

МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
Сумський державний університет
Навчально-науковий інститут бізнесу,
економіки та менеджменту
Кафедра маркетингу

«До захисту допущено»

Завідувач кафедри

_____ Олексій ЛЮЛЬОВ

_____ 2023 р.

КВАЛІФІКАЦІЙНА РОБОТА

на здобуття освітнього ступеня бакалавр

зі спеціальності 075 «Маркетинг», освітньо-професійної програми «Маркетинг»
на тему: «Marketing determinants of consumer behaviour change in the food market»

Здобувачки групи ЕН-92/2мк Назаренко Анастасія Павлівна

Кваліфікаційна робота містить результати власних досліджень. Використання
ідей, результатів і текстів інших авторів мають посилання на відповідне джерело.

_____ Анастасія НАЗАРЕНКО

Керівник

доцент кафедри маркетингу, к.е.н., доцент, Наталія ЛЕТУНОВСЬКА _____

Суми – 2023

АНОТАЦІЯ

Бакалаврська робота складається з 68 сторінок тексту, 3 розділів, 9 таблиць, 21 рисунок і переліку 42 використаних джерел.

Актуальність даного дослідження полягає в необхідності розуміння детермінант споживацької поведінки на сучасному ринку продуктів харчування, зокрема в контексті онлайн-сервісів доставки їжі, і зростаючого визнання музики як потужного інструменту для поліпшення вражень клієнтів, формування поведінки і розроблення ефективних маркетингових стратегій, тим самим надаючи можливість змінювати споживацьку поведінку та збільшувати продажі на зростаючому онлайн-ринку продуктів харчування.

Метою цього дослідження є дослідження маркетингових детермінант зміни споживацької поведінки на ринку продуктів харчування, зосереджуючись зокрема на ролі впровадження музики на онлайн-сайтах з продуктами харчування.

Завданням цього дослідження є вивчення того, як стратегічне використання музики на онлайн-сайтах з продуктами харчування може поліпшити враження користувача, впливати на процеси прийняття рішень споживачів і сприяти маркетинговим детермінантам зміни споживацької поведінки на ринку продуктів харчування.

Об'єктом цього дослідження є дослідження того, як стратегічне використання музики на онлайн-сайтах з продуктами харчування може поліпшити враження користувача, впливати на процеси прийняття рішень споживачів і сприяти маркетинговим детермінантам зміни споживацької поведінки на ринку продуктів харчування.

Науковою новизною цього дослідження є дослідження стратегічного використання музики на онлайн-сайтах з продуктами харчування як інструменту для поліпшення вражень користувачів, впливу на процеси прийняття рішень споживачів і сприяння маркетинговим детермінантам зміни споживацької поведінки на ринку продуктів харчування, тим самим надаючи цінні уявлення про раніше недосліджену роль музики в онлайн-шопінгу продуктів харчування та її потенційний вплив на залучення клієнтів, продажі та дохід.

Практична значимість цього дослідження полягає у наданні рекомендацій для впровадження ефективних механізмів управління споживацькою поведінкою для онлайн-сайтів з продуктами харчування.

Перший розділ сконцентрований на сенсорному маркетингу і ролі фонові музики у впливі на споживацьку поведінку на ринку продуктів харчування. У ньому аналізуються тенденції в онлайн-шопінгу продуктів харчування, занурюючі веб-сайти, музика в електронній комерції, спеціально підібрана фонові музика та аудіо-DNA, а також розглядаються ключові наукові дослідження в цій галузі.

Другий розділ сконцентрований на впливі звуку/музики на користувацький досвід веб-сайтів і аналізує переваги та недоліки різних типів музики/звуків у веб-дизайні.

Третій розділ сконцентрований на впливі фонові музики на досвід замовлення їжі онлайн, вимірюючи її вплив за допомогою опитування, аналізуючи поведінку користувачів до і після впровадження музики на симульованому веб-сайті та оцінюючи ефективність впровадження музики. Результати свідчать, що фонові музика позитивно впливає на залучення користувачів, генерацію доходів та конверсійні показники, з окупністю витрат на впровадження протягом 31 дня.

Ключові слова: ОНЛАЙН-РИНОК ПРОДУКТІВ ХАРЧУВАННЯ, ЗМІНА СПОЖИВАЦЬКОЇ ПОВЕДІНКИ, МАРКЕТИНГОВІ ДЕТЕРМІНАНТИ, ЕЛЕКТРОННА КОМЕРЦІЯ, ЦИФРОВИЙ ЛАНДШАФТ, МАРКЕТИНГОВІ СТРАТЕГІЇ

ANNOTATION

The bachelor's thesis consists of 68 pages of text, 3 chapters, 9 tables, 21 figures and a list of 42 sources used.

The relevance of this study lies in the need to understand the determinants of consumer behavior in the modern food market, particularly in the context of online food delivery services, and the growing recognition of music as a powerful tool to enhance the customer experience, shape behavior, and inform effective marketing strategies, thus presenting an opportunity to drive consumer behavior change and increase sales in the evolving online food market.

This research aims to explore the marketing determinants of consumer behavior change in the food market, specifically focusing on the role of music implementation on online food websites.

The objective of this research is to investigate how the strategic use of music on online food websites can enhance the user experience, influence consumer decision-making processes, and contribute to marketing determinants for consumer behavior change in the food market.

The object of this research is to investigate how the strategic use of music on online food websites can enhance the user experience, influence consumer decision-making processes, and contribute to marketing determinants for consumer behavior change in the food market.

The scientific novelty of this study is in investigating the strategic use of music on online food websites as a tool to enhance the user experience, influence consumer decision-making processes, and contribute to marketing determinants for consumer behavior change in the food market, thereby providing valuable insights into the previously underexplored role of music in online food shopping and its potential impact on customer engagement, sales, and revenue.

The practical significance of this study lies in the provision of recommendations for the implementation of effective consumer behavior management mechanisms for online food websites. The research results have been confirmed by the act of implementation issued by a prominent online food website.

The first section focused on sensory marketing and the role of background music in influencing consumer behavior in the food market, and it analyzed trends in online food shopping, immersive websites, music in e-commerce, custom background music, and audio DNA, as well as reviewed key scientific research papers in the field.

The second section focused on the impact of sound/music on website user experience and analyzed the advantages and disadvantages of various music/sound types in web design.

The third section focused on the influence of background music on the online food ordering experience, measuring its impact through a survey, analyzing user behavior before and after music implementation on a simulated website, and assessing the cost-effectiveness of implementing music. The results indicated that background music positively contributed to user engagement, revenue generation, and conversion rates, with a break-even point of 31 days for the implementation costs.

Keywords: ONLINE FOOD MARKET, CONSUMER BEHAVIOR CHANGE, MARKETING DETERMINANTS, E-COMMERCE, DIGITAL LANDSCAPE, MARKETING STRATEGIES

Content

Introduction.....	4
1. Sensory Marketing and Background Music in Food Market Consumer Behavior.....	8
1.1 Trend analysis.....	9
1.2 Analysis of scientific research in the context of the investigated question	16
2. The Impact of Sound/Music on Website User Experience.....	25
2.1 Sound/Music in Web Design: Advantages and Disadvantages	25
2.2 Creating online food ordering website	36
3. The Influence of Background Music on the Online Food Ordering Experience.	41
3.1 Measuring the results of a survey on the implementation of music on a food delivery site	41
3.2 The effectiveness of using music on the created site.....	49
3.3 Exploring the Potential of Sound in Enhancing Marketing Strategies in the Food Market	54
Conclusions	60
References	62
Applications.....	67

Introduction

The modern food market has undergone significant transformation in recent years with the rise of online food delivery services. Today's consumers are increasingly opting for the convenience of ordering food online, and this trend has been further accelerated by the COVID-19 pandemic. As a result, the online food delivery market is projected to grow at a rapid pace, with more and more consumers relying on these services for their daily meals.

