ELENA SHLYKOVA

SOCIAL MEDIA CONTENT ENGAGEMENT IN WINE TOURISM. INSIGHTS FROM INSTAGRAM.

UNIVERSITY OF ALGARVE

FACULTY OF ECONOMICS

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Management

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UNIVERSITY OF ALGARVE

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Work Authorship Declaration

I declare to be the author of this work, which is unique and unprecedented. Authors and works consulted are properly cited in the text and are included in the listing of references.

(Elena Shlykova)

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Summary

(abstract)

This study examines the use of Instagram as a tool for promoting wine tourism. The goal is to identify the types of visual content that drive maximum user engagement, to provide recommendations for wineries seeking to establish and expand their online presence.

While wine tourism is a growing market, small wineries have been slow to adopt social media, leaving them at a disadvantage when it comes to promoting their businesses. This study aims to address this problem by identifying the most effective types of visual content for wineries to use on Instagram.

The study uses Bruwer and Lesschaeve's (2012) winescape framework to analyze the destination image projected by wineries on Instagram. Modifications were made to the original framework to adapt it for pictorial image analysis. Data was collected from 5 wineries' Instagram accounts, with a total of 1216 images analyzed.

The study identifies seven dimensions and twenty clusters of visual content that drive maximum user engagement on Instagram for wineries in the wine tourism industry. These include images related to the wine estate, winery promotional material, and winery architecture and outside settings such as swimming pools. The study also found that the most posted images by wineries are photos of wine and food, while they have a low engagement.

This study provides valuable insights into the use of Instagram as a marketing tool for wineries in the wine tourism industry. By identifying the types of visual content that resonates with users and drives engagement, wineries can improve their online presence, attract new customers, and cultivate loyalty among existing ones. The findings contribute to the growing body of research on social media marketing in the tourism industry and offer practical recommendations for wineries seeking to establish and expand their online presence.

Keywords: winescape, visual content analysis, wine tourism, social media engagement

Resumo

(abstract)

O turismo é uma indústria altamente visual e experiencial que depende muito da resposta emocional dos consumidores e a representação visual é um importante meio para transmitir a estratégia de marketing. As redes sociais tornaram-se uma ferramenta relevante para atrair clientes, aumentar a notoriedade da marca e vender serviços de viagens. O enoturismo é uma tendência crescente na indústria de viagens, com um valor estimado de US$ 8,7 bilhões, em 2020, projetado para atingir € 29,6 bilhões até 2030 (Statista, 2020). No entanto, o setor de enoturismo é principalmente representado por vinícolas que, geralmente, são pequenas empresas familiares que, sem conhecimentos específicos em marketing, são relutantes em construir presença online e estão entre os mais lentos a adotar as redes sociais (Viana, 2016). Contudo, é cada vez mais inevitável que, para se destacar da concorrência e atrair clientes, as vinícolas precisam de criar e consolidar a sua presença online e cultivar a lealdade entre os seus clientes.

O Instagram é uma das redes sociais mais populares especializada, principalmente, em conteúdo visual. É uma poderosa ferramenta de marketing para a indústria do turismo. No contexto do enoturismo, o Instagram fornece abundância de dados para analisar a imagem do destino, tanto na perspetiva das empresas e outras entidades gestoras do destino – imagem projetada – como na perspetiva dos consumidores/turistas – imagem percebida. Pesquisas anteriores abordaram o conceito de imagem percebida do destino em contexto de enoturismo e, em particular, o conceito de winescape devidamente articulado com as especificidades da paisagem vinícola (Bruwer and Lesschaeve, 2012). Contudo, tanto quanto foi possível identificar, a análise de conteúdos pictóricos associados a enoturismo não se encontra devidamente explorada na literatura, pelo que é necessária investigação adicional sobre o tema.

O objetivo principal deste estudo é caraterizar a imagem pictórica projetada em contexto de enoturismo e identificar relação com o envolvimento (*engagement*) do utilizador a rede social Instagram. A metodologia de pesquisa envolveu a recolha de dados a partir de contas de Instagram geridas por cinco empresas vinícolas relevantes - 1216 imagens. Os dados foram classificando, as imagens agrupadas com algoritmos de machine learning e calculando o nível de envolvimento.

A análise identificou sete dimensões e vinte clusters. Os resultados mais significativos indicam

que algumas dimensões de conteúdo visual geram os maiores níveis de envolvimento, nomeadamente *Propriedades vinícolas, Material comunicação da vinícola e a Arquitetura dos edifícios e do espaço*. Além disso, as imagens sobre *Vinho e comida* revelam as taxas de envolvimento mais baixas. O estudo também mostrou que os clusters que despertam mais envolvimento dos seguidores são as fotografias em que surgem elementos como a *Piscina e água*, *Arquitetura*, *Materiais de Comunicação*, *Propriedade vinícola*, *Interiores* e *Refeições ao ar livre*. Pelo contrário, imagens que retratam pessoas a *Comer e beber vinho, Gastronomia*, *Comunicação do vinho* e *Atividades ativas* foram os clusters menos envolventes. Além disso, o cluster com maior número de imagens publicadas é *Vinho e outras bebidas*, que teve uma das taxas médias de envolvimento mais baixas. Os clusters sub-representados foram *Refeições ao ar livre*, *Piscina e água*, *Interiores*, *Barris e adega*, *Fauna* e *Transportes*. Os clusters mais representados foram *Vinho e outras bebidas*, *Gastronomia*, *Comunicação de vinho* e *Comer e beber vinho*.

Esses resultados oferecem valor prático para os gestores destes espaços na medida em que identificam os conteúdos mais eficazes para despertar o envolvimento e interação dos seguidores através do Instagram. Ao entender quais os conteúdos pictóricos que geram o maior envolvimento por parte dos seguidores, as empresas podem personalizar as suas estratégias de marketing visual para atrair e reter mais clientes. Por exemplo, os conteúdos sobre os vinícolas e arredores, destacando aspetos como sinalética e *layout* exclusivos devem ser temas privilegiados para publicação. Além disso, as empresas podem gerir de forma mais eficaz o plano de publicações de modo a reduzir a publicação de conteúdos de conteúdo menos envolventes.

Uma limitação deste estudo é o facto de serem estudadas apenas as primeiras imagens em cada publicação, incluindo nos casos em que existe uma série de imagens. Pesquisas futuras poderiam ir além dessa fronteira e analisar a série de imagens nessas publicações, fornecendo informações valiosas sobre a sua relação com o envolvimento dos seguidores.

Em resumo, a aplicação do modelo winescape, de Bruwer e Lesschaeve (2012) para análise de conteúdos de imagens publicadas no Instagram provou ser uma metodologia eficaz para obter informações valiosas sobre o envolvimento dos seguidores do Instagram em resposta ao conteúdo visual publicado pelas adegas. No entanto, o estudo também revelou a necessidade de adaptar este modelo ao caso específico do objeto de estudo – conteúdo pictórico. A partir desta pesquisa, estudos futuros deverão explorar e expandir as aplicações potenciais do modelo no campo da análise de conteúdo visual, sobretudo em outros contextos ligados a enoturismo e a adegas.

Palavras-chave: winescape, análise de conteúdo visual, enoturismo, envolvimento em redes sociais, Instagram.

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1. INTRODUCTION

Tourism is an experiential industry that strongly relies on visual representation and customers' emotional response when it comes to marketing (Mak, 2017). The new digital era introduced new ways of promoting travel products and services. Today social media is an essential and primary tool used by tourism organizations worldwide to create an appealing destination image, attract customers, increase brand awareness, stay competitive, and sell travel services.

