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MASTER THESIS

The Use of Crossmodal Correspondence on Designing a Multisensorial Wine Experience for Wineries

Developed at Quinta da Plansel
Alentejo, Portugal

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ABSTRACT

The changes in preferences of tourists over the years, especially with the Covid-19 pandemic, brought the necessity for innovations in the tourism offers worldwide. The changes also had effects on wine businesses as in all the segments of tourism. Focusing on the wine tourism scope, even though many wineries made changes that were crucial during the time of Covid-19, there are yet-to-be explored opportunities and concepts that can be implemented in the wine business. In this context, this study aims to create a deeper understanding of what is the crossmodal correspondence, i.e., sonic seasoning, and how it can be used for new wine tourism offer implementations which create opportunities for wine tourists who are searching for a unique experience while corresponding the goals of the wineries such as higher brand awareness, increased number of visitors.

The results gathered from this study show the potential benefits that wineries may avail through the implementation of a new multisensory experience using crossmodal correspondence or sonic seasoning in particular. It should be underlined that this study has an exploratory nature through semi-structured interviews with the wineries that have already implemented the aforementioned experiences and supported with secondary qualitative data. As a part of this study, Quinta da Plansel, a family winery located in the Alentejo region of Portugal, is also being analyzed both internally and externally, which can potentially offer a multisensorial wine experience, setting an example of how a winery can implement a multisensorial experience with similar infrastructures and what kind of analysis could be useful in throughout the process.

In the following of all analyses and results, a proposal was created to be realized at Quinta da Plansel, which can also be implemented by other wineries that have the objective to implement a multisensorial wine experience as well as having the proper infrastructure, using different variables or settings.

Keywords: Multisensorial wine experiences, crossmodal correspondence, sonic seasoning, wine tourism

Abbreviations

APENO: Associação Portuguesa de Enoturismo (Portuguese Wine Tourism Association)

SSI: Semi-structured interview

B2B: Business to Business

Covid-19: Coronavirus disease

UNWTO: United Nations World Tourism Organization

JRC: Joint Research Center – European Commission

OBJECTIVES

The goal of this study is to obtain more in-depth knowledge about crossmodal correspondence, i.e., sonic seasoning, and how it can be used for new wine tourism offer implementations with different variations and variables. It aims to explore what kind of benefits multisensorial wine experiences can bring to a business, as well as explore the possible limitations and challenges that can be faced. This study was developed conforming to the following objectives below as the means to accomplish the goal of this study:

- Description and analysis of emerging tourism trends that came to the surface with the Covid-19 pandemic
- Obtaining qualitative data directly from the companies that implement multisensorial experiences in their businesses and performing an analysis
- Identifying the benefits, potentials, and limitations that multisensorial experiences bring to wine businesses from the business point of view
- Creating a fundamental guideline for multisensorial experience implementation

INTRODUCTION

The crossmodal correspondences in wineries are currently underexplored. Even though the crossmodal correspondence, in general, has been researched since the 1960s, more in-depth experiments and research are being conducted relatively in recent times. Another point about the recent studies and experiments regarding crossmodal correspondences is that the focus on wine is increasing. The crossmodal correspondence between wine and music, wine and environment or food is being studied in detail. As all this research creates a base for a better understanding of crossmodal correspondences, there appeared to be that there are almost no studies focusing on using crossmodal correspondences at wineries to implement multisensorial experiences. There is no bridge between the psychological and experimental studies and the use of crossmodal correspondence in the wine industry. This study aims to start or support that bridge in order to collect and present more insight from the wineries that implemented the crossmodal correspondence concept to other wineries that can potentially implement a multisensorial experience within their business.

Throughout this study, as the internship place of the author, Quinta da Plansel will be introduced and analyzed. The bibliographical research will focus on the changes in tourism trends and memorable tourism experiences but mainly on multisensorial experiences, which is fundamental

for this study. After introducing the problem observed, and the nature of this research, the collected data will be introduced and analyzed. According to the analyzed data, the limitations will also be underlined, and the proposal for a multisensorial wine experience will be introduced according to the results obtained.

The Company: Quinta da Plansel

Quinta da Plansel is a winery founded in 1997 by Dorina Lindemann in Montemor-o-Novo, in Alentejo region. She followed her father's footsteps to Portugal after completing her studies in Oenology & Viticulture at Geisenheim University, Germany. The sailing boat accident of Hans Jorg Böhm, Dorina Lindemann's father, around Lisbon back in 1961 gave the German wine importer a chance to explore Portugal and plant the seeds of his own project of establishing a company on vine plant nursery in Alentejo. As a result, a German trading family and its 200-year-old family wine tradition gained a foothold in Alentejo.

The name Plansel comes from the combination of "Selected Plants". It is a family winery that is the first winery run only by women, and it is focused on mono-varietal wines, which is not common in Portugal. Nowadays, Júlia and Luísa, Dorina Lindemann-Böhm's daughters, joined her in the project as Júlia Lindemann takes care of the marketing and communication department of the winery. In contrast, Luísa Lindemann joins the winemaking team of the Quinta as she continues her studies in her mother's footsteps by studying Oenology & Viticulture at the Geisenheim University.

Quinta da Plansel has 70 hectares of vineyards divided into 3 locations, 70 hectares, producing 400,000 to 450,000 bottles each year. 70% of production is red, 30% is white, and 10% is rose, sweet wines, sparkling, and spumante. Nearly 50% of the production is exported each year. While Quinta da Plansel exports its wines to 15 different countries, the leading countries are Germany and Switzerland. Quinta da Plansel has also conducted extensive scientific studies for vine selection, cataloging, and technical improvements of Portuguese grape varieties, focusing on Touriga Nacional, Tinta Barroca, and Touriga Franca. Alongside their recent studies, the company is working on their hybrid grape variety and wine that will soon be produced and join the market.

Activities During the Internship

A variety of activities was completed throughout the internship. The purpose of the final professional internship at Quinta da Plansel was to develop an experience design combining wine and senses through art. To design the experience as a new wine tourism offer for Quinta da

Plansel, fundamental infrastructural research needed to be completed alongside the activities which led to the first analysis of Quinta da Plansel. The duties throughout the internship were supporting the Wine Tourism and Marketing Department. Responsibilities within the internship period were conducting wine tastings and visits for international visitors. When needed, creating visual content for the social media channels and finding new ideas to make social media content was done.

As Quinta da Plansel is a multilingual family winery, the languages vary between Portuguese, English & German, which brings the necessity of translation between languages and proofreading before texts for flyers, catalogs, and other documents go for printing as well as working on the digitalization of the winery database regarding B2B, customer, and Plansel Wine School contacts. During the work on the winery's database, 470 contacts were recovered.

Alongside the mentioned duty and activities, meetings with the Professional Supervisor Dorina Lindemann, the CEO, and winemaker of Quinta da Plansel, were regularly made to improve and walk towards the goals of the Quinta. Alongside the Quinta being multilingual, the audience who visited the winery, especially during the internship, were German, Swiss, and American. It is possible to underline that the visitor profile is German and English-speaking nationals as well as some Portuguese nationals.

[Wine Tourism at Quinta da Plansel](#)

Quinta da Plansel offers a diversity of wine tourism activities at the Quinta itself and surrounding areas. There are currently six offers: Wine Tastings, Wine & Dine, Picnic & Wine, A Day at Plansel, Plansel International Wine School, and the newest addition Plansel Accommodation. The price range varies between 6€ up to 80€, and details can be seen in Table 1 in the Annex. All wine tourism offers are available in Portuguese, English, and German. The Quinta preferably provides all the offers above through appointments and is closed during weekends unless there are appointments for activities. The previous number of wine tourism offers was eleven, without the accommodation addition. However, changes were made to reduce the number of offers and focus on the activities with more priority to Quinta da Plansel and more demand.

It is important to underline the strong connection Quinta da Plansel has with arts which shows itself in the winery. The Quinta has an art gallery containing various paintings and sculptures, as well as around the estate itself. Hans Jorg Böhm collected these one-of-a-kind art pieces over the

years. In recent years, Quinta da Plansel held Fado Nights and also Classical Music Concert accompanied by Plansel wines; however, these events did not turn into repetitive offers.