With the changing dynamics of the food market, there has been a growing need to understand the determinants of consumer behavior and the factors that influence their decision-making process. Research has shown that various factors, such as health concerns, lifestyle changes, and environmental considerations, play a crucial role in shaping consumer behavior in the food market.

In addition to these traditional determinants, there is an increasing recognition of the role that music can play in shaping customer experience and behavior in the food market. Music is an ambient variable that can influence customers' physiological and behavioral responses. Numerous studies have shown that music can affect customers' mood, emotions, and perceptions of the environment and can also influence their purchasing decisions.

The current study has several significant implications. Firstly, music has been shown to affect people's emotions and behaviors and can be used to influence the customer's mood and perception of the shopping experience. By using music strategically, online food retailers can create a positive shopping experience and increase customer satisfaction, which, in turn, can lead to increased customer loyalty and repeat business.

Secondly, music can also be used to create a consistent brand image and reinforce brand identity. By carefully selecting music that aligns with the brand's values and

personality, online food retailers can create a distinct and memorable brand experience for their customers.

Thirdly, the study highlights the importance of considering the sensory aspects of online shopping, beyond just the visual aspects. By incorporating music into the online shopping experience, retailers can create a more immersive and engaging experience for their customers, which can lead to increased customer engagement and sales.

As a result, there is a growing importance in providing valuable insights into how music can be used as a tool to enhance the customer experience in online food shopping and can inform the development of effective marketing strategies for online food retailers.

As online food delivery services continue to gain importance and understanding consumer behavior becomes critical, exploring the use of music as a tool for enhancing customer experience and influencing behavior in the food market has become necessary. The increasing prevalence of online food delivery services and virtual grocery shopping presents an opportunity to use music as a means of simulating the sensory experience of a physical store and making the online shopping experience more immersive and enjoyable. Employing music to create a personalized and engaging atmosphere can encourage consumer behavior change in the food market, leading to increased sales and revenue for businesses.

Specifically, the study **aims** to explore the marketing determinants of consumer behavior change in the food market, specifically focusing on the role of music implementation on online food websites.

The purpose of the study is to provide a comprehensive understanding of how music can be used as a tool to enhance the customer experience in online food shopping and to inform the development of effective marketing strategies for online food retailers.

The object of the study is to investigate how the strategic use of music on online food websites can enhance the user experience, influence consumer decision-making processes, and contribute to marketing determinants for consumer behavior change in the food market.

Research Tasks:

1. Identify and analyze current trends in the use of music on online food websites.
2. Explore the relationship between sensory experiences, including auditory cues like music, and consumer perceptions and preferences in the food market.
3. Investigate the role of music in enhancing the user experience and influencing consumer decision-making processes on online food websites.
4. Examine the benefits and drawbacks of music implementation on online food websites.
5. Analyze case studies of websites in the food market that incorporate music to understand their approaches and effectiveness.
6. Investigate the impact of music implementation on user engagement, emotions, and overall browsing experience in the food market.
7. Assess the potential marketing determinants for consumer behavior change in the food market through the strategic use of music on online food websites.
8. Explore innovative sound-based approaches in the food market.
9. Provide recommendations for marketers on leveraging music implementation to enhance user experiences, drive behavior change, and achieve marketing success in the food market.

The subject of this study is the impact of music implementation on online food websites and its influence on consumer behavior in the food market.

Methods:

1. Literature Review: Conducting a comprehensive review of existing literature on consumer behavior, sensory marketing, and the impact of music on consumer

preferences and decision-making processes in the food market. This will provide a theoretical foundation for the study and help identify research gaps.

2. **Future Trend Analysis:** Conduct trend analysis and market forecasting to anticipate the future direction of music implementation in the food market. Consider technological advancements, evolving consumer preferences, and industry developments to predict the potential impact of music on consumer behavior in the coming years.

3. **Case Studies:** Conducting in-depth case studies of successful online food websites that have effectively implemented music to understand their strategies. **Online Observations:** Analyzing existing online food website to examine the implementation of music and audio elements. Evaluate the types of music/sound used, placement, volume, and user control options.

4. **Experimental Design:** Creating version of online food website, with and without music, and track metrics such as, add-to-cart actions, conversion rates using Google Analytics.

5. **Data Collection:** Collecting primary data through survey to gather insights on consumers' perceptions, preferences, and behaviors related to online food shopping and the role of music.

6. **Statistical Analysis:** Apply appropriate statistical techniques, such as chi-square test using Stata software to analyze the collected data and identify correlations, patterns, and significant associations between music implementation and consumer behavior change.

7. **Cost-Benefit Analysis:** Evaluate the cost-effectiveness of music implementation on online food websites. Calculate the implementation costs, including licensing fees, audio production, and website development, and compare them to the potential benefits, such as increased revenue and improved user experience. This analysis will help assess the financial viability and return on investment of music implementation.

1. Sensory Marketing and Background Music in Food Market Consumer Behavior

Based on the studies [1-6] it is evident that marketing determinants have played a significant role in shaping consumer behavior in the food market. Over time, the focus of marketing strategies has shifted to address evolving consumer preferences, leading to notable changes in the way food products are marketed and consumed. These changes have been driven by various factors, including advancements in technology, shifts in consumer values and lifestyles, and increased awareness about health and sustainability.

One emerging concept that has gained considerable attention in the food market is sensory marketing. Sensory marketing recognizes the influence of sensory stimuli on consumers' perceptions, emotions, and behaviors. It emphasizes the use of sensory cues such as visual design, packaging, taste, and aroma to create memorable and immersive experiences for consumers. The integration of sensory elements in food marketing has been found to enhance product appeal, brand differentiation, and consumer engagement.

Furthermore, numerous studies [7-12] have highlighted the growing importance of specifically background music in brick-and-mortar stores. Background music has been shown to have a significant impact on consumer behavior, influencing factors such as time spent in-store, purchase intention, and overall shopping experience. The strategic selection of music that aligns with the brand and target audience can create a pleasant atmosphere, evoke positive emotions, and enhance customer satisfaction.

Considering the positive impact of background music in retail shops, it is reasonable to suggest that incorporating background music on online food delivery platforms can be a valuable decision. While online platforms lack physical ambiance, the strategic use of background music can contribute to the customer's online food experience. It has the potential to enhance the overall ambiance, add entertainment value, and make the experience more enjoyable for customers. However, further

research is needed to specifically examine the effects of background music on online food delivery platforms and its impact on consumer behavior.

1.1 Trend analysis

In order to examine the level of public interest in the research topic, we conducted a trend analysis by tracking specific search queries related to the research question. To accomplish this, we utilized Google Trends, a publicly available tool that provides insights into search frequency over time. The horizontal axis represents the time period, starting from 2004, while the vertical axis indicates the search frequency of a particular term relative to the total number of worldwide search queries.

To ensure relevance to the chosen question, we selected five keywords that best encompassed the topic. Furthermore, we specifically focused on search queries conducted in English to analyze their popularity on a global scale.

The first key word was identified as "online food shopping" since it holds a high level of significance in the research.