Apart from digitalization, the tourism industry became much more complex with many different trends defined. One of the current travel trends on the rise is wine tourism. According to Statista (2020) the wine tourism market worldwide was estimated to be worth around 8.7 billion U.S. dollars in 2020 and is forecasted to reach 29.6 billion euros in 2030. But at the same time wine tourism sector, as it is mostly represented by small family businesses, is among the slowest to adopt social media (Viana, 2016). Thus, that means that to attract customers and stand out from the competitors wineries need to establish their online presence and attract new customers and cultivate loyalty among existing ones.

One of the ways for small and mid-sized entities like wineries to establish their businesses online is through creating and developing accounts on social media platforms. Instagram is the social media platform that has proven to be one of the best marketing strategies for the tourism industry (Zeng and Gerritsen, 2014). It is because Instagram is a platform primarily focused on visual content, it allows users to create and publicly share their own visual content and perceive images published by other accounts. Furthermore, it's worth noting that Instagram boasts the most impressive level of engagement compared to other social media platforms (Chan, Lam and Dickson, 2020). This engagement is quantifiable through the number of likes and comments, providing an accurate measurement of the content's overall likeability.

In the context of tourism, particularly in wine tourism, Instagram provides an abundance of data for analyzing the destination image, both perceived and projected. In previous research, Bruwer and Lesschaeve (2012) delved into the concept of perceived

destination image in wine tourism and developed a distinctive winescape model. However, this model addressed only the generic idea of a perceived destination image. This model was utilized to analyze destination images from various perspectives in later studies. (Bruwer and Gross, 2014; Scottini, Barbierato, Bernetti, Capecchi, Fabbrizzi,and Menghini, 2019; Sekhniashvili, 2021). However, none of these studies focused specifically on the analysis of pictorial destination images, leaving a gap in the research literature that warrants further investigation.

That opens a wide window for research that will be useful for future research and wine tourism professionals. With this in mind, the primary goal of this study is to utilize the winescape model to identify visual content that drives the highest level of user engagement within the wine tourism sector. Based on the findings, we aim to provide recommendations for social media strategy.

The research consists of the following chapters – 1)Introduction 2)Literature review 3) Research methodology and analysis 4)Results 5)Conclusion and Bibliography. The Introduction chapter provides an overview of the study, presenting the main topics to be discussed. The Literature review chapter delves into the existing body of knowledge related to the research topic. It explores the concept of destination image, differentiating between projected, perceived, and online destination image. Additionally, it provides an overview of the wine tourism industry and destination image specifically in wine tourism industry. The role of social media, with a focus on Instagram, is discussed in the context of the tourism industry, along with the analysis of engagement as a measurement tool. Visual content analysis is also highlighted. The literature review establishes the foundation for the study by identifying the main problems that will be investigated.

The Research methodology and analysis chapter outlines the framework and analysis approach employed in the study. The research process consistes of several consecutive steps: 1) defining the methodological framework, 2) selecting and extracting data, 3) identifying dimensions based on the defined framework, 4) implementing machine learning algorithms to identify clusters, and 5) calculating the engagement rate.

The Results chapter includes findings and conclusions based on the study's results. It presents the new framework, featuring a novel collection of dimensions and clusters that were identified during the research. Additionally, it results suggest type of visual content for wineries to publish on their social media and discussions. The Conclusion chapter provides a comprehensive summary of the research and highlights its scientific and practical significance. It offers implications and suggestions for future research, as well as limitations of the study. The Bibliography chapter contains a list of researches and studies that were used as references for this research.

2. LITERATURE REVIEW

2.1. Destination image concept

2.1.1. Destination image definition

Destination image is a well-researched concept in tourism studies, referring to the perceptions, beliefs, and attitudes that potential tourists hold toward a particular destination (Paül i Agustí, 2018). It is a mental representation of the place that has been formed through various sources of information, such as advertising, word of mouth, media coverage, and personal experiences of others who have visited the destination. Destination image plays a crucial role in influencing tourists' travel decisions, as tourists are more likely to visit destinations that they perceive positively and that align with their desired experiences and expectations (Chen and Phou, 2013). Destination marketers and tourism researchers often focus on understanding and shaping the destination image to attract tourists.

A positive destination image can enhance a destination's attractiveness, resulting in more visitors, higher spending, and greater economic benefits. A negative destination image can deter tourists and harm a destination's reputation (Akgün, Senturk, Keskin, and Onal, 2020). A positive destination image has been linked to greater satisfaction, loyalty, and intentions to revisit or recommend the destination to others. Incontrast, a

negative destination image can lead to lower satisfaction, negative word-of- mouth, and decreased loyalty (Akgun et al., 2020).

2.1.2. Projected and perceived destination image

Destination image is a critical construct in tourism research, but it is essential to distinguish between two distinct types of destination images: projected and perceived (Grosspietsh, 2006).

The projected destination image refers to the image, formed by various information sources, of a particular destination that tourists hold before visiting the destination. The perceived destination image refers to the image of a particular destination that tourists develop after visiting the destination. This image is formed by the tourist's personal experience during the trip.

Thus, the primary difference between projected and perceived destination image is the timing of their formation. The projected destination image is a pre-trip perception of the destination, while the perceived image is a post-trip perception. Another difference is that the projected destination image is based on second-hand information, such as advertisements, social media, blogs, travel websites, and word-of-mouth while the perceived destination image is based on first-hand experience (Govers, Go and Kumar, 2007). Analysis of two types of images helps to identify the effective strategy for destination marketing (Mak, 2017).

2.1.3. Online destination image

The recent growth and widespread use of digital platforms have led to the development of online destination image as a distinct concept in tourism research. While traditional destination image relates to tourists' mental images of a destination formed through various sources of information, online destination image refers specifically to

tourists' perceptions and impressions of a destination formed through online information sources such as websites, social media platforms, blogs, and online travel agencies (Munar and Jacobsen, 2013). Online destination image is an important aspect of destination marketing because it affects potential tourists' decision-making and destination choice (Akgün et al., 2020).

Xiang and Gretzel conducted a study on online destination image and found that there are several factors that influence the formation of online destination image such as *destination attributes* (online users tend to focus on specific destination attributes such as natural scenery, cultural heritage, etc.), *information sources* (the credibility and reliability of the information sources), *motivations* (the motivations for travel can impact the online destination image), and *personal experiences* (Xiang and Gretzel, 2010). The destinationattributes factor is especially important for analyzing visual content that the tourism industry hardly relies on.

Researchers have also investigated the use of social media in shaping online destination image. For example, it was found that social media can enhance online destination image by providing the authentic and trustworthy information, and by allowing tourists to interact with other tourists and local residents (Xiang and Gretzel, 2010).

To sum up, the online destination image is an important area of research in tourism. Understanding the factors that influence online destination image and how it impacts tourists' decision-making process can help destination marketers develop effective online marketing strategies to enhance the destination's image and attract more tourists.

2.2. Destination image in wine tourism

Wine tourism destination can be defined as a region which base some or all its attractions on wineries and wine-related benefits and evolves such elements as wine, vineyards, wineries, including corresponding attractions, activities, or events that can be

called wine tourism experiences (Govers et al., 2007). These experiences may include vineyard visits, wineries, wine festivals, shows, and events, wine tasting, and other grape-related activities that are the main motivating factors for visitors.

Today's wine tourists are not limited to wine enthusiasts or experts, as it also appeals to other visitors interested in cultural events, heritage, gastronomy festivals, agricultural activities, and educational seminars. This has a positive effect on both the wineries and the wine region. (Alebaki, Psimouli and Kladou, 2022).