Situation Analysis of Quinta da Plansel

The aim of this situation analysis regarding Quinta da Plansel is to create a ground for understanding through what conditions and environment a proposal is going to be developed, as well as creating a general idea of the current state of the business. During the initial research and company meeting processes, the long-term goals were shared by the CEO and winemaker of Plansel. These goals are;

1. Increasing brand awareness
2. Increasing brand loyalty
3. Increasing wine sales
4. Increasing the number of wine tourists visiting the winery
5. Increasing the level of activity of Plansel International Wine School

Starting from February-March 2022, as aforementioned, the Quinta decreased the amount of wine tourism offered from eleven to six, including the latest addition of premium lodges as accommodation. Throughout the same period, Quinta da Plansel has also increased the number of locations where the WSET courses are offered at five different locations scattered around Portugal. As the company brings more value to its offers, it is important to underline that the Wine Tourism department has a small team.

For the marketing activities, the Quinta receives outside support in the department. A Porto-located marketing agency responsible for content creation, social media management, and national media activities. The agency is also soon to finish the new website of Quinta da Plansel.

Brief Swot Analysis

Table 2. Swot Analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> • Good connection with art at the winery • Award-winning wines • Various wine tourism offers • First WSET course provider at a winery in Portugal • Good presence on social media platforms 	<ul style="list-style-type: none"> • Inconsistent and inefficient database • Lack of marketing strategy • Limited wine tourism staff • Lack of wine tourism staff training • UX Design of the website • Not actively using Google Analytics and Google Ads
Opportunities	Threats
<ul style="list-style-type: none"> • Increases in the volume of visitors to Alentejo Portugal • Alentejo region's worldwide recognition • Digitalization • Good infrastructure for emerging tourism trends through the landscape, historical, and gastronomical values in the Alentejo region 	<ul style="list-style-type: none"> • The length of the transition period from pandemic to endemic • Lack of database in Portugal regarding wine tourism • Competition in the region • Inflation both in Portugal and worldwide

SWOT Analysis Summary

According to the SWOT Analysis, Quinta da Plansel has many strengths and a lot to offer. The current opportunities in the region also create a ground for improvements at the Quinta to accomplish its long-term goals. However, it is important to recognize the threats affecting many businesses and potential customers and how they behave towards tourism and buying habits, as well as the weaknesses of the winery. This period of time with the current crises around the world could be beneficial for Quinta to work on the setbacks and weaknesses. Marketing and website-related issues could be improved through outsourced assistance with Quinta's current marketing agency, while weaknesses regarding wine tourism training and wine tourism staff also need recognition and improvement.

LITERATURE REVIEW

The literature review on changes in tourism/wine tourism behavior and trends, the definition of memorable tourism experiences (MTE), and various aspects of multisensorial experiences was held to create an infrastructure for creating a multisensorial wine tourism experience at Quinta da Plansel. Aiming to support achieving the winery's long-term goals while responding to the emerging trends in tourism and wine tourism. Academic materials, official reports from UNWTO, and JRC of the European Commission have been judiciously used for the literature review.

According to the recent trend analysis, COVID-19 affects consumer behavior following the global pandemic breakout. There are significant behavioral changes in tourism where consumer choices are remarkably inclined towards less crowded places than being a part of mass tourism to avoid the risk of COVID-19. There are new, original, and sustainable forms of alternatives that can satisfy the new inclinations of tourists. These changes and consumers' unique preferences are great opportunities for more diversified tourism, especially in Europe, where rich territorial and cultural diversity exists (Santos et al., 2020)

It is stated that it could be possible to see more conscious tourists in the post-pandemic tourism world. Tourists are aware of their buying habits and behaviors and can discriminate against false happiness (Lew et al., 2020). This brings necessary changes in the touristic offers, not only answering the new tourism behaviors and expectations but also bringing the need to provide unique and memorable experiences to stand out in such a big sector.

Memorable Tourism Experiences

According to Kotler and Keller (2016), experience is an impression that is caught in consumers' minds. Providing quality experiences to customers is a successful marketing strategy (Prebensen et al., 2013); therefore, providing such quality and memorable experiences potentially will benefit businesses, particularly wine businesses.

The quest for understanding and searching for authentic, memorable tourism experiences started with Boorstin (1964) as a consequence of the growth in mass tourism, followed by a developed scale by Kim, Ritchie, and McCormick (2010) measures memorable tourism experiences (MTEs). Researchers have been studying the touristic experiences, bearing in mind the effect of memory, by acknowledging the significance of memory on tourism behavior in the future. These studies

led to the result that remembered experience is significantly different from the actual experiences that one has had (Kim et al., 2010). According to Lee and Beeler (2009), involvement predicts tourist satisfaction and future behavior, precisely the intention to return and word of mouth. Therefore, differentiating a business in the offers, bringing, and implementing memorable and authentic experiences that include a personal involvement element creates not only a ground for customer satisfaction but also bears the potential to get a positive return on the marketing department of the business such as revisiting, repurchasing the products and experiences, as well as word of mouth. It is a memorable tourism experience that is important for value creation in tourism (Cornelisse, 2018).

Multisensorial Experiences

A multisensory experience is an event where a combination of the senses is done through taste, sight, sound, smell, and touch. Most of the daily activities are multisensory. Even as easy as an activity of walking outside is an example of a multisensory activity or stimuli. Throughout the years, especially over the last ten years, there has been growing attention on multisensorial activities from the scientific perspective, causing a boom in the research and experiments that various researchers are doing. Through the recent studies that have been done regarding the crossmodal correspondences by such researchers as Charles Spence, Qian Janice Wang, Carlos Velasco, Felipe Reinoso-Carvalho, and more dedicated individuals, the explorations deepened and shed light on the crossmodal associations such as between taste and sound, taste and sight, and other possible combinations. Though there is an augmenting interest in the topic, it is also important to underline that the first studies to investigate the cross-modal correspondence, focusing on the taste-sound match in alcoholic beverages, were conducted by Holt-Hansen (1968, 1976), creating an infrastructure for the ongoing investigations and experiments that are being undertaken.

Following the previous studies regarding the combination of taste and sight, there was a two-part multisensory experiment that was held in London in 2014 by Charles Spence, a professor of experimental psychology at Oxford University. The experiment aimed to acknowledge and determine if certain settings and ambient conditions influence the perception of taste and aroma, and if so, up to what scale. The first part of the experiment results showed that the atmosphere and the light in the tasting room could influence the taste/flavor perception. When considering, during such sensory experiences as tasting a wine, following the senses of taste and smell, which can be considered the most important for the experience, the sight follows these senses right after. Through two different studies supporting this matter, it is suggested that such hierarchy

between the senses could be a possibility and affect the experience, as under the discussion of sensory dominance (Campo et al., 2021). In the case of taste and sound, results showed that certain sounds and music also influenced taste perception. It was found that certain sounds appeared to be associated with certain flavors (Knoeferle et al., 2014). Also, in research from Reinoso Carvalho et al. (2017), sound can influence people's taste/ flavor perception. This shows that various research and experiments are being conducted, turning intuition and empirical data into scientific facts, and leading to exciting results that bring a wide range of opportunities to be creative by businesses in the light of scientific results.

The current research brought up the possibility of using sound and music not as a background element as it is often used but as one of the main elements that need attention. In research by Spence and Wang (2015), the influence of music on the taste of wine is categorized under four sections which are Hedonic, Sensory, Analytic, and Descriptive. Before this categorization, there was another vital question to answer and create a hypothesis; What is the possible explanation, the mechanism behind the influence of music on wine tasting? Scientists believe that the answer might be hidden in neuroscience. Neuroimaging has revealed that the primary gustatory cortex processes aesthetic stimuli such as art, music, and food where this processing overlaps. One statement to provide an explanation regarding the matter by neuroaesthetics researchers is that all our aesthetic judgments are essentially rooted in the evaluation of biological significance, which co-operates the same neural connections that assess the aptness of possible energy sources. Thus, this exploration of assessing both energy sources like wine and aesthetics through the same neural connections might create the associations we currently explore in-depth today (Brown et al., 2011).

Studies bring various ways of creating sensory combinations to augment the multisensory wine experience; however, adding sensory cues to enhance the experience is not a random process. It needs attention and understanding of underlying know-how to obtain successful results from the combination. It is important to remember that it is not about adding layers and layers of cues which may result in sensory overload and cause a negative experience. Adding too many sensorial signs with no clear objectives, for instance, too loud music or sound, can be a simple example of a negative effect on the experience (Malhotra, 1984).