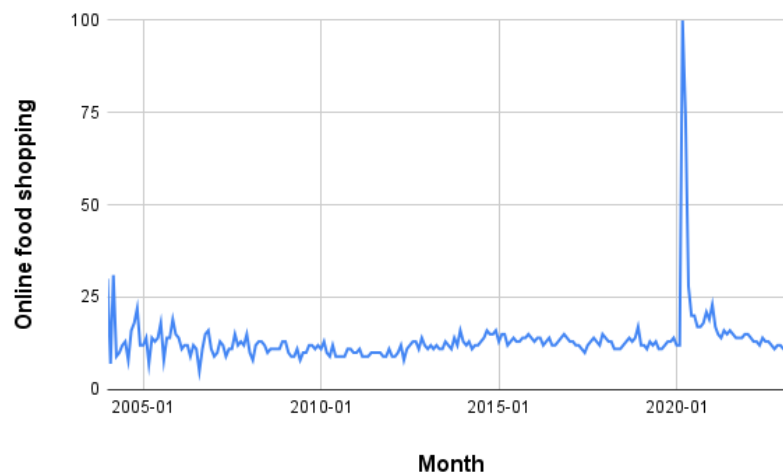


Figure 1.1 - The popularity dynamics of the search query: “online food shopping” (2004-2023)

Overall Trend: The trend for "online food shopping" has shown a consistent and significant increase in interest over the analyzed period. There has been a steady rise in searches related to online food shopping, indicating a growing preference for this method of purchasing food.

Peak in Interest: The peak in interest for "online food shopping" occurred in March 2020, coinciding with the global COVID-19 pandemic. This period saw a substantial surge in searches as people turned to online platforms for their food needs due to lockdowns and social distancing measures.

Fluctuations: While there have been minor fluctuations in interest throughout the analyzed period, the overall trend has been consistently upward. These fluctuations may be influenced by factors such as seasonal variations and market trends, but they have not significantly deviated from the overall upward trajectory.

Recent Trends: In recent years, the interest in online food shopping has remained high and stable. The COVID-19 pandemic has contributed to the sustained interest, as people have continued to prioritize the convenience and safety offered by online food shopping platforms.

An immersive website aims to create a more engaging and interactive online environment for users, often utilizing various multimedia elements, including visuals, audio, and interactive features. Music, as an integral part of the audio component, also plays a significant role in creating an immersive experience. So the next keyword chosen was "immersive website" that has shown a gradual upward trend over the analyzed period. There has been a consistent increase in interest with some fluctuations (Figure 1.2).

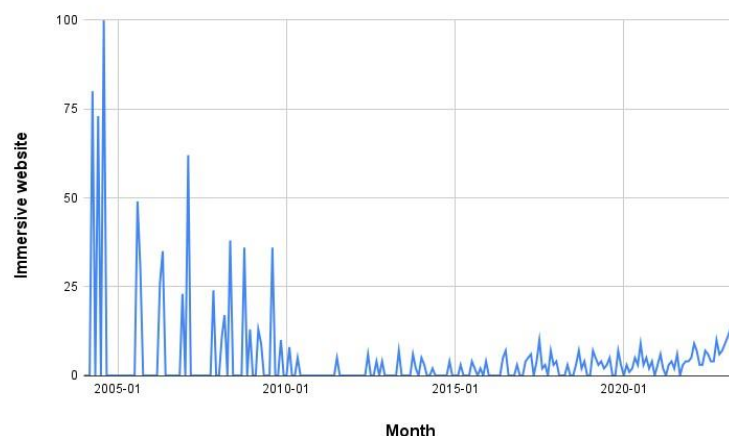


Figure 1.2 – The popularity dynamics of the search query: “immersive website”
(2018-2023)

Overall Trend: The trend for "immersive website" has shown a steady and increasing interest over the analyzed period. There has been a consistent rise in searches related to immersive websites, indicating a growing curiosity and adoption of this concept.

Peak in Interest: The peak in recent interest for "immersive website" occurred in November 2021, where it reached its highest level. This peak indicates a significant surge in searches, suggesting a heightened interest in immersive website experiences during that specific period.

Fluctuations: Throughout the analyzed period, there have been minor fluctuations in interest for "immersive website". These fluctuations may be influenced by various factors such as technological advancements, industry trends, and consumer preferences. However, the overall trend has remained positive, indicating a sustained interest in immersive website experiences.

Recent Trends: In recent years, the interest in immersive websites has continued to grow. Businesses and organizations are increasingly recognizing the importance of creating immersive and engaging online experiences for their audiences. This trend is driven by advancements in technology, such as virtual reality (VR) and augmented reality (AR), which enable more interactive and immersive website designs.

The next keyword chosen was "music in e-commerce". Music in e-commerce refers to the use of music as a tool to enhance various aspects of the online shopping experience, including creating ambiance, evoking emotions, and influencing consumer behavior. It recognizes that music can play a crucial role in shaping customer perceptions, mood, and overall satisfaction when engaging with online platforms.

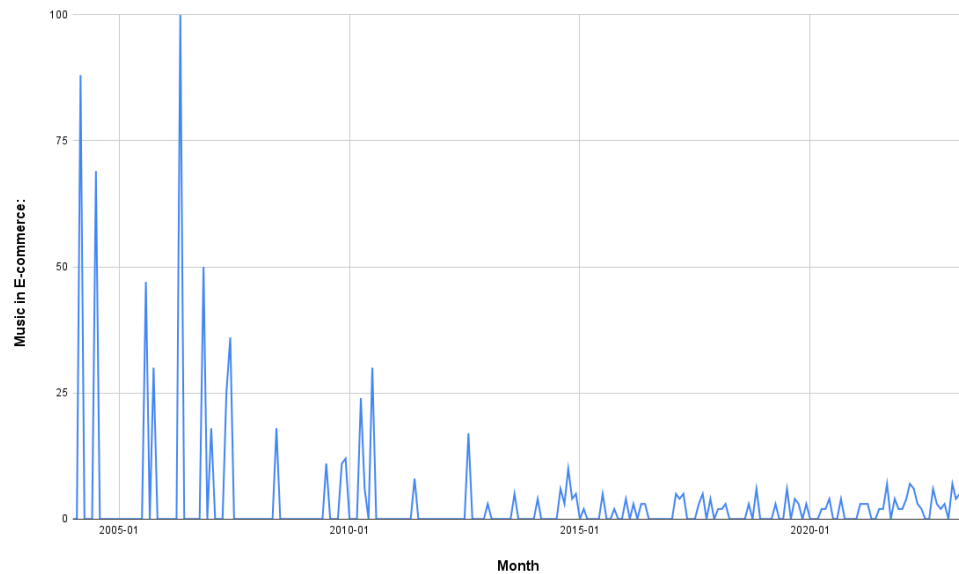


Figure 1.3 - The popularity dynamics of the search query: “music in e-commerce”
(2004-2023)

Overall Trend: the graph shows that the popularity of this query reached its peak in 2006 (with a general score of 100). Since then, interest in the topic has gradually declined. However, despite the overall decline, there are periodic fluctuations upwards. The next peak in interest for "music in e-commerce" occurred around mid-2019. During this period, there was a significant surge in searches related to this topic, indicating a high level of interest (Figure 1.4):

