shift in the landscape of marketing, particularly for industries reliant on rich visual storytelling such as the wine sector. Large language models (LLM), computational models capable of language generation, such as OpenAI's ChatGPT, have propelled the power of generative AI into the awareness of the general public, followed by the success of text-to-image models like DALL-E that produce images from natural language description. The next logical step was the development of AI models, which can generate realistic video content from textual descriptions. Applications like OpenAI's SORA [1], Runway's G2 [2] or Google's Lumiere [3] offer promising new avenues for enhancing brand narrative and consumer engagement. This research explores the potential of text-to-video (T2V) AI models to revolutionize wine marketing by creating dynamic, engaging content that captures the essence of vineyards and their products without the need for traditional video production processes as well as other areas of application in the sector.

The wine sector with its unique characteristics and needs lends itself well to the deployment of T2V created content

for various reasons: wine as a complex product with variations in grape varieties, terroir, and vinification processes that significantly influence its final taste and quality, requires detailed storytelling to effectively market each unique aspect [4]; wine marketing heavily relies on sensory appeal – taste, smell, sight – which must be conveyed indirectly through marketing materials, making visual content especially important in the wine sector [5]; as consumers often seek information about wine types, production processes, and pairing suggestions there is a significant educational component to wine marketing [6]; and since building brand loyalty involves not just quality products but also creating memorable experiences, often through events like tastings and vineyard tours, they need to be effectively promoted through marketing [7]. The importance of video content as a marketing tool in the age of digital consumption cannot be understated, accounting for more than 82% of all internet traffic [8]. Videos engage consumers at a deeper level – cognitively, emotionally, and behaviorally – thus playing a critical role in the consumer decision-making process at various points throughout their customer journey, enhancing brand trust, and improving brand attitudes [9]. Traditional video production though involves considerable time, expertise, and financial investment, which can be a barrier for many wine producers. The introduction of AI-generated video content promises to provide a cost- and time-efficient alternative.

Yet, given the experimental stage there are no direct applications of the technology in this form, but the theoretical examination of its implementation provides valuable insights into the viability of AI tools in enhancing brand narratives, improving consumer engagement, and ultimately driving sales as well as additional benefits while also highlighting potential obstacles.

On this basis, our research focuses on two questions:

(a) In which areas of the wine sector could T2V be deployed?

(b) What are the advantages and challenges of employing this technology, particularly in relation to its intended uses?

To answer these questions, we have chosen a 3-step approach: In a first step, we examine literature and other resources with regard to the current use of video content in the wine sector in order to establish the areas of potential application of T2V AI models. In a second step, we provide an overview of the functioning of T2V AI models. In a third step, we analyze the potential application of T2V AI models to the established areas of video content utilization as well as considerations of additional applications, examining benefits and potential challenges.

2. Literature review

As emphasized above, in order to understand the potential application of T2V models in an industry, it is necessary to establish in what areas video content is used. In the wine sector, video content is utilized externally for the purpose of consumer education, marketing and customer engagement, as well as internally for training and inhouse communication.

2.1. Video utilization in the wine sector

2.1.1. Video for marketing

The use of video in marketing is especially relevant in the remit of digital marketing of products or services using digital technologies, mainly conducted on the Internet, through personal computers and ever more increasingly mobile devices, but also includes display advertising, as well as any other digital medium [10]. With regard to the wine industry it can be categorized into three main channels of marketing to convey messages to consumers [11, 12]: (a) Online Advertising that consists of search engine advertising such as Google AdWords, website announcements like banners, or social media adverts and campaigns on platforms such as Instagram or YouTube either by native campaigns or through collaboration with influencers or even consumers; (b) Email Marketing to reach consumers through the use of personalized emails or newsletters; and (c) Search Engine Optimization and Content Marketing with regard to a company's website and social media channels with the objective of optimizing an online presence with search engine-friendly content, blogs, and informative articles about wine.

Marketing in general and the wine sector in particular has become focused on visual content as a core component of contemporary marketing communications [13-15] with images often being worth a thousand words [16]. With their persuasive power well documented in the field of marketing, videos are used to showcase wine brands, highlight unique selling points of products, and share special promotions or events through short, engaging clips on social media to longer promotional videos on company websites.

Especially in light of the growing importance to build customer relationships as a fundamental component of strategic brand management and the need to differentiate from their competitors [17], storytelling has become increasingly commonplace in brand marketing [18] whereas a narrative technique is used to promote brands [19]. Effective storytelling produces unique cognitive and emotional responses [20] and thereby serves to enrich customer experiences and strengthen brand loyalty [21, 22].