Wine quality is the main focus of wine tourism experiences and destination image, accompanied by landscape, cultural interactions, education, and culinary events. (Govers et al., 2007). Modern wine tourism destinations also prioritize protecting rural landscapes, authenticity, and unique development forms, with a focus on the elements defined as central to wine tourist interests. Therefore, the modern imaginary projection should be focused on the mentioned above elements that have been defined as central for the wine tourist interests (Govers et al., 2007).

Due to its complexity and demanding nature, wine tourism relies heavily on effective destination image promotion as a crucial factor in the tourist decision-making process. From that perspective winescape framework developed by Bruwer and Lesschaeve (2012) offers some remarkable insights. In their study, Bruwer and Lesschaeve (2012) utilized grounded theories of servicescape, destination choice, and place-based marketing to conceptualize the winescape framework based on wine tourists' perception of wine region's image as in Figure 2.1. Through a survey with 996 respondents, the study identified eight dimensions of the winescape that influence the visitor experience in wine tourism environments:

1) Nature-related: the natural surroundings, landscapes, and scenery of the wine tourism destination.

2) Wineries and vineyards: the physical attributes of wineries and vineyards, such as architecture, size, and outside settings.

3) Wine and other products: the quality, variety, and availability of wine and other products.

4) Ambient factors: the sensory experience of the wine tourism destination, including temperature, lighting, and music.

5) Signage and layout: the visual and physical aspects of the winery that provide direction, information, and aesthetics to visitors. Such as maps, signs and other visualobjects that provide information.

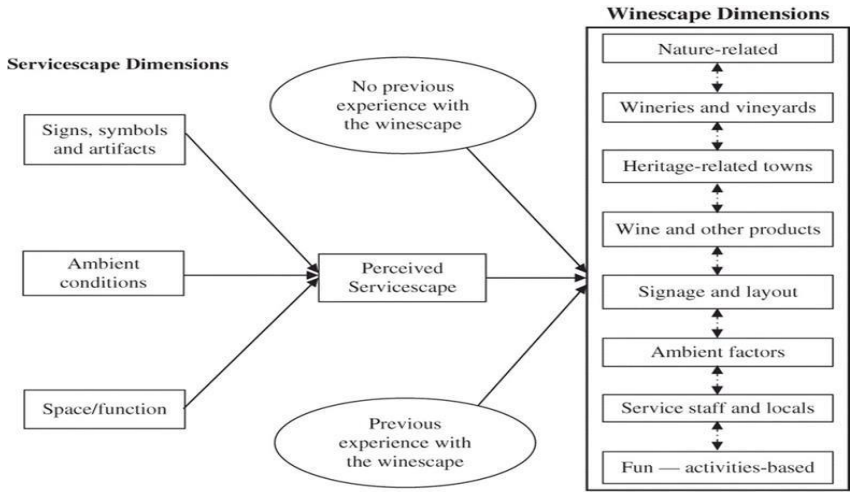
6) Service staff and locals: the behavior, knowledge, and friendliness of the staff and locals in the wine tourism destination.

7) Heritage-related towns: The cultural, historical, and heritage-related features of towns in the wine tourism destination.

8) Fun-based activities: The recreational and entertainment options available to visitors in the wine tourism destination.

WINESCAPE FRAMEWORK

Figure 2.1 - Winescape dimensions within the wine region's servicescape context.



Source: *Adapted from Bruwer and Lesschaeve, 2012.*

The study found that the most significant factor in the winescape was the natural beauty or landscape of the region (Bruwer and Lesschaeve, 2012). Additionally, other highly impactful characteristics included the friendliness of service staff and locals, the overall ambiance, and the diversity of wine estates. Also, researchers have identified that

the primary motivations of wine tourists are to taste and buy wine. And the secondary most important motivations are socializing, learning about wine, being entertained, traveling in a rural location, landscape, relaxation, learning about new cultures, and having memorable experiences (Bruwer and Lesschaeve, 2012).

The authors of conceptual winescape framework suggested to apply the framework in different environments within the wine tourism (Bruwer and Lesschaeve, 2012). And it has been widely used in tourism and hospitality research to various analysis. Scottini et al., (2019) conducted a study that aimed to develop a methodology to link the environmental and cultural landscape characteristics of the territory with the concept of winescape to improve the image of wine tourism. Analysis focused on Chiati wineries and utilized geographical data from social media Flickr It analyzed the demand for winescape in its different dimensions, and identified the territorial variables that are part of the winescape supply.

The recent 2022 study that examined Cretan wineries on social media platform Facebook activity, as a respond to COVID-19 challenges, used winescape framework (Alebaki, et al., 2022).

2.3. Social media and engagement

Social media

Social media is essential for tourism organizations to create an appealing image, attract customers, and sell services. Instagram, with 1.28 billion global users, has become popular for promoting businesses, particularly in the tourism industry, accordingto Statista (2022). While social media platforms like Facebook, Twitter, and LinkedIn have their advantages, Instagram's strong focus on visual content makes it an ideal platform for businesses operating in industries that heavily rely on destination images, such as the tourism and wine tourism sectors.

The wine tourism industry has been slow to adopt social media as a marketing tool (Viana, 2016), possibly due to the prevalence of family businesses in the sector (Obermayer, Kovari, Leinonen, Bak, and Valeri, 2022). Family businesses are definedas businesses with one or more family members who manage or hold capital stakes, with shared traditions, social values, vision, and priorities among top managers from the same family (Obermayer et al., 2022). These businesses often face challenges such as poor marketing strategies and low brand value but are now recognizing the need to invest in marketing to remain competitive in the current dynamic environment (Paul, 2020).

The latest research indicates that wineries with an established online presence primarily utilize Instagram and Facebook to advertise their brand, attract new customers, inform followers about upcoming events, wine tastings, and maintain good relationships with existing customers (Obermayer et al., 2022). For small or family-owned businesses, social media provides a cost-effective and efficient means of reaching out and interacting with customers (Kallmuenzer, Nikolakis, Peters, and Zanon, 2018).

In the context of wine tourism, various studies have emphasized the significance of social media in shaping the behavior of wine consumers, thereby presenting an essential opportunity for wineries. Wilson and Quinton (2012) conducted an interesting research study on Twitter's impact on winery revenues, highlighting that social media platforms allow wine businesses to connect with consumers in ways beyond traditional marketing channels. Capitello, Agnoli, Begalli and Codurri (2014) investigated the effective strategies adopted by Italian wineries to improve wine brand visibility using social media as a cost-effective marketing tool. Sottini et al. (2019) gathered pictures of the Chianti region in Italy that were posted on Flickr and analyzed the landscape attributes of winescape.

Engagement

Social media offers businesses a unique opportunity to engage with customers in

ways that were not possible in traditional settings. Instagram, one of the largest social media platforms, is particularly for the destination marketers who want to create content that resonates with their audience (Chan et al., 2020).

Engagement is essential for evaluating the relevance of published content. The first level indicators of engagement on Instagram are likes and comments, which signify interest in and support of an organization. Instagram's algorithm prioritizes content with higher engagement: the more likes and comments a post receives, the more likely it is to be shown to a wider audience on Instagram's Explore page or in users' feeds (Lwin, Lu, Sheldenkar, Cayabyab, Yee and Smith, 2020). This makes engagement a critical metric for measuring the success of Instagram marketing campaigns that strongly depend on users' behavior.

Despite the considerable advantages offered by Instagram as a data source, particularly its extensive visual data library and effective metrics for measuring engagement through likes and comments, scientific literature has generally overlooked the potential of social media platforms in wine tourism research. This study aims to analyze how wineries use Instagram's visual content to market their offerings in wine tourism, filling a gap in the literature and providing insights for wineries to improve their marketing strategies and stay competitive.