The crossmodal correspondence between the senses, taste, and sound sparked an expected question: Does everyone get influenced on the same level? Research showed that wine experts' sensory judgment is less affected by the music as they are conducting analysis on wines more

analytically, and the social drinkers are affected on higher levels (North, 2011). It is essential to underline that the social drinkers are looking more for hedonic experiences, making them more open to being affected by external information.

Through the infrastructure of crossmodal correspondence, sonic seasoning has been practiced while it is being researched more in-depth. The crossmodal correspondence is defined by Spence and Parise (2012) as the combination and matching of different sensory modalities, where sonic seasoning stands for the practice of pairing music/sound with flavor, which is used to enhance the perception and create a pleasant multisensory experience for individuals. With this technique, one can use the practice of sonic seasoning to change their perception of wine’s attributes, such as hedonic, analytic, sensory, and descriptive, according to personal preferences (Spence et al., 2021). But are there any examples of these influences being made use of? There is a recent example of this use in Christchurch, New Zealand, called The Auricle Sonic Arts Gallery, described in media as the world’s first sonic wine bar. The Auricle Sonic Arts Gallery was developed by Jo Burzynska, a sound artist, wine writer, researcher, and curator. This utilization is being done not only in New Zealand but also in several different locations around Europe.

When comparing “no music” and “with music” conditions during a wine tasting study, researchers found that there is a significant change with an average of 37.25%. According to this study that was conducted by Professor Adrian North, who is a music psychologist at the Heriot-Watt University, it appeared that the perception of wine with heavy, powerful music in the background tasted more heavy and powerful when a subtle piece of music caused the perception of the wine change to more subtle and light compared to the states with no music. This experimental study was done by using the pieces of the music has shown down below (Mitchell, 2014):

Table 3. Types of Music Used in “Wine and Song” study by Prof. Adrian North

Music Type	Piece of Music
Powerful and Heavy	Carmina Burana - Orff
Subtle and Refined	Waltz of the Flowers (from The Nutcracker) – Tchaikovsky
Zingy and refreshing	Just Can't Get Enough – Nouvelle Vague
Mellow and soft	Slow Breakdown – Michael Brook

It is believed that wine businesses can have perks through this multisensory customization. However, researchers state a concern regarding the commercialization of sonic seasoning, underlining the necessity of a delicate approach and balance when combining art and science. If the need for this delicate balance is overlooked, it may cause scientific insights regarding sonic seasoning to be lost in the process of creation (Spence et al., 2021b).

Researchers state that one of the goals of the music and wine experiences is to create an extraordinary emotional response rather than changing the beverage's taste (Spence & Wang, 2015). There are examples of combining the sensorial elements that make these unexpected, unpredicted experiences that can be further explored. One of these examples goes back to when cross-modal correspondence first started to be investigated by Kristian Holt-Hansen in the 1960s. In one of his early works, Holt-Hansen conducted an experiment with Carlsberg Elephant lager beer where he combined beer with higher pitch sound and compared it with the evaluation of the beer in silence. As a result of the study, he found that the beer seemed to taste better when accompanied by a high-pitched sound (Holt-Hansen, 1968). The most fascinating part of the study was the emotional experiences that the participants had. Some quotes from the participants are stated below in the table:

Table 4. Extraordinary Experiences at Pitch of Harmony Participant Quotes

<ul style="list-style-type: none"> • I forgot everything around me. The experimenter was no longer present, nor were all the instruments in the laboratory. My body was relaxed, and I had a feeling of well-being as after a massage. The sound expanded and became wonderfully sonorous. It seemed to consist of several tones. 	<ul style="list-style-type: none"> • I had a pronounced feeling of well-being. Both arms were trembling and I had a tingling sensation in my whole body. Everything around me disappeared. I was able to fully devote myself to the experience.
<ul style="list-style-type: none"> • I felt as if my head and my body split in two and disappeared into space. Time and place ceased to exist. Before the splitting of my head and body, I had the "softest" sensation in my whole body. 	<ul style="list-style-type: none"> • The tone turned into a popular operetta tune. I felt a pleasant warmth spreading in my whole body. I had rhythmic sensations in the back of my head.

To create such experiences through crossmodal correspondence takes a broad spectrum of expertise between different scientific fields, and gastrophysics is one of them. As gastrophysics combines psychophysics and gastronomy, it is a tool that can help us understand what goes in the diner's head when tasting food. Through the statement of researchers, gastrophysics can be of great use for analysis of a broader perspective to fill the gaps in food and drink experiences and cultural influences. Wine should be no exception (Campo et al., 2021). This potential investigation in a broader spectrum can shed more light on how things affect the experiences and are used as data to enhance the experience by combining crossmodal correspondence data with gastrophysics.

METHODOLOGY

As tourism is a susceptible and dynamic sector, it was hit hard by the pandemic. The pandemic brought chaos and destruction if one can say so. What is important to see from this is what kind of infrastructure chaos and destruction may provide for the near future. Friedrich Nietzsche said "You must have chaos within yourself if you are to give birth to a dancing star" (Nietzsche et al., 2006), and Pablo Picasso said "Every act of creation is, first of all, an act of destruction." (Dufour & Steane, 2014). These past few years, chaos and destruction created a ground for creativity and innovation where many businesses took their chance to create something new. As stated prior in the literature review, the world is shifting again, and the types of demands are shifting once more.

Defining the problem

Alongside a great potential to grow for Quinta da Plansel, throughout the research and analysis phase, several obstacles appeared, which are potentially causing the company to struggle to reach its long-term goals, such as increasing the volume of visitors and increasing sales and brand awareness. The company currently does not have a consistent and efficient database regarding its customers. They also do not have a clearly identified target audience and Unique Selling Proposition. The company has been offering various wine tourism offers and is kept or taken out according to its demand. However, the lack of a Unique Selling Proposition and target audience can be used as an advantage to attract a new, specifically multisensorial experience relevant audience.

The Nature of the Research

This study aims to primarily obtain a more profound knowledge and understanding of how the multisensorial experiences can affect the wine businesses and how they can be implemented with different variations and variables. For this reason, the methodology of this study is majorly qualitative, and the research was realized through semi-structured interviews. To check the competitors in the area, also secondary quantitative data was collected. As the crossmodal correspondence and multisensorial experiences in the wine and spirits business are not yet prevalently implemented, the interviewees were chosen according to the fact if the company offers multisensorial wine experiences or not.

Data Collection

The data was collected through semi-structured interviews with the representatives of wineries that have invested in multisensorial wine experiences and implemented an offer in their wine tourism. Two different wineries were interviewed to collect in-depth information. Alongside conducting interviews, the competitors and what kind of wine tourism activities they offer were researched through the Wines of Alentejo Official website in order to understand the competitive setting for Quinta da Plansel in the Alentejo region and to what extent the Quinta can differentiate itself by implementing multisensory experience offer. By the Municipality of Évora, through Culture & Heritage Division, Tourist Office of Évora, another set of secondary qualitative data was collected to understand the changes throughout the years regarding the visitors to Évora, which is the biggest city nearby Montemor-o-Novo within the 30km radius.

Semi-structured interviews with the representatives of wineries that implemented multisensorial wine tourism experiences

The wineries were chosen for the study according to the existence of a multisensorial wine tourism experience on their premises. Each wine business had at least 100 reviews on Google, Facebook, or TripAdvisor. All 7 of the wineries were contacted through email to request an interview with the representatives of the company. 4 out of 7 companies answered, and only 2 of them agreed to become an interviewee for this study. The interviews took place both on a conference call and via email. All the interviews took place during the month of May.

The focus of the interview questions was on the implementation process of multisensorial experiences and its feasibility, the development of the business through a multisensorial experience & means of measuring the benefits, and lastly, the limitations and challenges of

Implementing a yet-to-be-explored concept. The interviews, which were done through a conference call, were recorded to be transcribed following the meeting to be analyzed alongside the email interviews. The aim of choosing a semi-structured interview was the power it holds regarding in-depth interviews where it is easy to navigate between open-ended questions as well as the flexibility it brings to the interview.