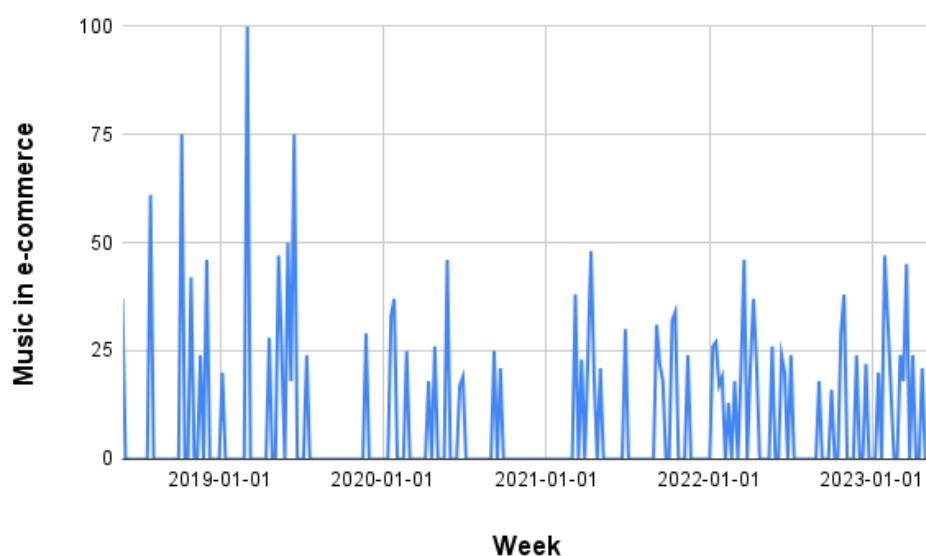


Figure 1.4 - The popularity dynamics of the search query: “music in e-commerce”
(2018-2023)

Fluctuations: Over the analyzed period, there have been minor fluctuations in interest regarding the search query. These fluctuations indicate varying levels of attention and engagement from users, but generally, the interest has remained relatively consistent without significant deviations.

The interest in the topic of "music in e-commerce" has shown a relatively stable trend over the entire available period of data. While there have been some fluctuations, the overall interest has remained consistent.

The next search query “custom background music” plays a crucial role in shaping the customer experience in e-commerce platforms. By carefully selecting and implementing custom background music, online retailers can create a positive and engaging shopping atmosphere. Music can influence customers' emotions, perceptions, and behavior, ultimately impacting their purchasing decisions and overall satisfaction.

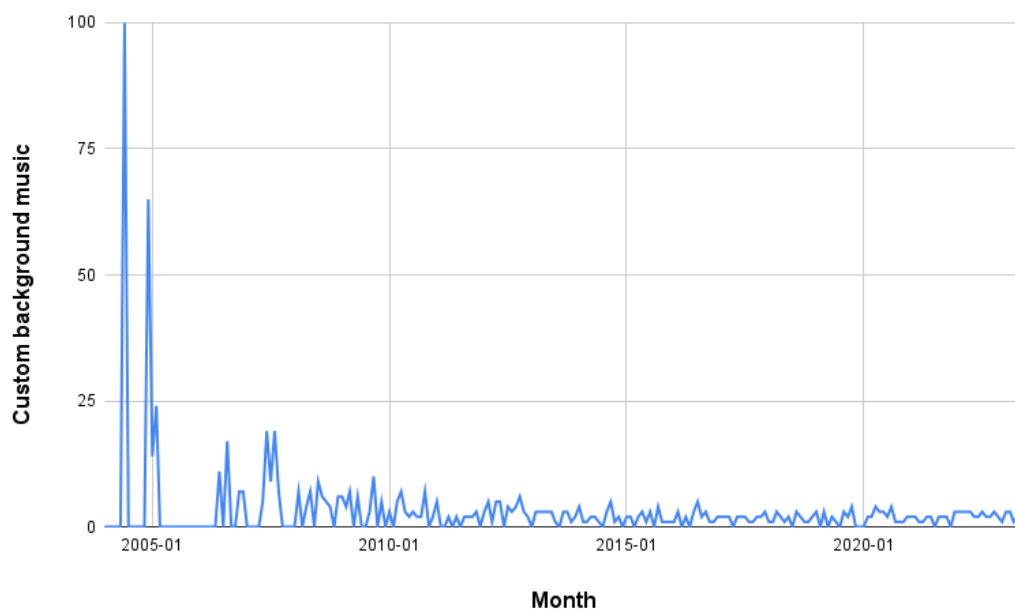


Figure 1.5 - The popularity dynamics of the search query: “custom background music” (2004-2023)

Peak in Interest: The strong level of interest was presented in 2004 (exceeded 100 score in June). The highest level of interest in the topic occurred in November 2021, where it reached 100 (Figure 1.6). This peak indicates a significant surge in searches related to "custom background music" during that specific period.

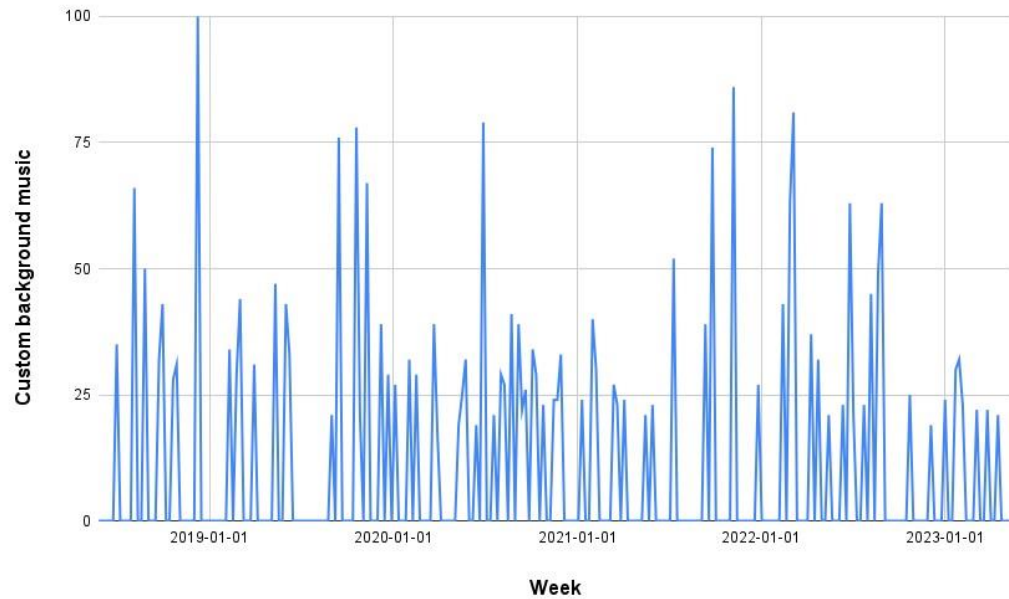


Figure 1.6 - The popularity dynamics of the search query: “custom background music” (2018-2023)

Fluctuations: Throughout the analyzed period, there have been minor fluctuations in interest. These fluctuations suggest varying levels of attention and engagement from users, but overall, the interest has remained relatively steady.

Recent Trends: In recent years, there has been a slight decline in interest from the peak in 2019. However, the interest has remained relatively consistent, indicating a continued relevance and interest in the topic.

The search query "custom background music" has exhibited a fairly consistent and stable trend throughout the analyzed period. There has been a steady level of interest with minor fluctuations.

"Audio DNA" refers to the unique audio identity or signature of a brand, product, or experience. It involves the strategic selection and use of music, sound effects, and audio elements to create a distinct and memorable sonic experience. It involves using strategic audio elements to enhance the customer experience, reinforce brand identity, and create an immersive and engaging atmosphere.