2.1.2. Video for education and consumer engagement

At the same time, the wine sector has seen a significant growth in the interest of consumer to learn more about the product from vine to bottle and the industry's efforts to satisfy this thirst for knowledge [23], not least because of its positive impact on purchase decisions [24], but also in the context of wine tourism [25]. While traditionally predominantly text-based, wine education has gradually moved to video-based content, a trend not only measured on the growing number of options available via social media but also based on the demonstrated high-knowledge gains [26]. Due to the use of the internet and social media platforms educational offers achieve increased scalability and are accessible by a broader audience.

2.1.3. Video for training and internal communication

In a similar way, particularly larger wine companies use video content for staff training, to explain internal processes or sharing company news. As the format is more easily digestible than, for instance, text, video is an effective tool for training staff on winemaking techniques, vineyard management practices, and customer service standards and can contribute to enhance employee engagement and retention.

2.2. T2V AI models

Artificial intelligence (AI) is perhaps one of the most important advanced technologies of our era [27]. In particular in the field of generative AI it has evolved rapidly of late. It is in the process of transforming entire industries as well as the way we engage with data and information. In order to enable machines to the ability to simulate human-like intelligence and behavior, AI uses natural language processing, computer vision to machine

learning and deep learning, to perceive, understand, and respond to complex inputs and tasks, often surpassing human capabilities in speed, accuracy, and scalability [28].

Risen to prominence only in 2023 following the emergence of ChatGPT, there has been both within and outside of the marketing context a growing interest in studying generative AI-enabled productivity gains and cost savings [15]. While search engine optimization, email marketing and online and social media marketing have demonstrated to be effective tools [29-30], it is often a time- and cost-intensive approach, whereas marketing businesses are able to generate content in different formats quickly using generative AI, thereby increasing productivity and efficiency [15].

This is particularly relevant with regard to the growing trend towards personalization of content as it is generally agreed upon that an advertisement on an online platform leads to a positive attitude toward the brand and a stronger intention to click the advertisement if consumers perceive it as more personalized [31-33]. The perceived relevance of the personalized advertisement acts as a middleman as it connects the personalized experience to positive outcomes by influencing attitudes and intentions of consumers [34]. Personalization therefore is a powerful approach that can be deployed in different forms across marketing channels but requires in most cases additional resources and incurs further cost.

In respect of video content, the benefits appear to be even more evident as Consumer Behavior Theory suggests that such tailored content increases relevancy and personal connection, which are critical in influencing consumer choices, especially in a market as saturated and subjective as wine [35]. By understanding the motivations and behaviors of their target audience, wine marketers can use AI to craft video content that not only informs and educates but also emotionally engages the audience, driving both brand loyalty and purchase intentions. This strategic use of AI-generated content aligns with modern marketing's shift towards more personalized and consumer-centric approaches, illustrating how traditional marketing theories evolve to encompass new technologies and consumer trends, in particular considering the cost and resource-intensive process for the production of visual content, creating a significant obstacle especially for smaller companies.

The increased use of digital content in the form of engaging video also plays to the benefits as outlined by the Network Effect Theory as the theory suggests that videos that are engaging and informative are likely to be shared across social media platforms, thus increasing their visibility and enhancing consumer engagement exponentially [36]. As these videos circulate, they attract more viewers, further expanding the brand's reach and potentially increasing sales. This viral aspect of digital content can transform a relatively unknown wine brand into a recognized name, as each share introduces the brand to a new network of potential customers. This effect underscores the strategic importance of creating high-quality, shareable video content that not only informs but

also entertains, thereby leveraging social networks to enhance brand visibility and market penetration.

It might also prove to be beneficial in light of the findings of the Experience Economy theory, with modern consumers seeking more than just products or services but look for memorable experiences that engage them in a personal and meaningful way. In the context of wine marketing, videos generated with T2V models can be designed to not only showcase the wine but also to create a narrative that envelops potential customers in the story of the vineyard, the intricacies of the wine-making process, and the cultural heritage associated with the wine, underscoring the importance of effective storytelling and delivering value beyond the wine itself [37].

Yet, the development of generative AI technologies is still in its early stages, particularly with regard to T2V models. Thus, a research gap in business studies on how these models can support businesses, especially in digital marketing, exists [34]. T2V AI models have only recently gained public attention through the emergence of OpenAI's Sora, but numerous other tools have sprung up since the publication of the first T2V models in 2022 already, with a recent study [38] listing and examining 42 different video generation models, with the list not even including Zora and Lumiere as they have not been released to the public yet, highlighting the immense interest as well as the rapid evolvement of the field and emphasizing the potential of such solutions.