Data Collection on Statistical Tourism Data from Municipality of Évora

This secondary qualitative data was collected through the Municipality of Évora, by its Division of Culture & Heritage Tourist Office via email request. The respective report that was prepared by the authorities contained comparative statistics and information regarding the number of visitors, the Top 10 countries visiting the city throughout the years 2018 to 2021, numbers of visitors in groups or individually throughout the months of each year from 2018 to 2021 both in graphics and tables, as well as containing the numbers of visits to the cultural attractions. The aim of obtaining these reports from the authorities was to understand the demographics partially as provided, to acknowledge which nationalities are visiting the area that can be targeted within the scope of a marketing strategy by Quinta da Plansel, and to be attracted to visit the winery.

Data collection on Competitor's Wine Tourism in Alentejo Region

This group of secondary qualitative data was collected through the official website of Wines of Alentejo, where the wineries that are spread out in the Alentejo region were displayed and linked to the website. Through this channel, the data on competitors were collected manually and one by one. The aim of collecting this data was to discover how many wineries are in the region and are the competitors to Quinta da Plansel, as well as to discover the wine tourism offers each winery gives to its potential visitors. The Google Review scores and the number of reviews were also collected. There are 296 wineries as a part of the collected data.

RESULTS & DISCUSSION

Interviews

Wineries/Wine Brands

The wineries that answered and were interviewed all happened to be from Spain, scattered around the country. The wineries were Mas Llunes Vinyes i Cellers from Girona, and Campo Viejo from Rioja. The interviewees ranged between hospitality managers, experience training experts, and directors/winery owners. The wineries represent two different sizes of businesses, both small

and big, while representing different approaches to wine tourism and slightly different target markets. As these wineries were one of the first ones to implement crossmodal correspondence as a wine tourism product, interviews with the respective wineries and their representatives were very important to have an insight. The interviews showed how the implementation periods took place and the feasibility, how the wineries benefited from the multisensorial experience and how they measured these benefits, as well as the limitations and challenges of implementing and conducting the offer.

Data Analysis

Multisensory Experiences at Mas Llunes Winery & Campo Viejo

Both of these wineries have started implementing the multisensorial experience in their business in different years, as well as different structures and variables. This section will briefly describe how each company presents the multisensorial experience.

Mas Llunes Winery started to offer the Sensory Tasting in 2017, and it has become their leading experience since they began to offer it. The multisensorial experience at Mas Llunes starts with the winery tour, and the guide shares who they are and what they do. The Sensory tasting takes place at the end of the tour with a limit of twelve people in the barrel room, which is two floors down and away from the outside distractions. The tasting consists of visuals, color lights, and music which are created and prepared according to each of the wines of Mas Llunes. The colors change as well as the visuals and music for each wine throughout the tasting session.



Figure 1. Sensory Tasting at Mas Llunes Winery

Campo Viejo implemented the multisensorial experience in their business in 2019, but it has been used only internally, which will soon be offered to visitors. The experience starts outside the cube (see Figure 2), where a brief explanation is given about the experiment that Campo Viejo was involved in, which is followed by the explanation of the wines and the different environments they will be tasted in.



Figure 2. Campo Viejo Color Lab Cube

Before getting inside the cube, the individuals are given a small white strip to be placed on their tongue, which contains a chemical called Phenylthiocarbamide (PTC) that tastes differently for every individual according to their genetic background. This chemical compound either tastes bitter or tastes like nothing at all. According to this small experiment with PTC strips, it is shown to the visitors that every individual has a different experience, and there is no correct answer. Afterward, the visitors go inside the cube to continue the experience.

Inside the cube, the visitors taste the wines under neutral conditions meaning white light and no music. Then, the experience continues with music being added in the background as well as using different color lights in the cube to change the perception of wine.



Figure 3. Campo Viejo Color Lab Experience

The Planning & Implementation Process of Multisensorial Experience & Its Feasibility

Various wineries worldwide have been creating and implementing new concepts in wine tourism, and each winery might have different approaches and stages for planning and implementation. This situation was applicable to the two interviewed wineries. As briefly stated in Multisensorial Experiences at Mas Llunes Winery and Campo Viejo, while Campo Viejo was a part of the largest experimental study with almost 3,000 people that focused on crossmodal correspondences in 2014 and only started to implement this experience for internal use only in 2019, Mas Llunes

Winery was looking for its Unique Selling Proposition in 2016, an experience that could differentiate them from its competitors and they implemented the experience to their business in 2017 with no in-depth experiment or research but only through the suggestion and help of a local artist.

The wineries took the time to create a primary structure for the experiences, depending on the size of their winery as well as what variables they would like to include. Each winery took a slightly different approach and added one different variable. Both experiences consist of the use of music and light, but one added visuals to the experience, and the other created a cube with interchangeable colored lights surrounding the whole cube inside, which also affected the amount of budget to be spared for the realization of the experience.

Both companies outsourced technical work and support for the implementation, from the preparation and installation of the cube to the mapping and projection work for visuals. However, both wineries opted for a system that wouldn't be too complicated to run for the experience. While Campo Viejo opted for pre-existing songs and sounds for the experience, Mas Llunes got the visuals for each wine prepared by the artist as well as getting individually composed music for each of their wines. The representative of Mas Llunes mentioned that implementing and investing in this experience was relatively a small investment that brought great results to the business.

Once the technical part of the implementation process was finished, both wineries mentioned the experience to be tested. However, only Mas Llunes marketed the Multisensorial Wine Tasting to reach their potential customers as well as loyal customers. The representative of Campo Viejo mentioned that they created this experience for internal use only, offering the activity to the distributors, influencers, and the media. However, when the company wanted to open this offer also for its visitors, the pandemic caused a delay. The representative underlined that the experience is going to start to be offered to visitors within the year 2022.

Development of the Business through Multisensorial Experience & Means of Measurement of the Benefits

As the wineries primarily chose different use of the experience, the benefits it brought to the business were not the same. It was mentioned that Campo Viejo has been offering the activity for internal use only, with the media, influencers, and the company's distributors. Even though the pandemic prevented them from offering the activity to visitors, as mentioned, they were able to

benefit from it on the B2B scope as well as the use of the media, potentially being beneficial for brand awareness as well. Campo Viejo did not mention the measurement of the benefits in the B2B; however, it was mentioned that through this experience, Campo Viejo received the “Best of Wine Tourism Award” in 2022 for Innovative Wine Tourism Experiences by the Great Wine Capitals Global Network.

The representative of Mas Llunes mentioned that their goal of launching a Multisensorial Wine Tasting was working as they have seen various benefits. They saw an increase in sales, an increase in brand awareness, and an increase in the volume of visitors. The representative stated that the number of visitors and wine sales through Sensory Tasting has been increasing each year by 5 to 10%, with the exemption of 2020. It was underlined that word of mouth about their winery and brand was also increased as they were informed by their visitors, about friends and family suggesting a visit to Mas Llunes. The representative underlined that due to all these increases, each year, they have been gradually increasing the number of visitors that they can accept.

When it comes to measuring the benefits, there were two different cases. Campo Viejo could not provide insights on the wine tourism perspective due to the fact that they haven’t launched it yet. On the other hand, the representative of Mas Llunes underlined that they consistently observe and measure certain channels and metrics to monitor the changes. They record the number of visitors who chooses Multisensory Tasting and the value spent by each visitor. The winery also tracks the social media regarding their brand awareness, uses Google Analytics, and tracks websites traffic metrics such as the number of visitors and top traffic source. As Peter Drucker (2013) once said, “If you can’t measure it, you can’t manage it.”.

Limitations & Challenges of Implementing and Offering an Underexplored Concept in Wineries

Both wineries underlined different sets of limitations or challenges they faced throughout the implementation process as well as during the offers. In the case of Campo Viejo, Covid-19 brought a big limitation, causing the implementation to be delayed entirely. The representative of Campo Viejo underlined that their major issue was making the cube portable to be shipped to different places to be used by their affiliates. Eventually, they were able to achieve it. As the whole world did, Mas Llunes was also affected by the pandemic. The representative from Mas Llunes underlined their main limitations and challenges from when they offered this tasting, and it was

mentioned that they are only able to offer this experience to 12 people at a time. As their offer takes place in the winery's barrel room, it was and still is not disability friendly because the barrel room resides two floors down with no elevator. Due to its location, the representative also mentioned that it could be hard for claustrophobic individuals.