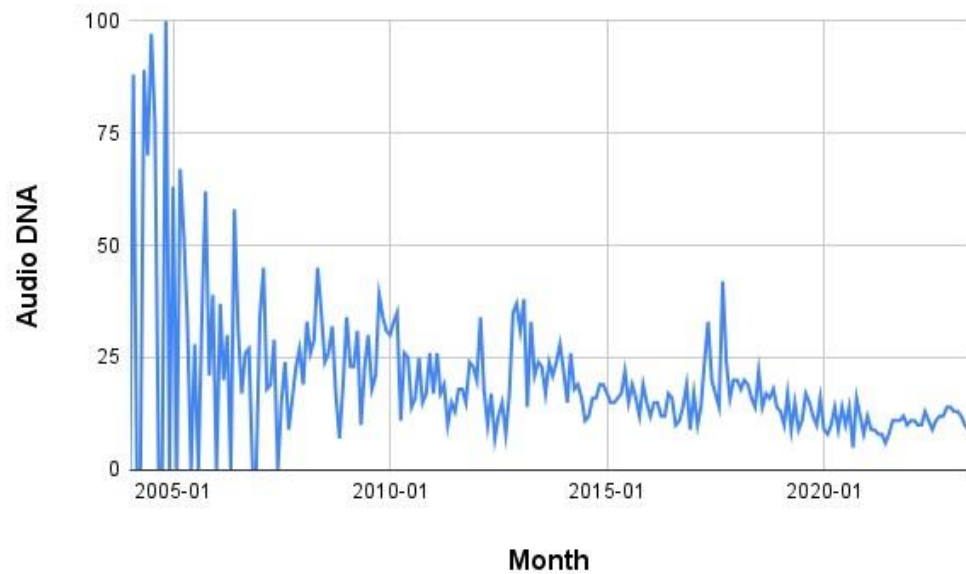


Figure 1.7 - The popularity dynamics of the search query: “audio DNA” (2004-2023)

Overall Trend: The interest in the topic of "audio DNA" has shown a relatively stable trend over the analyzed period. There has been a consistent level of interest with minor fluctuations.

Peak in Interest: The highest level of interest in the topic occurred in October 2017, where it reached a score of 100. This peak indicates a significant surge in searches related to "audio DNA" during that specific period.

Fluctuations: Throughout the analyzed period, there have been minor fluctuations in interest. These fluctuations suggest varying levels of attention and engagement from users, but overall, the interest has remained relatively steady.

Recent Trends: In recent years, interest in "audio DNA" has shown a steady rise, indicating a continued relevance and growing interest in this topic. The trend suggests that more people are becoming aware of and exploring the concept of audio DNA.

Based on these trends, it is reasonable to predict that the interest in music's impact on online food shopping will continue to grow in 2024. With advancements in technology and a focus on creating immersive experiences, the role of music and audio elements in shaping the online shopping experience is likely to gain further

significance. However, continuous monitoring and analysis of trends in the coming year will be necessary to provide more accurate predictions.

1.2 Analysis of scientific research in the context of the investigated question

In order to approach the research problem from a unique perspective and gain a deep understanding of its developmental peculiarities, we conducted a bibliometric analysis by carefully examining the bibliographic material and identifying the main scientific trends in the research field.

Bibliometric analysis is considered one of the most modern and effective tools for identifying "knowledge gaps" within the research topic, which will determine the research directions that are most relevant and aligned with current trends.

Since the quality and reliability of bibliographic analysis largely depend on the sources from which the information is gathered, we chose the authoritative Scopus database, known for providing a high level of transparency. The chosen keyword for the direct search of the researched problem was "sensory marketing in e-commerce," as it is a part of the selected research subject. Additionally, certain limitations were set in the search field, specifically "title, abstract, keywords," to ensure a more comprehensive approach.

For further consideration, only articles written in English were selected. Furthermore, the main focus of the research field was directed towards publications that included a psychological component, and a restriction was placed on the publication period. A manual re-check confirmed that all publications corresponded to the research problem. Thus, taking into account all limitations, 1155 publications were selected for further review.

The top 10 most cited publications in the field of "sensory marketing in e-commerce" were identified from the Scopus database (listed in Table 1.1). Most of these articles have been cited approximately 200 times, indicating a high recognition from the global scientific community. There is a certain scientific discussion present, confirming the relevance of the researched topic.

The top 10 publications identified by the Scopus database share a common topic of sensory marketing in e-commerce

Table 1.1 – Top 10 most cited research papers in the field of "sensory marketing in e-commerce" between 2004 and 2023 (based on Scopus).

No	Total number of citations	Author(s)	Article title	Journal/Year of publication
1	2	3	4	5
1	691	Krishna A.	An integrative review of sensory marketing: Engaging the senses to affect perception, judgment and behavior	2012
2	310	Suh K.-S., Lee Y.E.	The effects of virtual reality on consumer learning: An empirical investigation	2005
3	294	Spence C., Puccinelli N.M., Grewal D., Roggeveen A.L.	Store atmospherics: A multisensory perspective	2014
4	267	Hultén B.	Sensory marketing: The multi-sensory brand-experience concept	2011
5	260	Krishna A., Schwarz N.	Sensory marketing, embodiment, and grounded cognition: A review and introduction	2014
6	256	Peck J., Wiggins J.	It just feels good: Customers' affective response to touch and its influence on persuasion	2006
7	234	Spence C.	Managing sensory expectations concerning products and brands: Capitalizing on the potential of sound and shape symbolism	2012

Continuation of table 1.1

8	181	Petit O., Velasco C., Spence C.	Digital Sensory Marketing: Integrating New Technologies Into Multisensory Online Experience	2019
9	156	Pauwels K., Leeftang P.S.H., Teerling M.L., Huizingh K.R.E.	Does Online Information Drive Offline Revenues?. Only for Specific Products and Consumer Segments!	2011
10	122	Biswas D., Lund K., Szocs C.	Sounds like a healthy retail atmospheric strategy: Effects of ambient music and background noise on food sales	2019

However, some works highlight specific aspects within this sphere:

- The second article investigates the impact of virtual reality (VR) on consumer learning in e-commerce. It examines how VR enhances product understanding and distinguishes between two types of products based on sensory modalities. The study finds that VR increases consumer learning, particularly for products with salient visual and auditory cues. Experimental results support the positive effects of VR on overall consumer learning, especially for high experiential products [13];
- The third work examines the impact of store atmospherics on consumer behavior. It reviews scientific evidence regarding the visual, auditory, tactile, olfactory, and gustatory aspects of the store environment and their influence on shopping behavior. The study highlights the importance of further research to understand how the multisensory retail environment shapes customer experience and behavior [14];
- The sixth research finds that touch increases affective response and persuasion, especially for those motivated by fun or interest. Positive or neutral sensory feedback enhances the effect. Understanding the connection between touch and the message also increases persuasion. The study demonstrates the significant

marketing implications of touch, spanning direct marketing, packaging, displays, and print advertising [15];

- The ninth paper examines the revenue impact of introducing an informational website for an offline department store. It analyzes customer segments, product categories, and marketing actions to understand the effects. The study finds that the revenue impact depends on the product category and customer segment, with lower online search costs benefiting sensory products and customers distant from the store. Customers with high web visit frequency show the highest increase in offline revenues. The results suggest that online search and offline purchases can be complementary, but for some customers, online activities substitute for in-store shopping. The study highlights the importance of targeting specific online activities for different product categories and customer segments [16];
- The last study sheds light on the importance of ambient music volume in influencing consumers' food choices and highlights its implications for retailers, consumers, and policymakers. By considering the effects of ambient music volume, stakeholders can make informed decisions regarding retail atmospherics and potentially promote healthier consumption patterns without relying solely on restrictive regulatory measures [17].