While the basic outcome is similar, AI tools for video generation are based on different models, but can be broken down into the following three steps:

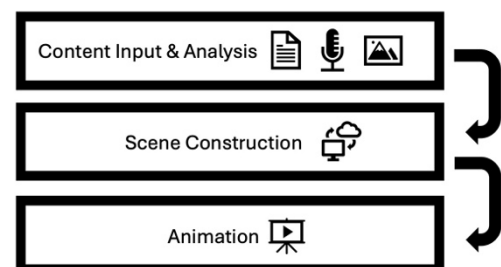


Figure 1. Overview 3-Step-Process of Video Generation (Source: authors).

1. Original Content Input and Analysis: The model analyzes the content in its original form and extracts key information, themes and actions. The above-mentioned text-to-video model refers to tasks of generating videos purely based on text descriptions, the prompt. In Image-to-video (IMG2VID) an existing reference image is animated, at times with the support of a text prompt or other guidance information. Related to this form of video generation can be seen video-to-video (VID2VID) models such as video completion or video editing models that use an existing video to generate a new video by using tasks such as style editing, object / background replacement, deep fakes, and restoration of old video footage. Audio-to-video models (AUD2VID) use sound clips as input,

sometimes in combination with text or images (see [38], also for further information on the model taxonomy).

2. **Scene Construction:** the respective model then constructs scenes by selecting appropriate backgrounds, objects, and characters based on the extracted data. Models can be differentiated on the basis of using either predefined templates and scenes which are filled in or modified based on the text inputs or generative techniques to create unique scenes from scratch, offering greater customization and creativity, or a combination of both.

3. **Animation:** The model animates the scenes and synchronizes movements and interactions to create a coherent video.

Despite the very early stage of adoption of solutions using generative AI, recent studies have already touched upon the question of the consumer response to AI-generated content, demonstrating favorable consumer response to generative AI in the context of textual online marketing content generation [39], product design [40] and even in the field of artistic tasks, often considered exclusive remit of for human intelligence [41]. With regard to visual content, Hartman et al [15] have shown that leading AI models can outperform human-made marketing visuals.

3. Analysis

3.1. Potential adoption and impact of T2V models in the wine sector

Given the experimental stage of development of and the resulting lack of application of T2V-models in the wine sector, it is not possible to draw from real-life use cases, and we can only theoretically compare traditional applications of video content in the wine sector and how T2V models might be used and to what end.

As established above, video content is primarily used for digital marketing to produce engaging content for the dissemination across the internet and social media platforms for the purpose of online advertising. Video content therein plays an important role with regard to the aspect of storytelling.

T2V models support the production of detailed storytelling that encompasses all applicable areas for marketing: from the vineyard with its peculiar geography and soil composition as well as the work carried out throughout the year to wine making and different techniques, such models could produce relevant video content. T2V solution thereby not only are capable of capturing all desired areas but also produce respective content in a cost-effective manner, which otherwise might not have been feasible with traditional means of video content creation. In a climate of constantly changing requirements, such content also becomes more dynamic and adaptable at short notice to account for different needs and changes, for instance, in an organizational setup. More so, it also proves beneficial in respect of personalization of marketing content, which equally would normally require

vast resources for the production of video. Using T2V solutions it may be possible to tailor content to the attitudes and intentions of a consumer.

Also, with regard to the area of wine education, T2V models potentially provide a means to produce video content in a cost-effective and rapid manner compared to traditional processes, which thanks to ready translations provides for scalability to foreign language groups and significantly larger audiences compared to traditional processes.

In respect of internal training and communication, T2V models empower organizations of all size to produce relevant content without prior knowledge of video content creation at a fraction of the cost and time of traditional processes.

Beyond the traditional use of video content in the wine sector, T2V models might also enable new ways for video utilization. Whereas video regarding marketing is mostly used for the purpose of online advertising, T2V solutions could also be used to produce targeted email campaigns or customized wine subscriptions that are enhanced by AI-produced visual content by drawing from data on customer purchase history and preferences. Again, the potential of interactive and dynamic content creation could lead to entirely new levels of engagement as, for example, video content could be produced based on the personal preferences of the user for the purpose of marketing, training or internal communication. Think of a consumer, looking for wine pairings for a meal and the T2V model creating an engaging and appealing video that explains the options.