Secondary Qualitative Data

Competitors' Wine Tourism in Alentejo Region

Through the secondary qualitative data collecting regarding the competitors of Quinta da Plansel in the Alentejo region, 296 wineries were identified, as well as their Google Review scores, but most importantly, the wine tourism activities that each winery offers to their visitors. Alongside knowing how many wineries are in the region and the number of offers they have, the most important point was to see what kind of wine tourism offers they were. As at most of the wineries, there are standard tours and tastings that are being offered.

Out of the 296 wineries, 52 of them didn't offer any kind of wine tourism activities. The offered activities were checked in two different ways, the wineries and their wine tourism activities regardless of how many offers there were, and wineries with more than five wine tourism activities. When a total of them was checked regardless of the number of activities, such offers outside the regular were found:

Table 5. Wine Tourism Offers of Alentejo Region Wineries

Yoga & tasting	Boat Ride
Spa	Picnic
Wine Club	Hunting
Olive Oil Tasting	Honey Tasting
Museum	Cork Visit

When wineries with more than five wine tourism activities were checked, there were 17 wineries identified. While experiences such as Winery Tour & Tasting, Accommodation, Restaurant, and Harvest Program were the most common ones being offered by almost each of them, the offers like Yoga & Tasting, Spa, hunting, picnic, Wine Club, and boat ride were only provided by some of these 17 wineries. Olive Oil Tasting, Honey Tasting, Cork Visit, and the Museum were offered by the remaining wineries, which offered less than five activities.

It was observed that neither of the wineries was offering a wine tourism experience or activity that can fall under the scope of multisensorial experience, which was created and implemented using crossmodal correspondence. In the case of Quinta da Plansel implementing a wine tourism experience that was designed through the use of crossmodal correspondence, they might become the first winery to implement it in the Alentejo region.

Statistical Tourism Data from Municipality of Évora

Obtaining statistical tourism data from the Municipality of Évora Tourist Office was decided due to the interest in obtaining insights on a certain level. As the biggest city near Montemor-o-Novo, where Quinta da Plansel is Évora, there is a potential to attract visitors to the winery. The reports provided by the Municipality contain data about the number of visitors by month, the number of visitors by country per year, seasonality, emerging tourism markets, and seasonality in the secondary tourism markets.

Understanding the demographics, emerging markets, and seasonality doesn't mean that it identifies as the target audience of Quinta da Plansel or as wine tourists; however, following the flow of tourism in the nearby cities, in need be, can create potential visitors and buyers. It can even be helpful to support the implementation of a marketing plan in cases where the data collection of visitors is not enough for the company.

From 2018 to 2021, Spain, Portugal, and France were the Top 3 leading nationalities that visited Évora. The Top 5 can be seen in Table 4, down below:

Table 6. Top 5 Countries to Visit Évora by year

2018	2019	2020	2021
1. Spain	1. Spain	1. Spain	1. Portugal
2. Portugal	2. Portugal	2. Portugal	2. Spain
3. France	3. France	3. France	3. France
4. Brasil	4. Brasil	4. Brasil	4. Germany
5. Germany	5. United States	5. United States	5. The Netherlands

Since 2018, except for the year 2020, due to the Covid-19 pandemic, September has had the highest number of visitors in the area. When looking at the numbers of the principal markets, if

only focused on the latest data in hand from 2021, it shows that the prime time when the number of visitors spiked was between July to mid and late August, focusing on the countries below by order from the top, Portugal, Spain, France, and Germany.

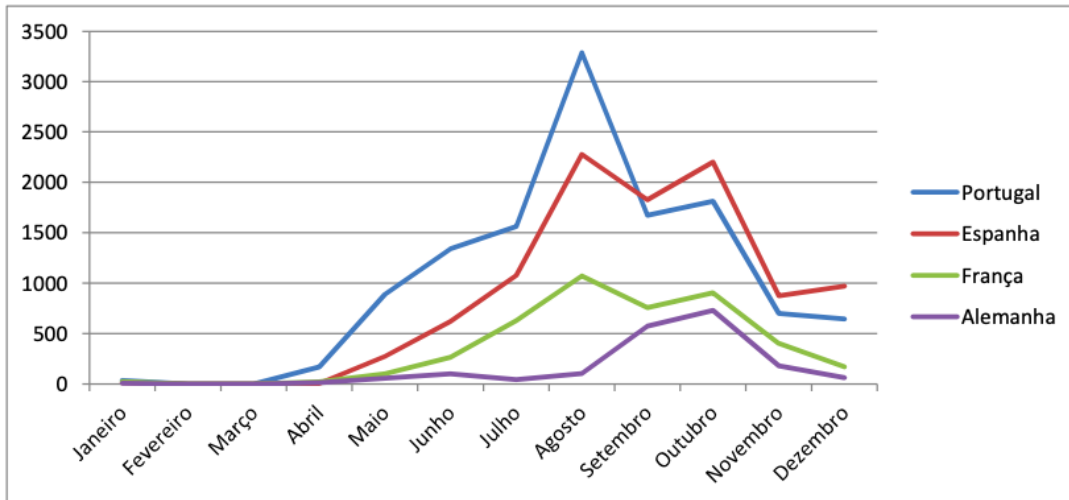


Figure 4. Monthly Seasonal Trend of Primary Market 2021- Évora

It is also important to underline, according to Figure 4, there are two emerging markets for tourism in Évora, which can naturally reflect the wine tourism near the city. These countries are Brazil and the United States of America.

LIMITATIONS

There is limited to no database at Quinta da Plansel, in the Alentejo region, and Portugal in general regarding wine tourism, making it hard to analyze the market, winery, and wine business in the country and strategize accordingly. According to a conversation conducted via phone call with a representative of APENO, unfortunately, there is no data available. APENO is The Portuguese Wine Tourism Association which was established in 2020 with the aim and vision of promoting the sector. They underlined that one of the reasons the association was found was the lack of wine tourism data, and the association aims to address this issue in the near future.

Another limitation of this study was crossmodal correspondence being an underexplored concept, so it is a territory with limited information, wine tourism-wise. Even though it is being implemented in the wine business, a limited number of wineries have implemented wine and music combinations using crossmodal correspondence. Due to this, the qualitative research that was conducted can only indicate the potential and success of the concept rather than providing data

adequacy as a minimum of 30 semi-structured interviews are recommended to obtain adequate data. The quantitative data collected from the Municipality of Évora shows 88-90%, instead of 100%, which can be labeled as an error. Lastly, even though wineries implemented multisensory wine experiences, there can be more key performance indicators to be collected than the current.

PROPOSAL

Objectives

The idea as a proposal is to create an infrastructure and a wine tourism experience for Quinta da Plansel, which eventually can be implemented by any winery that has the means and objectives to do so, to support the long-term goals of the winery as well as enriching the wine tourism offers of the company while matching with the internal vision and aesthetics.

Experience Design Structure & List of Initiatives for Implementation

For the multisensorial wine tasting experience to be implemented, there are an array of things to be planned and accomplished and details to be worked on to implement the experience in Quinta da Plansel successfully. In this section, the fundamental steps to be taken will be mentioned as well as discussed after a budget is set. These points can be stated as; Structure, Location, Set-Up/Atmosphere, Variables, Cost & Pricing, Marketing & Communication.

Structure

While creating the multisensorial offer, it is important to integrate this experience into the original winery tour and visit. It is fundamental to introduce the Quinta and its interesting history to the visitors and create familiarity in between to make the visitors remember the winery when they think or talk about the experience itself. The actual wine tasting and visit consist of the winery tour, a visit to the grafting area, an art gallery, wine tasting, and snacks. The Multisensory Wine Tasting will start with the winery tour and continue with the grafting area and art gallery visit. After the art gallery, the visitors will be led to the tasting room to have a combined experience between wine and music. Before starting the tasting, the visitors will be briefly informed how the tasting will take place since it is a different concept. For the multisensorial part of the visit, there will be a playlist consisting of different types of music than can be matched with different perceptions such as powerful, mellow, refreshing, and more. This playlist will contain songs in Portuguese. The visitors will be provided with a wine evaluation card which will have a section to be able to evaluate in “no music” and “with music” conditions. The wines can be tasted in regular wine glasses;

however, using the black glasses will be preferred in order to neutralize the prior perception or judgment on the wine that can arise. This Multisensory Wine Tasting experience can also be integrated at the end of the WSET courses that Quinta da Plansel provides at the winery. At the end of each course, the course instructor shows them around the winery and takes the students to the vineyards to show and discuss some knowledge on the spot. After this visit on their last day, this experience can be provided to the students on a smaller scale, with one or a maximum of two wines. This small activity can also help introduce the crossmodal correspondence concept to the wine enthusiasts and wine professionals and create a vaster audience aware of this concept which is still under exploration.