2.4. Visual content analysis

Image-sharing social media platforms like Instagram generate a great number of visual materials and offer a rich database for research. The application of data science, as an answer to more traditional methodological approaches (interviews, surveys), allows for deriving deeper knowledge in the field of visual tourism research (Mazanec, 2020).

Content analysis is the most commonly used method of photograph encoding (Stepchenkova and Zhan, 2013). This method is attribute-based and focuses on quantitatively describing the appearance of specific themes and attributes in a collection of images. It allows for the identification of the main focal themes in the pictures and records their frequencies, co-occurrence, clustering, and other related issues. Content analysis addresses the elements of a picture as stand-alone attributes by "breaking" an image into different attributes or categories through an analysis of its contents. However, there is no homogenous categorization that enables standardization of the process, making it difficult to develop a standardized categorization. Moreover, theme-based image collections may have fundamentally different attributes depending on the topic they represent.

Picazo and Moreno-Gil (2019) conducted a literature review of tourism studies between 1996 and 2015 and found 497 destination image attributes. While the types and numbers of image categories identified in existing studies vary, some authors have attempted to establish a theoretical framework for classifying images. For example, Echtner (2002) introduced the "4p" methodology for analyzing textual and visual content, which classified images based on attractions (natural and artificial), participants (hosts and tourists), and actions and atmosphere. On the other hand, Macionis (2004) proposed a new conceptual approach called the "3p" model that included place (location), performance (staging, plot, and story timeline), and personality (actors and characters). Therefore, it can be concluded that destination images have been analyzed in the scientific literature along three main dimensions: the depicted subject (people), the actions (activities performed), and the physical space (place attributes) (Picazo and Moreno-Gil, 2019).

In the scientific literature, people depicted in photographs have been classified according to various attributes, including the type of person (local, tourist, employee), relevance to the scene (primary, secondary), number of people, gender, ethnicity, age, and travel group (Picazo and Moreno-Gil, 2019). Activity-wise, some studies have differentiated between active actions, which require physical effort, and passive actions, which involve mental or leisure activities (Edelheim, 2007; Jenkins, 2003). However,

the activities dimension is still under-researched, and further investigation is needed, especially regarding the role of the location and physical environment where the activity takes place (Pearce, Wu, and Chen, 2015). Finally, in terms of the physical space dimension, scientific studies have identified three main categories: landscape and nature (forests, mountains, beaches, lakes, flora, and fauna), culture and heritage (art, relics, architecture, lifestyle, sculptures, gastronomy, temples), and specific icons at a destination (Picazo and Moreno-Gil, 2019).

There are some other worth mentioning studies that investigated visual elements of tourism pictures. For example, Kim and Stepchenkova (2015) identified several attributes such as heritage, nature landscape, architecture, and transport in which architectural heritage-related pictures seemed to strengthen tourists' intentions and desire to visit Russia. Yu and Egger (2021) analyzed almost 8000 images from Instagram travel accounts and classified those images into twenty-four categories.

Understanding and managing the content of photographs is a fundamental issue to solve before projecting the image of any destination. It appears that a methodological framework for evaluating destination visual materials is currently lacking. To address this issue, new automated techniques that use intelligent software for image analysis may be necessary. However, it is essential to establish a conceptual classification of these images before introducing intelligent algorithms to scan them (Picazo and Moreno-Gil, 2019).

3. RESEARCH METHODOLOGY

The primary objective of this study is to utilize the winescape model to identify visual content that drives the highest level of user engagement within the wine tourism sector. Based on the findings, we aim to provide recommendations for social media strategy.

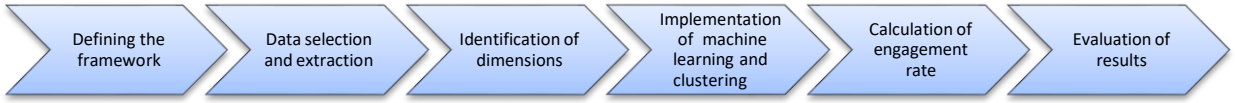
To reach the above objective the study aims:

- To identify the dimensions and clusters of the image content published by wineries.
- To find out the level of user engagement within each cluster.
- To give recommendations about Instagram content strategy for marketers and wineries.

The present research aims to achieve its goals by following a specific set of sequential steps, which are described in Figure 3.1.

SEQUENCE OF RESEARCH

Figure 3.1 - Sequence of the research



3.1. Defining the framework

Bruwer and Lesschaeve's (2012) winescape conceptual framework was adapted as a theoretical ground for this research. This framework was developed to describe the factors that influence tourists' destination perception specifically in the wine tourism sector, which allows to use this framework in various studies within the wine tourism industry, including pictorial analysis. Thus, the original framework provides a comprehensive and systematic way to analyze visual content related to wineries and vineyards. The winescape theory has been widely used in tourism and hospitality research to analyze the visual representation of wineries and vineyards (Sekhniashvili, 2021; Sottini et al., 2019). Therefore, its application to our analysis of images is not only logical but also supported by a significant body of previous research. By applying this framework to our analysis, we aimed to identify and understand the type of visual content that resonates the most with viewers, as indicated by engagement rates for each

dimension.

However, as a matter of fact, as the winescape framework was designed to describe tourists' perception of a winery on site and, as the current research focuses on the pictorial representation of the wineries on the social media platform, several changes to the original conceptual framework had to be made before the beginning of the data analysis (Bruwer and Lesschaeve, 2012).

As can be seen from the literature review the eight winescape dimensions are: (1)Nature-related, (2)Wineries and vineyards, (3)Heritage-related towns, (4)Wine and other products, (5)Signage and layout, (6)Ambient factors, (7)Service staff and locals, (8)Fun – activities-based. For this research the Ambient factors dimension was deduced, even though the similar dimension with different names – Atmosphere or Atmospheric moods was considered by other researches focusing on the visual content analysis (Stepchenkova and Zhan, 2013; Yu, Xie, and Wen, 2020). The decision to omit this dimension can be explained by the fact that images from this dimension are identified by particular color characteristics. The present research focuses only on the content of the image, on what is depicted and does not analyze more complex image characteristics such as color. Thus, it will not be possible to identify images that could be characterized as Ambient factors. Additionally, according to the original winescape framework Ambient factors dimension is a multidimensional and subjective concept, that is often individual, and is relevant to a perceived destination image in a more generic context rather than destination perception through visual content. Therefore, it was excluded from the analysis.

Furthermore, the dimension originally named Service staff and locals was renamed to the more inclusive People dimension. This decision was made based on the observation that wineries not only post pictures of their staff but also of tourists enjoying their experiences. Additionally, the original name Service staff and locals was deemed more relevant to on-site destination image perception, whereas the new People dimension reflects a broader range of individuals who are featured in winery-related visual content. That decision can also be supported by Picazo and Moreno-Gil (2019)

literature research and distinction of three dimensions, one of which is People dimension. The last Fun – activities-based similar to Picazo and Moreno-Gil (2019) framework was renamed to Activities for convenience.

Thus, the research framework was modified to the following seven dimensions: (1)Nature-related, (2)Wineries and vineyards, (3)Heritage-related towns, (4)Wine and other products, (5)Signage and layout, (6)People, (7)Fun – activities-based. As can be seen from Figure 3.2.