In terms of marketing and consumer education, T2V might also be used to enable new levels of adoption of virtual tours and tastings, and subsequently for Virtual Reality (VR) wine region or vineyard tours, for instance, by offering VR tours where users can explore vineyards virtually and select spots to learn more about specific wines or winemaking processes through pop-up information tailored to their interests. This particularly relevant considering the immense resources required for producing such content using traditional means.

3.2. Challenges and risks of adoption

However, the use of AI in video production is not without challenges. Issues of authenticity and the potential for creating unrealistic or misleading content pose significant risks, particularly in an industry where authenticity and trust are paramount. Moreover, the current capabilities of AI models, while impressive, still show limitations in handling complex human behaviors and subtle nuances that are often crucial in storytelling.

Drawing from the example of SORA, OpenAI, the company behind it and ChatGPT, acknowledged that the model at the time of presentation in February 2024 “exhibits numerous limitations as a simulator. For example, it does not accurately model the physics of many basic interactions, like glass shattering. Other interactions, like eating food, do not always yield correct changes in

object state” [1], leaving substantial room for improvement.

The associated risk is significant despite the above-mentioned favorable reaction of consumers to AI-created content, especially with regard to a product as wine that heavily relies on credence attributes and trust. Xu and Mehta [42] have demonstrated that products that particularly draw on their superior emotional value such as luxury fashion brands, using AI as a design source significantly reduces the perceived brand essence, leading to negative consumer response. Considering the early stage of development of T2V models and their limitations, numerous examples of AI mistakes of been reported [43], at times with costly consequences and lasting damage to customer relations and brand image. T2V, especially at this early stage, therefore not only face integration challenges but also require constant monitoring and evaluation of effectiveness.

This is closely related to ethical considerations regarding the transparency of the use of AI in consumer interactions as well as regulatory aspects. In addition to the ethical question, the use of AI in marketing might also involve concerns about data usage and privacy with regard to regulations like the GDPR in the European Union.

4. Results

In response to the two research questions we posed for this work, we can therefore conclude that T2V models might be used in the traditional areas of video content utilization for the purpose of marketing, education, training and internal communication as well as presenting new opportunities for ways of adoption. T2V eventually promises not only to produce video content in its existing form at a fraction of the cost and time of traditional methods, opening the format to organizations of all size; it also plays strongly to current marketing trends calling for ever-deeper personalization and the importance of effective storytelling.

At the same time, it comes – in particular at its current early stage of development - with a large warning sign in particular to the quality of the produced content. The question might also be asked what implications the increased production and use of video content with regard to consumer behavior might have and whether we are about to eventually see an oversaturation, diminishing the impact and importance of the format.

5. Conclusion, limitations and outlook

In this study we have examined the application of the T2V technology for the purpose of wine marketing. We have theoretically explored use cases including the increased personalization of wine marketing, wine education and virtual tours and tastings to enhance consumer experience and engagement. By doing so, we have also examined benefits and challenges in implementation. As a result, our work provides valuable insights into the viability of T2V AI tools in enhancing

brand narratives, improving consumer engagement, and ultimately driving sales.

Due to the novelty of these tools in the remit of wine marketing the significance of this study lies in its potential to guide wine marketers and technologists in harnessing AI technology to its fullest potential while navigating the pitfalls associated with digital innovation. As the technology evolves, understanding its impact on consumer behavior and marketing effectiveness will be crucial for developing strategies that are not only innovative but also ethical and effective in promoting genuine brand values.

Given the current state of T2V technology – despite the already impressive results it can produce – this study naturally comes with the limitation of not being able to draw from any existing real-life use cases but having to depend exclusively on comparisons of existing utilization of video content in the wine sector with the potential application of T2V models. Furthermore, while existing research has established a generally positive response to the work created with generative AI as outlined above, the actual application of T2V models in the wine sector might cause ethical implications and privacy concerns associated with collecting and analyzing consumer data for creating personalized AI-generated content this work might not have fully addressed.

This on the other hand leads to research questions future work could explore. We believe this paper presents an initial summary of the key areas of application that will be impacted by the technology. It also highlights potential applications that go beyond the existing functions. As such, it forms the basis for several ways forward that should be explored by future research such as the exploration of ethical considerations of T2V models in general but also particularly in respect of the wine sector as well as differences in consumer perception based on, for instance, different demographics. As highlighted, the adoption of such models also requires monitoring and evaluation of effectiveness, thus asking what the most effective metrics for assessing the impact of AI-generated video content on brand equity and consumer loyalty in the wine industry might be. Other questions worth examining may include of how such AI models may alter the perception of consumers about wine, the combination of different AI models (text, imagery, audio and video), the implications for organizations of different sizes or how generative AI might inflate customer expectations.

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