Location

To have the multisensorial experience in the right environment, it is essential to choose a space that will not create outside distractions to the visitors, especially sound-wise. This might cause a loss of concentration as well as overstimulation in case there is too much noise. Considering these possibilities, the best spot at the Quinta to offer this experience would be the veranda by the art gallery, far from the production area and the warehouse where much noise can be a source. For this reason, the barrel room as one of the potential places in the winery was not chosen due to its proximity to the production area.

Figure 5. Veranda of Quinta da Plansel

Set-Up/Atmosphere

The Atmosphere of the experience can vary. This means the set-up for this activity doesn't have to be extremely neutral, but this also depends on the variables used for the experience. For instance, during the experiment conducted by Holt-Hansen (1976), the participants were in a laboratory. Kristian Holt-Hansen suggested to the participants that they could close their eyes not to get distracted, or in the case of Campo Viejo's Color Lab, where crossmodal correspondence is used as well as the usage of colors in the box where the visitors enter in. In the case of Quinta

da Plansel, the same thing as Holt-Hansen did during the experiment can be done, and the visitors can close their eyes to focus on the experience. It is also possible to add roller blinds to the veranda, which will create a more neutral atmosphere in the room. In the case of installing white blinds, it can create a quick infrastructure if another variable is added, such as color lights.

The Variables

Considering the latest investments that Quinta da Plansel made for their latest wine tourism offer, the premium houses located in the middle of Plansel vineyards, the approach will aim to create as much as possible for the visitors while keeping the cost low. In the beginning, using two variables and doing sonic seasoning by using music and wine would be a good start. To implement this, training about crossmodal correspondence/sonic seasoning should be provided to the Wine Tourism department to prepare the staff to offer the best possible. After crossmodal correspondence, sonic seasoning, in particular, is well comprehended, and the tests on matching the wines of Quinta da Plansel with music should start. In the beginning, the songs used for the scientific experiments conducted by researchers working on crossmodal correspondences can be used as a base. Through this point, an internal investigation can be conducted at the winery with Quinta da Plansel's wines to find variations of matches that can enhance the wine's flavors the most. At the same time, the sounds or music that creates adverse effects on the wines can also be collected and formed into a list to show the visitors how the effects of music or the pitch of harmony can change the flavor perception.

In the end, only two variables can be enough to begin with. However, adding one more variable, such as color lights, could enhance the experience even more but not overstimulate the people. Additions of new or extra variables will mainly depend on the budget that could be devoted to implementing the Multisensory Wine Tasting. It is also possible to collect feelings, emotions, and aromas written on a piece of paper by the visitors and place them in a jar anonymously. This will not only create an understanding of how it affects or what kind of feelings it brings to people but there may also be possible patterns that could arise. These notes could also create an anonymous keyword database that can be useful for marketing purposes.

Marketing & Communication

Considering the location of the Quinta and the wine market, creating a marketing strategy for the offer is crucial. Marketing and communication are important not because of the winery location but because marketing is about connecting the right target audience to the right experience.

People who might try the Multisensory Wine Tasting could create word of mouth and suggest to family and friends to try the experience. Still, it is a fact that marketing is fundamental for any business. For this reason, once the offer is ready and ready to start being tested internally, this period will be beneficial and valuable for marketing. During the testing period, visual content can be created for marketing purposes to create ads, and posts, for the website and to create pre-launch sneak peeks. It is crucial to do media planning and create a calendar for the marketing activities regarding the experience, which would start three months before the launch and continue within the first month or months after the experience's launch. It is also crucial to have good timing for the launch.

Focusing on Quinta da Plansel and its current status in marketing and database, it is essential to underline the necessity and importance of working on the database and clearly identifying the company's target audience. For any activity to be launched and be successful and reach its potential, the Quinta will need to work on the database, KPIs, and marketing strategy.

Cost & Pricing

Due to the fact Quinta da Plansel has just finished another wine tourism project and invested money in it, this Multisensory Wine Tasting experience will need time to be implemented financially. As a certain period needs to be spared during the whole preparation period, it can be used to focus on the marketing and database improvements. Following these improvements, the implementation process can start.

Even though a budget cannot be given here, according to one of the companies who invested in a multisensorial experience, this implementation can be accomplished with small to medium investment as a small family winery.

CONCLUSION

After the pandemic of Covid-19, people are slowly going back to exploring and getting ready to be active tourists again as time turns more into an endemic. The pandemic certainly changed what people are looking for in their experiences. This given fact brings the necessity of change and adaptation to wine businesses even more, to be able to provide what is demanded.

This study has shown the initial research and experiments that were conducted regarding crossmodal correspondences focusing mainly on the combination of music, the harmony of pitch

and wine, research on the new tourism trends and tourist expectations, as well as the fundamentals for the creation of a unique multisensorial wine tourism experience. An experience that can be applied through multiple variables.

The research provided information regarding the crossmodal correspondence, the concept of sonic seasoning, and its effects and function, especially in a winery setting. Through the literature and the insights collected from the businesses that implemented a multisensorial experience, it was possible to understand and identify the benefits of implementing a multisensorial experience in the wine business and how it can enrich the customer experience as well as provide internal benefits to the company. The combination of music and wine is not to create false realities or perceptions but to open the door to neuroscientific discoveries that are very complex when presented through complex terminology but are highly interesting to experience and experiment with. It is to create an understanding of how art can affect something in one of the many complex ways. By adopting this multisensorial experience infrastructure, wineries, or in a specific case, Quinta da Plansel, can benefit from an increased volume of visitors, increased sales, and brand awareness. Due to the nature of the experience, as a unique proposal, and the fact that it's not commonly implemented, it can differentiate the company from its competitors.

It is important to note that Portugal, Quinta da Plansel, and crossmodal correspondence have high potential individually. Potentials that might bring higher benefits than can be seen at the given moment. It should be noted that in order to successfully implement anything regarding wine tourism successfully, it is crucial to use the right timing and have a solid marketing strategy based on the identified target audience of the business and efficient creation and continuation of a database.

FUTURE RESEARCH

As aforementioned, crossmodal correspondences in wineries are currently underexplored. This creates a space for further research, experimentations, and studies regarding the concept that wineries can benefit over time. As the number of wine businesses grows on the implementation of crossmodal correspondences, it can create an infrastructure to analyze the concept further quantitatively and qualitatively.

REFERENCES

- Boorstin, O. J. (1964). *The Image: A Guide to Pseudo-Events in America*. New York: Harper and Row.
- Brown, S., Gao, X., Tisdelle, L., Eickhoff, S. B., & Liotti, M. (2011). Naturalizing aesthetics: Brain areas for aesthetic appraisal across sensory modalities. *NeuroImage*, 58(1), 250–258. <https://doi.org/10.1016/j.neuroimage.2011.06.012>
- Campo, R., Reinoso-Carvalho, F., & Rosato, P. (2021). Wine Experiences: A Review from a Multisensory Perspective. *Applied Sciences*, 11(10), 4488. <https://doi.org/10.3390/app11104488>
- Cornelisse, M. (2018). Understanding memorable tourism experiences: A case study. *Research in Hospitality Management*, 8(2), 93–99. <https://doi.org/10.1080/22243534.2018.1553370>
- Dufour, Y., & Steane, P. (2014). Creative strategic thinking and sustainable leadership: lessons from Picasso. *Journal of Global Responsibility*, 5(2), 219–225. <https://doi.org/10.1108/jgr-05-2014-0018>
- Holt-Hansen, K. (1968). Taste and pitch. *Perceptual & Motor Skills*, 27, 59–68.
- Holt-Hansen, K. (1976). Extraordinary experiences during cross-modal perception. *Perceptual & Motor Skills*, 43, 1023–1027.
- Kim, J. H., Ritchie, J. R. B., & McCormick, B. (2010). Development of a Scale to Measure Memorable Tourism Experiences. *Journal of Travel Research*, 51(1), 8–10. <https://doi.org/10.1177/0047287510385467>
- Kim, J. H., Ritchie, J. R. B., & McCormick, B. (2012). Development of a scale to measure memorable tourism experiences. *Journal of Travel Research*, 51(1), 12–25. <https://doi.org/10.1177/0047287510385467>
- Knoeferle, K. M., Woods, A., K appler, F., & Spence, C. (2014). That Sounds Sweet: Using Cross-Modal Correspondences to Communicate Gustatory Attributes. *Psychology & Marketing*, 32(1), 107–120. <https://doi.org/10.1002/mar.20766>

Kotler, P., & Keller, K. L. (2016). *Marketing Management 15 Global Edition*.