FIRST WINESCAPE FRAMEWORK

Figure 3.2 - The pre-analysis winescape framework for image analysis

3.2. Data selection and extraction

To conduct a comprehensive analysis of wineries, it is important to consider the fact that many wineries are small, family-owned businesses that may not have a significant social media presence. Therefore, it was important to ensure that the research included wineries that are well-established in the wine tourism market. To accomplish this, the study referred to Worldsbestvineyards.com, an industry-recognized online platform that annually publishes a list of 100 world's best vineyards for wine tasting, selected by esteemed wine industry experts. The platform is recognized by industry professionals and, therefore, can be used as a reliable data source.

To ensure that our selection of wineries was both relevant and reliable, we selected Instagram accounts with a similar number of followers, ranging from 57 to 61 thousand. This approach facilitated a more accurate comparison of engagement rates of visual content, as each account was expected to reach a similarly sized audience.

The data was collected using Apify, a web scraping tool (https://apify.com/), which enabled to extract a total of 1216 images for the analysis. Data included only images, reels and videos were excluded from the analysis. Similarly, to Stepchenkova study only the first picture from any post that contained multiple images was extracted (Stepchenkova and Zhan, 2013). That is because the initial photo in a series generally receives more views and engagement from users than subsequent photos (Stepchenkova and Zhan, 2013). By adopting this approach, we were able to ensure the validity and relevance of the findings, while minimizing the risk of any potential bias that may have arisen from analyzing subsequent photos in the same post.

COLLECTED DATA

Table 3.1 - Numerical information about the collected data

Name of the winery	Number of posts	Number of followers	Number of images
Winery 1	1045	63.1K	261
Winery 2	4381	60.2k	201
Winery 3	2178	61.7k	241
Winery 4	1045	60.2k	302
Winery 5	1772	57.1k	228
Total			**1216**

In social media research, it's important to consider that engagement rates for posts can change after data collection. Yu and Egger (2021) found that the Instagram algorithm makes older posts less visible to users and that the growth in engagement rate follows a logarithmic pattern, with a particularly noticeable increase in the first three days after a post is published. Thus, while the engagement rate of older posts may remain unchanged, posts published around the time of data collection can still see a significant increase in likes and comments. Similarly, to Yu and Egger's (2021) study, data was re-collected 14 days after the first data extraction. The number of likes and comments for some posts, especially the most recent, expectedly increased.

3.3. Identification of dimensions

To begin the analysis, the collected images were manually sorted into seven dimensions according to the defined framework. Each picture was sorted only to one dimension. The sorting process was conducted in two rounds, with a double-checking of each dimension's data after the first round to ensure relevance.

3.4. Implementation of machine learning and clustering

The main goal on this stage was to identify well defined distinctive sub-groups or clusters of data in the datasets from each dimension. The data in each dimension was analyzed using Orange, a data mining software commonly used for cluster analysis. The software's ability to handle large datasets and perform complex data analysis tasks, including clustering and classification, makes it suitable for pictorial content analysis.

This research used cluster analysis technique in order to identify clusters. Via this method, Orange was able to identify subgroups of data that shared similar characteristics within each dimension.

To be classified as a distinct cluster, a dataset needed to contain at least 10 images in Orange clustering modules, ensuring that each cluster had sufficient representation and reducing the likelihood of chance groupings. Not every module containing more than 10 images was automatically classified as a cluster; rather, clustering was contingent upon a significant differentiation in the content of the images.

The choice of the clusters' names was based on the names of categories used to describe image content in past research and was derived from Picazo and Moreno-Gil's (2019) literature analysis, if those names reflected the data content.

3.5. Calculation of engagement rate

The subsequent step was to identify the average engagement rate for each cluster and dimension of all posts combined, as well as posts of each winery. The engagement rate for a post was determined by dividing the sum of likes and comments by the number of followers of the user who posted it (Chan et al., 2020). Engagement rate was selected as it is the official metric for social media platforms and widely recognized as the predominant measure for evaluating Instagram marketing campaigns (Chan et al., 2020).

4. RESULTS

4.1. New winescape model

In the process of analysis, it became clear that the pre-defined framework, described in the methodology section, needed to be revised. Thus, the following adjustments were carried out, as can be seen from Figure 4.1.

FINAL WINESCAPE FRAMEWORK

Figure 4.1 - The final winescape framework for pictorial analysis

The Heritage-related towns dimension was omitted as there was no images in the collected data that would support it, therefore, it is irrelevant. Wineries and vineyards dimension was divided into two separate dimensions – Winery and Vineyard, as they contain a high volume of data which complicates the analysis, are fundamentally

different, and are not inseparably connected to each other in visual representation as opposed to the on-site perception.

The Signage and layout dimension in the context of Bruwer and Lesschaeve's (2012) winescape theory refers to the physical or visual cues that guide visitors through a wine tourism destination, such as maps, directional signs, and informational displays. Maps and directional signs were not found in the analyzed data. However, the study found that wineries tend to post informative pictorial content that includes information about discounts, special offers, wine advertisements, winery news, and event announcements. Hence, the dimension was retained with its initial name Signage and layout and was classified into two clusters, namely Wine promotion and Promotion.

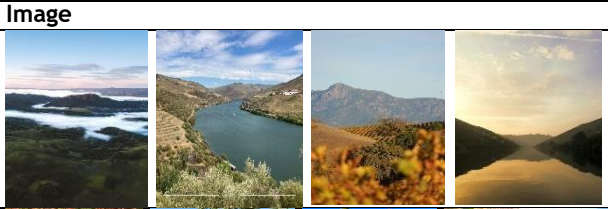
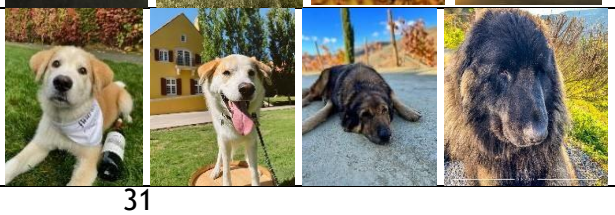
4.2. Clustering

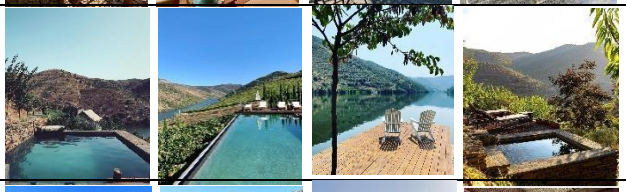
After sorting the images into seven dimensions and applying the machine learning method the research identified twenty clusters. The only dimension where no clusters were identified is the People dimension.

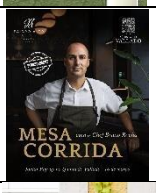
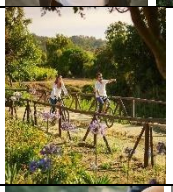
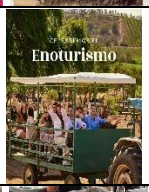
The dimensions, clusters, the visual representation of each cluster, the number of images it was represented with and the average engagement rate of each cluster are shown in the Table 4.1.

DIMENSIONS AND CLUSTER WITHIN THE WINESCAPE FRAMEWORK

Table 4.1 - Dimensions and clusters within the winescape model. Note: (IMG) – number of images, (ENG) – average engagement rate.