These studies collectively highlight the importance of sensory factors, such as visual, auditory, tactile, and olfactory cues, in shaping consumer perceptions, judgments, and behavior in the online environment. Understanding how these sensory elements impact consumers' experiences and decision-making processes is crucial for marketers and retailers in designing effective e-commerce strategies.

In particular, the study focusing on ambient music volume in the context of food choices underscores the significance of using music as a tool for online food promotion. Ambient music volume, in particular, has been found to have a significant influence on consumers' food choices. By manipulating music volume, retailers and marketers can shape the overall ambiance of online food platforms and enhance the

consumer experience. The use of ambient music provides an opportunity to nudge consumers towards healthier food options without resorting to strict regulations.

Understanding and utilizing sensory marketing strategies, including the integration of ambient music, can be a powerful tool for marketers in the food industry. By engaging multiple senses and creating a pleasant and immersive online environment, businesses can attract and retain customers, increase their sales, and promote healthier consumption patterns. Moreover, these strategies can be implemented with relative ease and low cost, making them accessible to a wide range of businesses operating in the online food market.

In the conducted bibliographic analysis, special attention is also given to the study of geographical coverage in terms of countries and author affiliations (Table 1.2).

Table 1.2 – Countries with the largest number of publications on the researched issue in the period from 2004 to 2023 (based on the Scopus database)

Country	Number of publications
United States	298
United Kingdom	128
France	83
China	75
Italy	62
Australia	60
Spain	58
Germany	57
India	54
South Korea	43

The obtained data were visualized using the VosViewer software. **Figure** depicts the relationships that exist between countries, taking into account the publication activity of scientists.

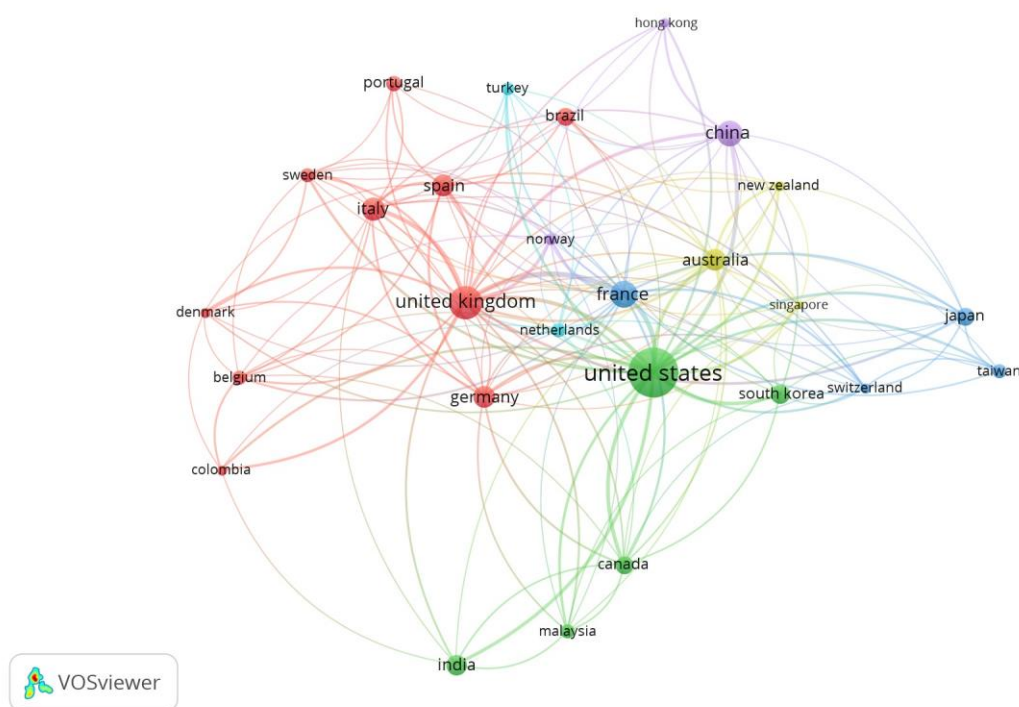


Figure 1.8 - Connections between countries on the investigated topic from 2004 to 2023 (based on the Scopus database)

According to the analysis results, we obtained 6 clusters. Three countries occupy leading positions within the scope of the investigated issue. These are the USA (298 publications, 10217 citations), the United Kingdom (128 publications, 3463 citations), and France (83 publications, 1309 citations). Thus, these countries form three main clusters, followed by China (75 publications, 756 citations), Italy (62 publications, 3260 citations), and Australia (60 publications, 1238 citations).

Considering the data shown in Table 1.3 and Fig. 2.8, countries can be attributed to a certain part of the world. In this case, the main part of materials on the issue of "sensory marketing" is published by scientists from North America (USA,

Canada), Latin america (Brazil), Europe (Great Britain, France, Italy, Spain, Germany, Portugal), Asia (China, Japan, India, South Korea) and Australia.

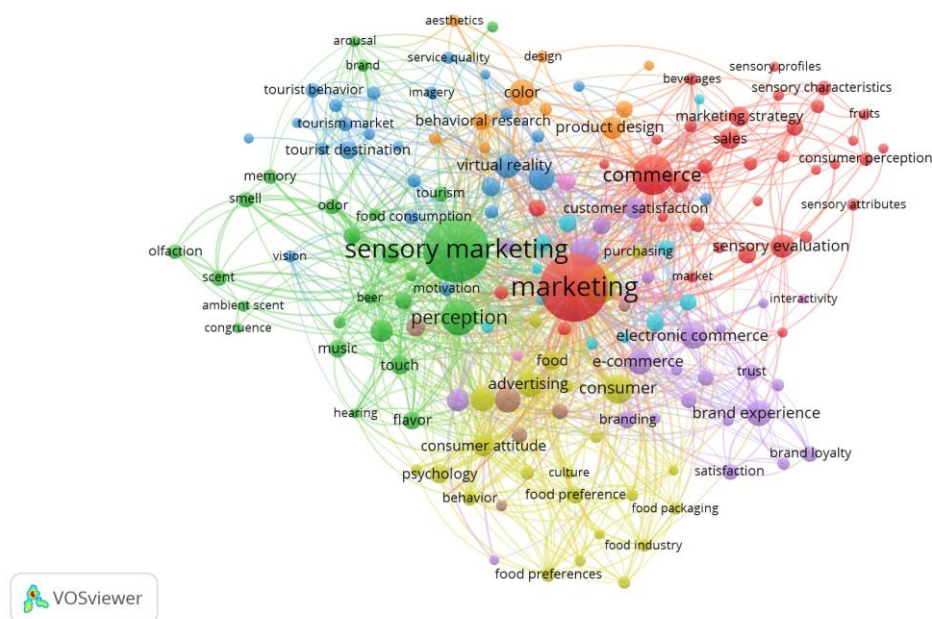


Figure 1.9 - Interconnections between key words of publications within the scope of "sensory marketing" from 2004 to 2023 (based on the Scopus database)

Thus, the generated network visualization of interrelationships between keywords includes the main 5 clusters. The first (most powerful) cluster (red cluster) revolves around the concept of "marketing" (establishing 147 connections, connection strength - 696). This cluster includes the following key words: commerce, sales, food products, marketing strategies, artificial intelligence, sensory evaluation. The second (green) cluster is based on the concept of "sensory marketing" (111 connections, connection strength - 193), and it includes key words such as perception, emotion, touch, sound, odor, memory, flavor, music. The third (yellow) cluster revolves around the concept of "consumer behavior" (establishing 90 connections, connection strength - 230) and encompasses key words like taste, advertising, psychology, food preference, food industry. The fourth (purple) cluster revolves around the concept of "e-commerce" (establishing 38 connections, connection strength - 74) and includes words like customer satisfaction, brand experience, packaging, experiential

marketing, websites. Finally, the last (blue) cluster under the concept of "neuromarketing" (establishing 39 connections, connection strength - 57) includes key words such as online shopping, online retailing, purchase intention, advertising effectiveness, product evaluation.