<https://doi.org/10.1080/08911760903022556>

Lee, J., & Beeler, C. (2009). An Investigation of Predictors of Satisfaction and Future Intention: Links to Motivation, Involvement, and Service Quality in a Local Festival. *Event Management*, 13(1), 17–29. <https://doi.org/10.3727/152599509789130584>

Lew, A. A., Cheer, J. M., Haywood, M., Brouder, P., & Salazar, N. B. (2020). Visions of travel and tourism after the global COVID-19 transformation of 2020. *Tourism Geographies*, 22(3), 455–466. <https://doi.org/10.1080/14616688.2020.1770326>

Malhotra, N. K. (1984). Information and sensory overload. Information and sensory overload in psychology and marketing. *Psychology and Marketing*, 1(3–4), 9–21.

<https://doi.org/10.1002/mar.4220010304>

Mitchell, R. D. (Ed.) (2014). *Food Design on the Edge: Proceedings of the International Food Design Conference and Studio 2014, 2-4 July 2014, Dunedin, New Zealand*. Otago Polytechnic, Dunedin.

Santos, A., Madrid, C., Haegeman, K., & Rainoldi, A. (2020). *Behavioural changes in tourism in times of Covid-19*. Publications Office of the European Union. <https://doi.org/10.2760/00411>

Nietzsche, F., Pippin, R., & del Caro, A. (2006). *Nietzsche: Thus Spoke Zarathustra (Cambridge Texts in the History of Philosophy)* (1st Edition). Cambridge University Press.

North, A. C. (2011). The effect of background music on the taste of wine. *British Journal of Psychology*, 103(3), 293–301. <https://doi.org/10.1111/j.2044-8295.2011.02072.x>

Pine, J. B., & Gilmore, J. H. (1999). Welcome to the experience economy. *Harvard Business Review* (July August), 97105.

Prebensen, N. K., Woo, E., & Uysal, M. S. (2013). Experience value: antecedents and consequences. *Current Issues in Tourism*, 7(10), 1–20.

<https://doi.org/10.1080/13683500.2013.770451>

Reinoso Carvalho, F., Wang, Q. J., van Ee, R., Persoone, D., & Spence, C. (2017). "Smooth operator": Music modulates the perceived creaminess, sweetness, and bitterness of chocolate. *Appetite*, 108, 383–390. <https://doi.org/10.1016/j.appet.2016.10.026>

Spence, C., & Parise, C. V. (2012). The cognitive neuroscience of crossmodal correspondences. *i-Perception*, 3(7), 410–412. <https://doi.org/10.1068/i0540ic>

Spence, C., & Wang, Q. J. (2015). Wine and music (III): so what if music influences the taste of the wine? *Flavour*, 4(1). <https://doi.org/10.1186/s13411-015-0046-9>

Spence, C., Wang, Q. J., Reinoso-Carvalho, F., & Keller, S. (2021). Commercializing Sonic Seasoning in Multisensory Offline Experiential Events and Online Tasting Experiences. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.740354>

Z. (2013, July 4). *Measurement Myopia* *. Drucker Institute.

<https://www.drucker.institute/thedx/measurement-myopia/>

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ANNEX

A.1 Semi-Structured Interview Questions

1. When and how did wine tourism start at the company?
2. What is the importance of wine tourism for the company?
3. Could you define the target audience of the company?
4. What are the vision and Unique Selling Proposition of the company?
5. Which ones are your leading/most preferred experiences?
6. How and when did the company decide to create a multisensorial experience? What was the goal of this multisensorial offer?
7. What was the process of creating the experience?
8. What kind of data was collected before the implementation of the experience?
9. When did the experience start to being offered to visitors?
10. Can you describe how the multisensory experience takes place and the setting of the experience?
11. What kind of benefits did this experience bring into the business?
12. How do you measure these benefits that come through the experience?
13. What kind of limitations/challenges did the company face?
14. Did the multisensorial experience affect the target audience of the company?
15. In approximation, what was the investment size for implementing the multisensorial experience?
16. Do you collect reviews and feedback regarding the multisensorial experience? If so, are these reviews/comments available on any platform?

A.2 Semi-structured Interview Script with Campo Viejo

What is Campo Viejo's vision and Unique Selling Proposition?

From our first harvest -made in the old Ortigüela winery in 1959 - until the inauguration of our avant-garde sustainable winery in 2001, we have been the flagship of the Rioja wine sector. We are proud to be from the Rioja and of the Rioja, so ensuring that we preserve not only the land but our way of life is extremely important to us. We are committed to the strictest standards in order to preserve these lands for future generations to enjoy.

Campo Viejo believes in life being more vibrant and colorful. With vineyards across Rioja, and an expert, creative winemaking team, Campo Viejo crafts contemporary expressions of Tempranillo, the region's signature varietal. Blending traditional and progressive winemaking methods, our wines express the vibrancy and color of modern-day Spain. Our commitment to bringing the vibrancy of Rioja to the world has seen Campo Viejo become one of the leading Rioja wine producers globally, the number one Rioja wine brand in the world, and enjoyed in more than 50 countries.

Could you define Campo Viejo's target audience?

Campo Viejo inspires people to live a life more vibrant and colorful by embracing the welcoming, lively and genuine lifestyle of modern-day Spain. Campo Viejo also inspires wine lovers to live uncorked by generously sharing time and attention with others. Always embrace your authentic heritage and live with spontaneity and drink in the vibrancy of life with others. That's the spirit of our target audience.

There seem to appear nine experiences you offer at Campo Viejo. Which ones are your leading/most preferred experiences?

The leading experience is the standard Campo Viejo Tour. There is not a better place than Campo Viejo when you want to find the real taste of Rioja. Located in the very heart of the region, we will show you how we produce the wine. Visiting this impressive project, a semi-buried state-of-the-art facility with around 45,000m², you will follow the grape's route from the reception to the bottle, including our barrel cellar. It is actually one of the most impressive barrel rooms in the world, storing 70,000 oak barrels. It is followed by 2 premium wines tasting.

Besides, we offer several workshops very much enjoyed by our visitors. The Rioja in 5 wines experience is one of our most preferred ones. Thanks to this experience, you get the chance of getting in touch with wine in an interesting and enjoyable way.

After the tour of the facilities, you can gain some knowledge with some tips provided by our staff throughout a tasting of 5 of the most representative wine styles in this region, and the best part is you will be able to use them at home. Besides, if you want to continue learning about wine tasting, this is a good basis for deeper knowledge.

How and when did the company decide to create this multisensorial experience of Color Lab?

In 2014 Campo Viejo held the largest ever color-and-wine-tasting experiment in London with Oxford professor Charles Spence, a specialist in Experimental Psychology.

We report on what may well be the world's largest multisensory tasting experiment. Over a period of 4 days in May 2014, almost 3,000 people sampled a glass of red wine in a room in which the color of the lighting and/or the music was changed repeatedly. The participants rated the wine, presented in a black tasting glass, on taste, intensity, and liking scales while standing in each of four different environments over a period of 7 to 8 minutes.

When did the experience start to being offered to visitors?

In 2019 we decided to implement this activity in the winery creating such an immersive cube where we are enveloped in a light and music atmosphere, but we've been doing this workshop all across the world with different techniques: using colored glasses and white surfaces, using very powerful lights through white corridors, etc.

Nonetheless, this activity has its origin for internal use only. We've practiced it for a long time with distributors, media, influencers, customers... Then, in 2019 the cube was designed to be used also with visitors, but then the pandemic arrived. We'll start to implement it with visits this year.

What was the goal of turning this experiment by Charles Spence into a smaller-scale wine tourism activity?