Dimension	Cluster	Name	Image	IMG	ENG
Nature-related	1	Landscape		34	0.84
	2	Fauna		10	0.88

	3	Flora		46	0.51
Winery	4	Architecture		48	1.66
	5	Barrels & cellars		25	0.87
	6	Interior		36	1.19
	7	Outside dining		21	1.18
	8	Pool and water		33	1.72
	9	Wine estate		70	1.23
Vineyard	10	Vineyard		76	0.55
	11	Transport		10	0.85
	12	Work at the vineyard		56	0.51

Wine and other products	13	Wine and other drinks					330	0.56
	14	Wine and food					78	0.55
	15	Food					32	0.44
Signage and layout	16	Wine promotion					65	0.44
	17	Promotion					70	1.58
People	18	People					99	0.71
Activities	19	Active activities					14	0.31
	20	Wine drinking and eating					63	0.48

While most clusters' names already contain information of the type of images they represent and do not require explanation, some clusters' names and content need to be clarified. In that manner the cluster Wine estate goes for pictures of the winery photo from the outside, the winery shop and the production room. The Outside dining cluster has pictures of outside dining areas without people. Images depicting people drinking wine or eating were classified as Wine drinking and eating. The Work at the vineyard

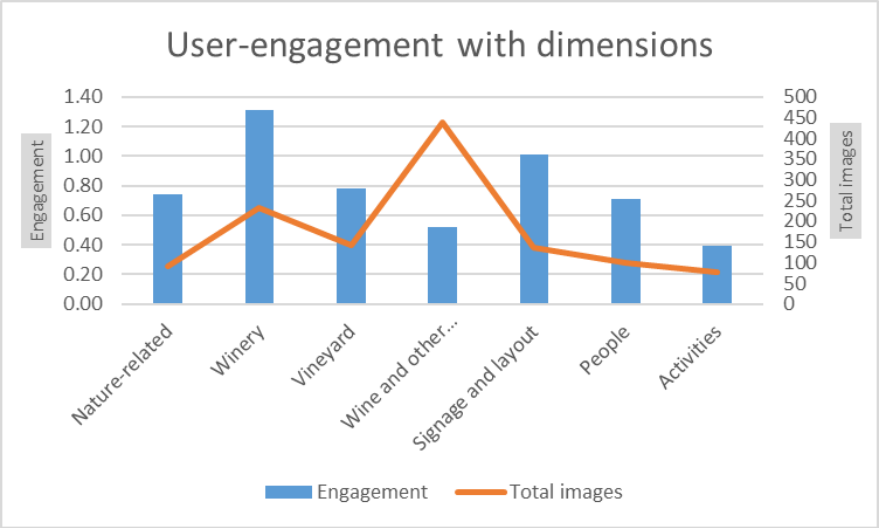
always has people in the photo involved in labor in the vineyard, such as picking grapes or pruning vines. The Active activities cluster, similar to Picazo and Moreno-Gil's (2019) categorization, represents pictures of people being involved in a particular activity at the winery such as biking, touring, horse riding, walking, hiking. In the Signage and layout dimension there are two clusters – Wine promotion and promotion. The Wine promotion cluster typically includes one or more images of wine bottles and is usually focused on advertising wine, promoting discounts for specific wines, or highlighting awards for particular wines. On the other hand, the images in the Promotion cluster generally do not feature wine bottles and instead showcase promotional content such as announcements of events, news about the winery, or other information related to the advertisement without depicting any wine bottles.

The algorithm did not identify any pattern that would identify distinct clusters with specific characteristics in the People dimension. More complex machine learning algorithms can be applied in future studies to explore if there are any trends in this dimension.

4.3. Engagement

The study found that the most engaging dimensions in terms of the average engagement rate are Winery and Signage and layout while the dimensions which users interact with the least are Wine and other products and Activities. While the most represented dimensions in terms of the number of images are Wine and other products and Winery, and the dimensions that are the least published are Nature-related and Activities. So that way, many images of Wine and other products are published, while the engagement rate of this dimension is one of the lowest. Signage and layout can be considered underrepresented, considering it has one of the highest engagement rates.

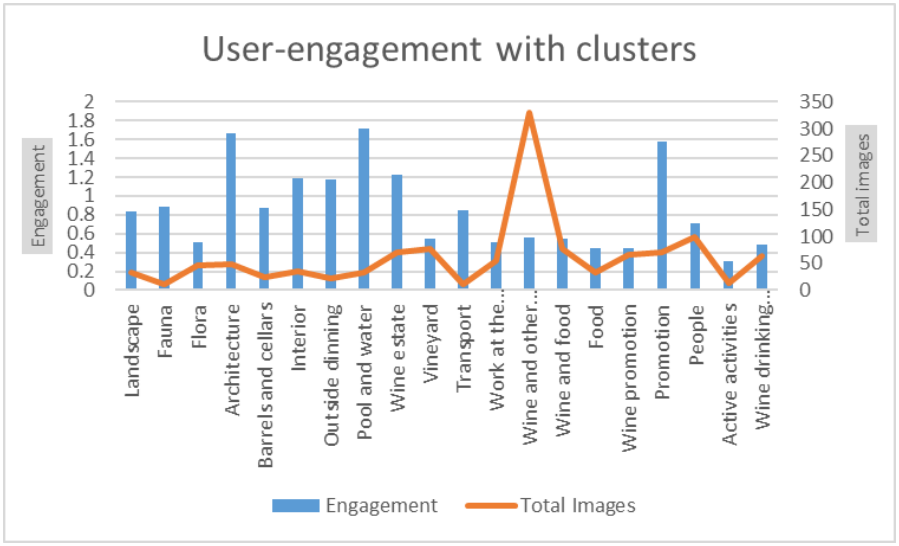
Figure 4.2 - User-engagement with dimensions



The cluster section also shows several insights, as can be seen from Figure 4.3. The most engaging clusters are Pooland water, Architecture, Promotion, Wine estate, Interior and Outside dining, while theleast engaging are Wine drinking and eating, Food, Wine promotion, Active activities.

The most published cluster with a significantly higher number of images is Wine and other drinks which is also the cluster with a significantly low level of average engagement. Other clusters with high number of images are People, Wine promotion, Wine and food, Vineyard, Wine estate and Promotion. As can be seen from the graph Wine promotion cluster has one of the lowest engagement rates among all the clusters. The least represented clusters in terms of the number of images are Transport and Fauna, both have good engagement rates.

Figure 4.3 - User-engagement with clusters



From this data two main trends can be seen – 1) Underrepresented clusters and 2) Overrepresented clusters. The underrepresented cluster is the one that has high or relatively high, compared to the total rates, engagement rates, and low or relatively low, compared to the total number of images, quantitative image representation. The overrepresented cluster is the one that, subsequently, has a low engagement rate but high representation. Thus, the underrepresented clusters are Outside dining, Pool and water, Interior, Barrels and cellars, Fauna and Transport. The overrepresented clusters are Wine and other drinks, Food, Wine promotion, Wine drinking and eating.

To sum up, the study showed that the most engaging clusters were Pool and water, Architecture, Promotion, Wine estate, Interior, and Outside dining. On the other hand, Wine drinking and eating, Food, Wine promotion, and Active activities were the least engaging clusters. Moreover, the most published cluster with a significantly higher number of images was Wine and other drinks, which had one of the lowest average engagement rates. The underrepresented clusters were Outside dining, Pool and water, Interior, Barrels and cellars, Fauna, and Transport. The overrepresented clusters were Wine and other drinks, Food, Wine promotion, and Wine drinking and eating.

The results of this study demonstrate that analyzing Instagram imagery data through the adapted winescape framework can provide valuable insights about user engagement with visual content in wine tourism research.

In terms of practical implications, it can be inferred that the visual content of images plays a crucial role in determining the level of engagement with customers, both existing and potential, for wineries. Therefore, selecting the appropriate type of visual content can significantly enhance the engagement rate of wineries with their target audience.

4.4. Discussions

Bruwer and Lesschaeve (2012) proposed testing the winescape framework in various wine tourism environments, and this study examines its applicability to the social media environment, where pictorial content shapes the destination. The framework proved effective, but modifications were required to align with the online destination image specifications.