The research question related to the determinants of consumer behavior change in the food market, and in particular the influence of music, which is a component of sensory marketing in general, is relevant from the point of view of the review of each individual cluster in the cross-sectional analysis. However, the small size of the detected indicators indicates that the issue has not been investigated yet. Despite this, the question remains relevant in connection with the growing competition, which is demonstrated by Figure 1.10.

According to 2014, researchers may have focused on exploring the sensory aspects of consumer perception, factors driving consumer behavior, strategies for establishing and enhancing brand identity, and the impact of product aesthetics and functionality on consumer preferences. From 2014 to 2016, research might have focused on investigating consumer behavior in the context of online retail, examining the impact of sensory characteristics on consumer preferences and perception. From 2016 to 2018, there was an increasing emphasis on exploring the interplay between sensory experiences, consumer preferences, purchase decisions, and effective promotional strategies within various industries. Starting from 2018 to 2020, the focus shifted to the relationship between various sensory stimuli, such as auditory and olfactory cues, and consumer behavior, particularly in the context of sensory marketing, highlighting the importance of music in influencing consumer perceptions and preferences. Since 2020, there has been a research interest in sensory experiences, including the influence of visual cues and ambient smells, as well as the concept of congruence between different sensory modalities, all within the realm of consumer behavior and marketing.



Figure 1.10 - Evolution of scientific interest in the context of the analyzed question from 2014 to 2023

Based on the study's findings, the research conducted from 2014 to 2020 indicates a growing recognition of the importance of sensory experiences, including auditory cues like music, in influencing consumer perceptions and preferences. The shift towards exploring the interplay between sensory stimuli and consumer behavior suggests that investigating the role of music on online (food) websites can contribute to the understanding of how sensory elements shape consumer decision-making processes and promotional strategies in the digital realm. Therefore, investigating the role of music in enhancing the user experience and influencing consumer decision-making on online (food) websites can contribute to understanding and leveraging marketing determinants for consumer behavior change in the food market.

2. The Impact of Sound/Music on Website User Experience

2.1 Sound/Music in Web Design: Advantages and Disadvantages

The rapid development of digital technologies has positioned websites as essential platforms for communication, information sharing, and user interaction. In this context, the integration of sound and music has gained prominence as a dynamic approach to enriching the overall user experience. The addition of auditory elements imparts a sense of depth, emotion, and interactivity that surpasses the capabilities of visual elements alone. Nevertheless, the incorporation of sound and music on websites entails a range of advantages and disadvantages that demand meticulous attention from web designers and developers.

The inclusion of background music on a website, particularly when the website's primary focus is unrelated to music or music services, can have a detrimental effect on its professional demeanor. This can erode the perception of the website's professionalism and potentially lead to user attrition. Esteemed websites, acknowledging this concern, purposefully abstain from incorporating background music, thereby underscoring the appropriateness of this approach.

Another aspect to consider is the substantial consumption of bandwidth associated with streaming complete songs in the MP3 format. Even if the song is played for a relatively limited number of daily visitors, it can rapidly deplete the allocated monthly bandwidth resources provided by standard hosting packages. Consequently, it may become necessary to acquire more expensive hosting packages with higher bandwidth allocations to accommodate this demand. An alternative approach to address this issue involves looping a shorter segment of the music. However, this introduces the potential challenge of providing a repetitive user experience.

Moreover, the unanticipated initiation of music playback can have an intrusive effect, disrupting the user's preferred auditory encounter. A significant number of individuals prefer to exercise control over their personal music choices, whether it be

through CDs, internet radio, or MP3s, when utilizing their computers. Consequently, when a website autonomously commences playing music without prior consent or anticipation, it impinges upon the user's desired listening experience and is perceived as an unwelcome intrusion. In response, users may expeditiously terminate their interaction with the website to regain mastery over their audio environment.

Consideration for public spaces assumes paramount importance in the incorporation of sound and music into websites. It is imperative to recognize that certain website visitors access the site within communal settings such as workplaces or libraries, where unforeseen playback of music, even at moderate volumes, can instigate feelings of embarrassment or irritation if the users were unaware that their audio output devices were activated. Respecting the contextual norms of public spaces becomes pivotal in ensuring an optimal user experience.

Furthermore, the inclusion of sound and music has the potential to exert an adverse impact on website performance, particularly when accessed through slower machines or devices with limited resources. The execution of music necessitates supplementary processing power, thereby engendering protracted loading times, diminished responsiveness, and an overall subpar user experience. Users may be disinclined to revisit the website if they encounter sluggish performance, thereby impeding the website's efficacy and user engagement.

By exercising mindfulness and attentiveness towards these considerations, web designers and developers can thoughtfully evaluate the potential drawbacks associated with the integration of sound and music, enabling them to strike a delicate equilibrium that optimizes the user experience while effectively mitigating any negative repercussions.

The use of sound as a resource in web design has been a topic of debate, with divergent views regarding its effectiveness and appropriateness. It is often criticized when visitors are unexpectedly greeted with sound upon landing on a website, leading to annoyance and difficulty in locating the control to stop it.

However, within the realm of web multimedia, audio presents a unique medium for conveying information and evoking sensations that complement the visual

content, enhancing the overall user experience. While its inclusion may not always be straightforward or suitable in all contexts, there are instances where audio can serve as a valuable solution. Particularly in websites centered around musical themes, the incorporation of audio becomes inevitable and necessary, as it contributes to a comprehensive understanding and appreciation of the content.

Creating Emotional Connections:

1. Music has a powerful impact on our emotions, evoking feelings of joy, nostalgia, excitement, or relaxation. When properly chosen and implemented, music can instantly connect with website visitors on an emotional level. According to a study conducted by psychologists at the University of Groningen, the right music can positively influence mood and enhance the perception of a website.

Setting the Tone and Atmosphere:

2. Music can set the desired tone and atmosphere for a website, effectively conveying its brand identity and message. For instance, a lively and upbeat tune can create a sense of energy and fun for a food delivery website, while a calm and soothing melody can establish a serene and tranquil ambiance for a wellness retreat website.

Enhancing User Engagement:

3. Engagement is key to a successful website, and music has the ability to captivate users' attention and keep them immersed in the browsing experience. A study published in the *Journal of Interactive Marketing* revealed that websites with audio elements, such as background music or sound effects, experienced higher user engagement levels compared to those without audio.

Improving Brand Recall:

4. Music can significantly contribute to brand recall and recognition. By associating a particular melody or jingle with your brand, you can reinforce brand awareness and make a lasting impression on visitors. Research conducted by the Universidad de Santiago de Chile found that music-related brand messages had a higher recall rate than non-musical messages.

Boosting Sales and Conversions:

5. Music can influence consumer behavior, including purchasing decisions. In a study published in the Journal of Retailing, it was observed that shoppers tend to spend more time on websites with music and are more likely to make a purchase compared to websites without music. Furthermore, background music can create a pleasant shopping environment and positively impact customers' perception of product value.