As we said before, Campo Viejo believes vibrant cultures add color to life. We aim to inspire people to live a life more colorful by embracing the expressiveness, generosity, authenticity, and vibrancy of modern-day Spain. We think with this workshop we achieve this purpose, and we create curiosity in our consumers as they discover how their sense of taste is affected by the environment and learn their taste preferences to find their perfect wine.

What kind of data was collected before the implementation of the experience?

Data was collected over a period of 4 days in May 2014, where almost 3,000 people sampled a glass of red wine in a room in which the color of the lighting and/or the music was changed repeatedly. Participants rated the wine while exposed to white lighting, red lighting, green lighting with music designed to enhance sourness, and finally under red lighting paired with music associated with sweetness.

The wine was perceived as fresher and less intense under green lighting and sour music, as compared to any of the other three environments. On average, the participants liked the wine most under red lighting while listening to sweet music.

These results demonstrated that the environment can exert a significant influence on the perception of wine (at least in a random sample of social drinkers).

Can you describe how the multisensorial experience takes place and the setting of the experience?

We start outside the cube, with a brief explanation of the experiment's background. Then, we explain the wine we'll taste and the different environments they'll be involved in.

Following this, we do a very short but interesting experiment, where we give a small white strip to them. It contains a chemical called PTC that tastes differently depending on our genetics. We ask

them to place the strip on their tongues, to see if they feel some bitterness or not. This way they understand there is not a single correct answer to tasting and they feel comfortable sharing their experience with the group.

Afterward, we go into the cube and we try the wine in white and no music environment (neutral conditions), under a melodic song, then we continue with this song and we add red lighting and we finish with green lighting and sour music.

What are the key points of this experience that you find the most important, and why?

It's very important to guide the visitors and to interact with them all along with the experience. They have to be participative to create a good atmosphere. It's also basic to make them feel there is not a correct answer for the whole group and they can perceive different characteristics in the same wine under the same conditions.

What kind of benefits did this experience bring into the business?

This experience has been and continues to be a very interesting point for us to be implemented in our Streets of Colours Events, where we support our markets to bring the brand close to the consumers with such engaging experience with such an experience. It's also a very requested experience for our intern visits when coming to the Brand Home, for internal events, and, in a near future, for wine tourism.

What kind of limitations/challenges did the company face?

Making it portable to be shipped to different places to be used by our affiliates. It was finally achieved.

Did the multisensorial experience affect the target audience of the company?

As it's been only implemented in internal events up to now, the target audience has not been affected. But with our internal experience, this workshop is interesting for our target audience and others. This is fantastic for us to connect with the consumer and show them our world of wine.

If it is not confidential, how much did Campo Viejo find fit to invest in creating the ColorLab?

Information under approval.

A.3 Semi-structured Interview Script with Mas Llunes Winery

When and how did wine tourism start at the company?

Our history goes in the wine business goes way back, and we have been working with wine for a long time, but Mas Llunes was founded in 2000. First, we started producing wine, and nearly ten years ago, we started doing wine tourism.

What is the importance of wine tourism for the company?

We started to do wine tourism because we are a small winery, and it's a very touristic area, but for us, the easiest way to make the brand and our wines are known was to open the doors of the winery, make visits and show them what we are doing. That's why we started to do wine tourism. The importance of wine tourism for Mas Llunes is brand awareness and possible new distribution connections, and more.

Could you define the target audience of Mas Llunes?

People between the age range of 25 to 65, recently younger people are increasing. Couples, families, and sometimes friends come to visit. Mainly, people from Catalunya, especially from Girona and Barcelona, but we also have visitors from Holland, Belgium, Denmark, and France. The international visitor numbers are usually higher during the summer season. Throughout the year, on the weekends, we are usually full.

What is the vision and Unique Selling Proposition of Mas Llunes?

Historical visit (vineyard, which was an airfield during Civil War) and Sensory Tasting.

You have four experiences you offer at Mas Llunes. Which ones are your leading/most preferred experiences?

Sensory Tasting is the leading experience that draws attention, but it's followed by the Historical Visit.

How and when did the company decide to create this multisensorial experience? What was the goal of this new offer?

It's important to do different things since all the wineries are offering the same experiences. To attract more interest and attention from the visitors, I think it's essential to offer something unique and different from the rest, and that was our goal. We decided to create this experience five years ago. The goal: Brand awareness, increase the volume of visitors, creating a unique and memorable experience for the visitors.

What was the process of creating and testing the experience?

We had the idea of creating something special in the barrel room because it's the favorite place of the visitors, and we knew an artist; she explained to us what she had done before and explained this idea to us, telling us that she could develop this "Sensory Tasting" idea. She made the videos and the music. For the more technical parts, we contacted a company that makes mapping and these types of projections. We asked the company to make things easy to implement and manage so that we could do it without technical support each time. The whole preparation and implementation period took one year. Thinking, preparing the images and music, technical work, and then promoting/marketing the experience.

What kind of data was collected before the implementation of the experience?

We didn't exactly collect any data before implementing the idea. We always like to visit different wineries, and we always look for the ones that are working better and looking for ideas, but we didn't collect any data to create the Sensory Tasting.

Can you describe how the sensory experiences take place and the setting of the experience?

First, we start doing the winery visit and explain who we are, and show what we are doing. The Sensory Tasting takes place at the end, in the barrel room. It's a quiet place where you disconnect; it's two floors underground.

The atmosphere in the barrel room separates the visitors from the outside distractions. The Sensory Tasting consists of visuals, different colored lights, and music. The tasting is only for up to 12 people at once. The visuals are illustrated to relate to each wine, and each wine has names connected with the history of Empordá. During the tasting, we don't direct the visitors about what flavors. The colors are chosen according to what wants to be transmitted. For instance, blue color for freshness. The music is not chosen from existing songs, but the music was composed for each wine.

What kind of benefits did this experience bring into the business?

The volume of visitors increased, word of mouth increased, and people were suggesting friends, etc., visit Mas Llunes. (Many people prefer to offer experiences now as presents for Christmas, birthdays, etc.). Increase in sales.

How do you measure these benefits that come through the experience?

Excel sheet for the number of visitors for Sensory Tasting. Measuring how many visitors and how much they spent at the winery is collected as data. We also track the social media regarding their brand awareness, use Google Analytics, and track website traffic metrics such as the number of visitors, and top traffic source.

What kind of limitations/challenges did the company face?

Being able to offer the experience to only up to 12 people. The location of the barrel room, since it's two floors down, it's not disability friendly, and some people can get claustrophobic.

Did the multisensorial experience affect the target audience of the company?

No, the target audience is still the same; it didn't change our audience. It is an experience that can be implemented no matter what kind of audience you have.

If it is not confidential, how much did the company find fit to invest in creating the sensory tasting?

I cannot remember the numbers, but it was not a big investment. We can say small to medium investment.

Do you collect reviews regarding the multisensorial experience? If so, are these reviews/comments available on any platform?

You can find reviews on Google Reviews and TripAdvisor.

TABLES

Table 1. Wine Tourism at Quinta da Plansel

Visit	Description	Duration (hours)	Price per pax(€)
Wine Tasting	The winery, grafting area, and art gallery tour, followed by a tasting accompanied by snacks.	1h30	Bronze (1 wine):10€ Silver (2 wines):15€ Gold (3 wines):19.50€ Platinum (4 w.):29.50€ Only Visit:6€
Wine & Dine	It consists of the winery, grafting area, and art gallery visit follow by a gastronomical experience according to chosen menu with wines of Plansel.	2h	Marques: 25€ Montemor: 35€ Alentejo: 50€
Picnic & Wine	Enjoy a walk to the Chapel on Plansel's premises, through Quinta's vineyards. Accompanied by a picnic basket full of wines and snacks.	2h	30€ / 2 pax
A Day at Plansel	Walk through the vineyards to the Santa Margarida Chapel with white wine tasting, winery, grafting area, and art gallery visit accompanied with Alentejo Menu.	6h	80€
Plansel Wine School	Offering WSET Level 1 & 2 certification courses at various locations; at Quinta da Plansel, Lisbon, Algarve, Viseu, and Dão.	1 to 4 days	255 to 660€/pax (including lunch)
Plansel Accomodation	Two premium apartments are located next to the Santa Margarida Chapel, surrounded by the Plansel vineyards.	-	<i>(More information on request)</i> Prices vary according to high-low season