However, this study only focuses on wineries' Instagram image content, indicating the need to test the framework on visual content from other wine tourism agents such as wine tour guides or wine tour companies, as well as other social media platforms. This approach will provide a comprehensive understanding of the framework's effectiveness across various wine tourism contexts.

4. CONCLUSION

5.1. Summary

This study has methodological, theoretical, and practical implications. Through the application of Bruwer and Lesschaeve’s (2012) winescape framework to imagery data, this study has made several significant findings. While the original winescape model

was designed primarily for analyzing a generic destination image perception, modifications were made to adapt it for pictorial image analysis. As a result, seven dimensions and twenty clusters were identified. The developed framework provides a strong foundation for future studies of imagery content within the wine tourism industry.

The research has achieved its primary objective of identifying the most effective types of imagery content that drive maximum user engagement. The study found that the dimensions that receive the most engagement from users are Winery and Signage and layout, while Wine and other products and Activities are the least engaging. Interestingly, the dimensions that are the most represented in terms of the number of images are Wine and other products and Winery, while the least published dimensions are Nature-related and Activities. This suggests that the number of images published does not necessarily correspond to user engagement.

Regarding the cluster section, the most engaging clusters are Pool and water, Architecture, Promotion, Wine estate, Interior, and Outside dining, while Wine drinking and eating, Food, Wine promotion, and Active activities are the least engagingclusters. The most published cluster with a significantly higher number of images is Wine and other drinks, which also has a significantly low level of average engagement.In contrast, Transport and Fauna are the least represented clusters, despite having good engagement rates.

Two main trends can be observed: underrepresented and overrepresented clusters. Underrepresented clusters are Outside dining, Pool and water, Interior, Barrels and cellars, Fauna, and Transport. Overrepresented clusters are Wine and other drinks, Food, Wine promotion, and Wine drinking and eating.

These findings offer practical value by shedding light on the question of which data types are most likely to be interesting to users and inspire them to interact with the winery account, and which visual data may be less compelling.

It is important to mention that the study only examines the first image in each post, including the posts that contain a series of images. Thus, potentially overlooking the impact of the additional images on user engagement. Future research could expand beyond this boundary and analyze the series of images in these posts, providing valuable insights into how multi-image posts impact engagement rates.

5.2. Implication for the practice and future research

The findings of this study have significant practical implications as they provide valuable data for developing a more effective visual content strategy for Instagram. By selecting the most engaging content, businesses can attract more customers, increase the loyalty of existing customers, and improve their social media presence among a wider audience.

From the scientific point of view, the research finding offers a framework designed for image content analysis in wine tourism research. However, to develop a more comprehensive framework, it is essential to conduct further research on a larger number of wineries. Furthermore, this framework can also be applied to analyze other forms of visual content, such as videos.

5.3. Limitations

The present study has limitations in providing insights into the specific strategies employed by wineries to attract followers on Instagram, as well as the potential utilization of paid advertisements to drive engagement rates higher than they would have been organically.

The utilized machine learning algorithm has not defined any distinctive clusters within the People dimension. That is due to the Orange software limitations. Future

studies may address more complex machine learning algorithms to analyze this dimension.

Furthermore, the research solely focuses on analyzing the content of images, thus overlooking such factors as the use of hashtags, post descriptions, tags, and geo-location marks that can potentially impact the engagement rate. Instagram does not offer a tool to measure the impact of those factors on the engagement rate. However, future research analyzing those factors can be done to understand their role in user engagement.

Bibliography

Akgün, A.E., Senturk, H.A., Keskin, H., & Onal, I. (2020) The relationships among nostalgic emotion, destination images and tourist behaviors: An empirical study of Istanbul. *Journal of Destination Marketing & Management*, 16, 100-113.

Alebaki, M., Psimouli, M., & Kladou, S. (2022) Social media for wine tourism: The digital winescape of Cretan wineries in the era of COVID-19. *Global Strategic Management in the Service Industry: A Perspective of the New Era*, Bingley, Emerald Publishing Limited, 81-98.

Bruwer, J., & Gross, M. J. (2017*)* A multilayered macro approach toconceptualizing the winescape construct for wine tourism. *Tourism Analysis*, 22(4),497-509.

Bruwer, J., & Joy, A., (2017) Tourism destination image (TDI) perception of a Canadian regional winescape: a free-text macro approach. *Tourism Recreation Research* 42 (2), 1-13.

Bruwer, J., & Lesschaeve, I. (2012) Wine tourists' destination region brand image perception and antecedents: Conceptualization of a winescape framework. *Journal of Travel & Tourism Marketing*, 29(7), 611-628.

Capitello, R., Agnoli, L., Begalli, D., & Codurri, S., (2014) Social media strategies and corporate brand visibility in the wine industry: lessons from an Italian case study. *EuroMed Journal of Business*, 9 (2), 129-148.

Chan, T. T., Lam, A. H., & Dickson, K. W. (2020) From Facebook to Instagram: Exploring user engagement in an academic library. *The Journal of Academic Librarianship*, 46(6), 102-129.

Chen, C. F., & Phou, S. (2013) A closer look at destination: Image, personality,

relationship and loyalty. *Tourism Management*, 36, 269-278.

Echtner, C. M. (2002) The content of Third World tourism marketing: a 4Aapproach. *International Journal of tourism research*, 4(6), 413-434.

Edelheim, J. R. (2007) Hidden messages: A polysemic reading of tourist brochures. *Journal of Vacation Marketing*, 13(1), 5-17.

Govers, R., Go, F. M., & Kumar, K. (2007) Promoting tourism destination image, *Journal of Travel Research*, 46(1), 15-23.

Grosspietsch, M. (2006*)* Perceived and projected images of Rwanda: visitor and international tour operator perspectives. *Tourism Management*, 27(2), 225-234.

Jenkins, O. (2003) Photography and travel brochures: The circle of representation. *An International Journal of Tourism Space, Place and Environment*, 5, 305-328.

Kallmuenzer, A., Nikolakis, W., Peters, M., & Zanon, J. (2018) Trade-offs between dimensions of sustainability: Exploratory evidence from family firms in rural tourism regions. *Journal of Sustainable Tourism*, 26(7), 1204-1221.

Lwin, M. O., Lu, J., Sheldenkar, A., Cayabyab, Y. M., Yee, A. Z., & Smith, H. E. (2020) Temporal and textual analysis of social media on collective discourses during the Zika virus pandemic. *BMC Public Health*, 20(1), 1-9.

Mak, A. H. (2017) Online destination image: Comparing national tourism organisation's and tourists' perspectives. *Tourism management*, 60, 280-297.

Mazanec, J. A. (2020) Hidden theorizing in big data analytics: With a reference to tourism design research. *Annals of Tourism Research*, 83, 102- 119.

Mitchell, R., Charters, S., & Albrecht, J.N., (2012) Cultural systems and the wine tourism product. *Annals of Tourism Research*, 39 (1), 311-335.

Munar, A. M., & Jacobsen, J. K. (2013) Motivations for sharing tourism experiences through social media. *Tourism Management*, 35, 13-24.

Obermayer, N., Kovari, E., Leinonen, J., Bak, G., & Valeri, M. (2022) How social media practices shape family business performance: the wine industry case study. *European Management Journal*, 40(3), 360-371.

Paül i Agustí, D. (2018) Characterizing the location of tourist images in cities. Differences in user-generated images (Instagram), official tourist brochures and travel guides. *Annals of Tourism Research*, 73, 103-115.

Pearce, P. L., Wu, M. Y., & Chen, T. (2015) The spectacular and the mundane: Chinese tourists' online representations of an iconic landscape journey. *Journal of destination marketing & management*, 4(1), 24-35.

Picazo, P., & Moreno-Gil, S. (2019). Analysis of the projected image of tourism destinations on photographs: A literature review to prepare for the future. *Journal of Vacation Marketing*, 25(1), 3-24.

Sekhniashvili, G. (2021) A review of wine tourism destination image studies from 2001 to 2020. *GeoJournal of Tourism and Geosites*, 37(3), 757-767.

Sottini, V. A., Barbierato, E., Bernetti, I., Capecchi, I., Fabbrizzi, S., & Menghini, S. (2019) Winescape perception and big data analysis: An assessment through social media photographs in the Chianti Classico region. *Wine Economics and Policy*, 8(2), 127-140.

Statista. (2022) Wine tourism in European countries - statistics & facts. Available at: https://www.statista.com/topics/8997/wine-tourism-in-european-countries/#topicOverview, (accessed: 15.02.2023).

Statista. (2023) Digitalization of the travel industry - statistics & facts. Available at: https://www.statista.com/topics/7589/digitalization-of-the-travel-industry/ (accessed: 22.03.2023).

Stepchenkova, S., & Zhan, F. (2013) Visual destination images of Peru: Comparative content analysis of DMO and user-generated photography. *Tourism management*, 36, 590-601.

Viana, N. A. (2016) Digital wine marketing: Social media marketing for the wine industry, *BIO Web of Conferences*, 7, 103-111.

Wilson, D., Quinton, S., (2012) Let's talk about wine: does Twitter have value? *International Journal of Wine Business*, 24 (4), 271-286.

Xiang, Z., & Gretzel, U. (2010) Role of social media in online travel information search, *Tourism Management*, 31(2), 179-188.

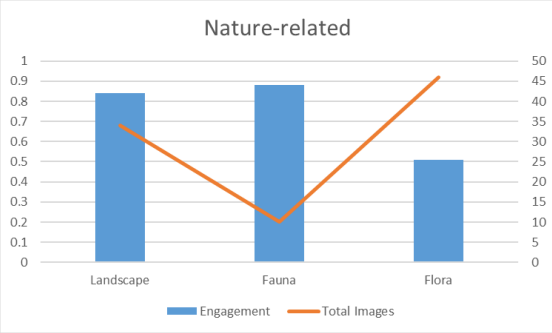
Yu, J., & Egger, R. (2021) Color and engagement in touristic Instagram pictures:A machine learning approach. *Annals of Tourism Research*, 89, 103-114.

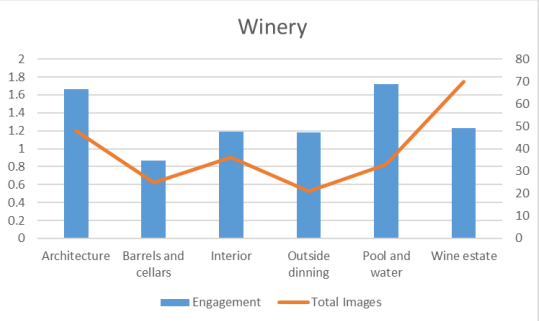
Yu, C. E., Xie, S. Y., & Wen, J. (2020) Coloring the destination: The role of color psychology on Instagram. *Tourism Management*, 80, 104-110.

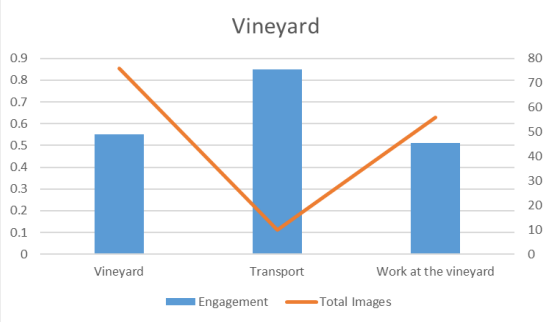
Zeng, B., & Gerritsen, R. (2014) What do we know about social media in tourism?A review. *Tourism management perspectives*, 10, 27-36.

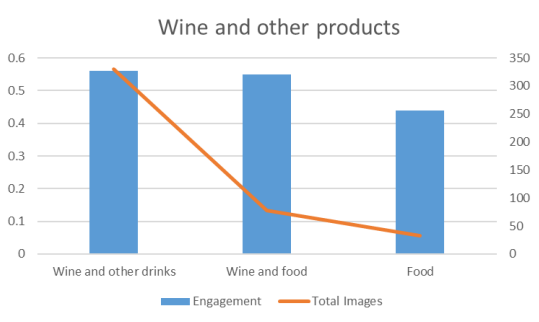
APPENDIX A

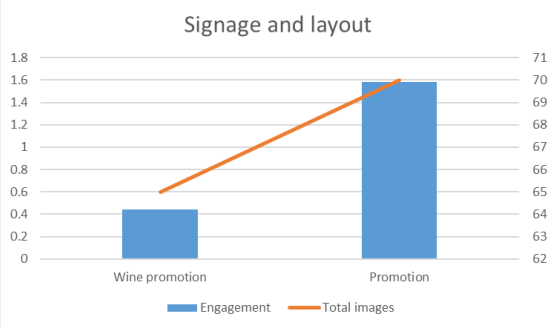
User engagement rate with clusters in each dimension

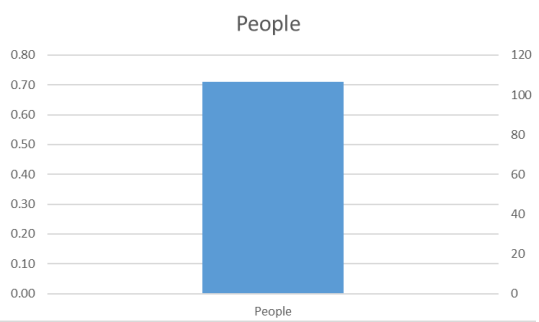


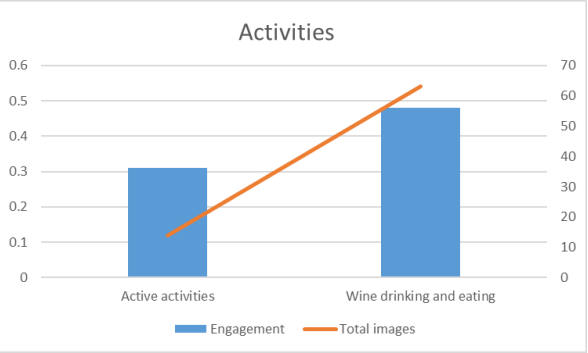








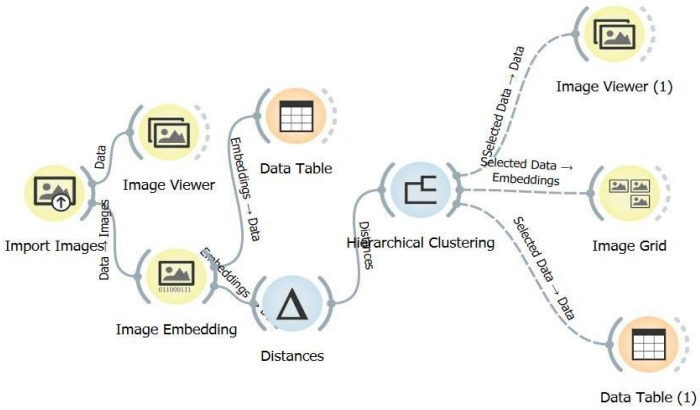




APPENDIX B

Representation of cluster analysis in Orange

Machine learning model



Example of clustering data