In conclusion, the decision to use sound on websites depends on the type of site being developed and how the sound is implemented. When utilized thoughtfully, sound can positively impact user engagement, immersion, and accessibility. Designers should consider the preferences and diverse needs of users, allowing for user choice and compatibility. By exercising caution and employing appropriate methods, sound can continue to evolve as a powerful tool in web design, enhancing the digital experience for users.

Table 2.1 - Pros and Cons of different Music/Sound Types in Website Design (developed by the author)

Music/Sound type	Advantages	Disadvantages
Background Music	<ul style="list-style-type: none"> - creates an ambient and immersive atmosphere; - sets the tone and enhances the website's branding; - evokes emotions and enhances the user's mood; - provides a cohesive audiovisual experience. 	<ul style="list-style-type: none"> - personal taste and preferences may vary, leading to potential dislike; - can be distracting or annoying if not well-implemented; - increased bandwidth usage and loading times; - compatibility issues with different devices and browsers.
Voiceovers and Narration	<ul style="list-style-type: none"> - guides and informs users through audio instructions or explanations; - enhances storytelling and content delivery; - provides accessibility for visually impaired users; - adds a human touch and personalization to the website 	<ul style="list-style-type: none"> - requires professional voice talent and quality recording equipment; - can be time-consuming to script and synchronize with visuals; - compatibility issues with different devices and browsers;

Continuation of table 2.1

		<ul style="list-style-type: none"> - may increase website complexity and development effort
Interactive Sounds/Alerts	<ul style="list-style-type: none"> - immediate user response - enhances user engagement - can trigger neurochemical reward systems; - increases time spent on apps/websites 	<ul style="list-style-type: none"> - overwhelming alerts can be distracting; - user preferences may vary; - potential for annoyance or irritation
Sound Off/On Option	<ul style="list-style-type: none"> - gives users control over their audio experience; - respects user preferences and sensitivities; - provides flexibility and customization; - accommodates different environments and situations 	<ul style="list-style-type: none"> - may require additional design and development effort; - requires clear visibility and intuitive controls; - risk of users missing important audio cues; - potential inconsistency if audio is crucial for certain interactions
Audio Effects/Click Sounds	<ul style="list-style-type: none"> - provides feedback and interactivity; - enhances user engagement; - reinforces visual cues and actions 	<ul style="list-style-type: none"> - can be irritating if overused; may increase website loading time; - compatibility issues with certain browsers or devices; - users may prefer a silent browsing experience
Autoplay Videos with Sound	<ul style="list-style-type: none"> - grabs attention and increases engagement; - provides audiovisual experience; - conveys information effectively 	<ul style="list-style-type: none"> - can be intrusive and disruptive to user experience; - may increase page loading time; - users may prefer control over video playback; - may consume more data for mobile users
Sound Effects	<ul style="list-style-type: none"> - provides immediate feedback and response to user actions; - enhances usability and intuitive interaction; - reinforces the user's understanding of their actions; - creates a more engaging and interactive experience. 	<ul style="list-style-type: none"> - overuse or improper implementation may cause annoyance; - requires careful consideration of timing and relevance; - compatibility issues with different devices and browsers; - can increase website complexity and development effort

The Table 2.1 above is presenting a comprehensive overview of the advantages and disadvantages of various music and sound implementations in web design. It allows designers and website owners to make informed decisions based on their specific needs and considerations.

By understanding the potential benefits and drawbacks, designers can make informed choices that enhance user experiences while mitigating potential issues. Ultimately, the goal is to strike a balance that aligns with the website's objectives, user preferences, and overall user experience.

Despite its many drawbacks, marketers have learned to successfully manipulate audio marketing strategies and incorporate sounds or music into a website in a way that enhances the user experience. To ensure the optimal utilization of sound resources, it is crucial to employ proper structural organization and learn from well-designed websites that effectively engage and provide a gratifying user experience.

1) GROW LAB ORGANICS

Upon analyzing the music use on the website [18], it is evident that careful consideration has been given to enhance the user experience while providing control over the audio elements.

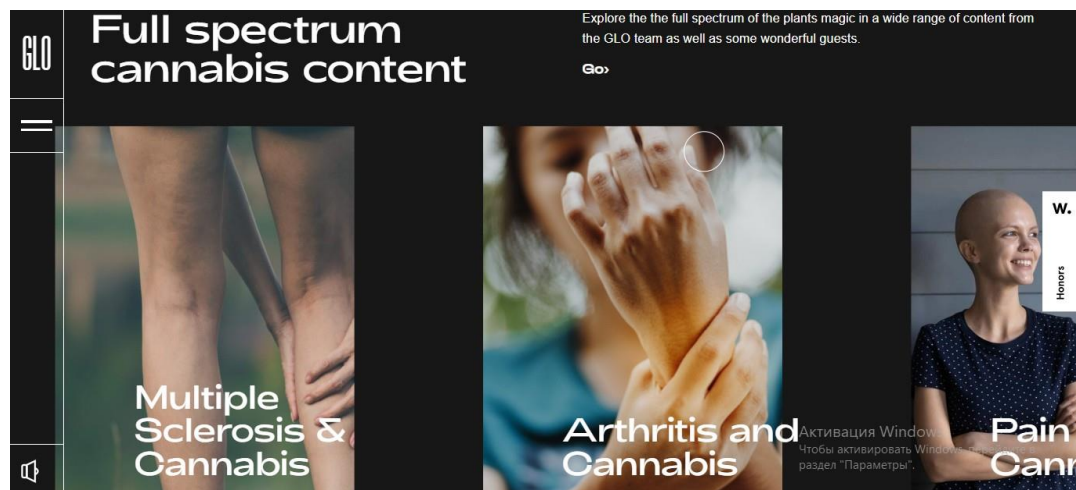


Figure 2.1 - GROW LAB ORGANICS main website page

Here are some additional details to consider:

1. Relevance and Atmosphere: The website incorporates calm and quiet background music that aligns with the overall aesthetic and theme of the

showcased products. The music contributes to creating a serene and immersive atmosphere, enhancing the browsing experience.

2. **User Control:** One notable feature is the presence of an option to turn on/off the sound on the website. This level of control empowers users to personalize their experience based on their preferences. By providing this option, the website acknowledges that not all users may want to listen to the background music and respects their choices.
3. **Synergy with Interactions:** The website has integrated click sounds that align with the background music when hovering over buttons. This attention to detail creates a harmonious experience, where the audio elements are synchronized and complement each other. The cohesive integration of sound effects with the music enhances the overall engagement and adds an interactive dimension to user interactions.
4. **Impact on Loading Time:** It is important to consider the impact of the music and audio elements on the website's loading time and performance. As the background music is calm and the audio effects are relatively short, they do not significantly affect the loading speed. The website still loads efficiently, allowing users to navigate smoothly.
5. **Target Audience:** The choice of calm and quiet background music suggests that the website targets users who appreciate a tranquil and sophisticated experience. The combination of visual elements, background music, and interactive audio effects caters to an audience seeking an immersive and engaging browsing journey.

In summary, the music use on the website [18] demonstrates a thoughtful approach to enhancing the user experience. By offering the option to turn on/off the sound, utilizing calm and quiet background music, and synchronizing audio effects with user interactions, the website provides a cohesive and personalized experience. Additionally, the careful optimization ensures that the audio elements do not significantly impact the loading time, maintaining a smooth and enjoyable browsing experience for the target audience.

2) KIPSTA TRAXIUM COMPRESSOR

Upon analyzing the music use on the website [19], the next observations can be made:

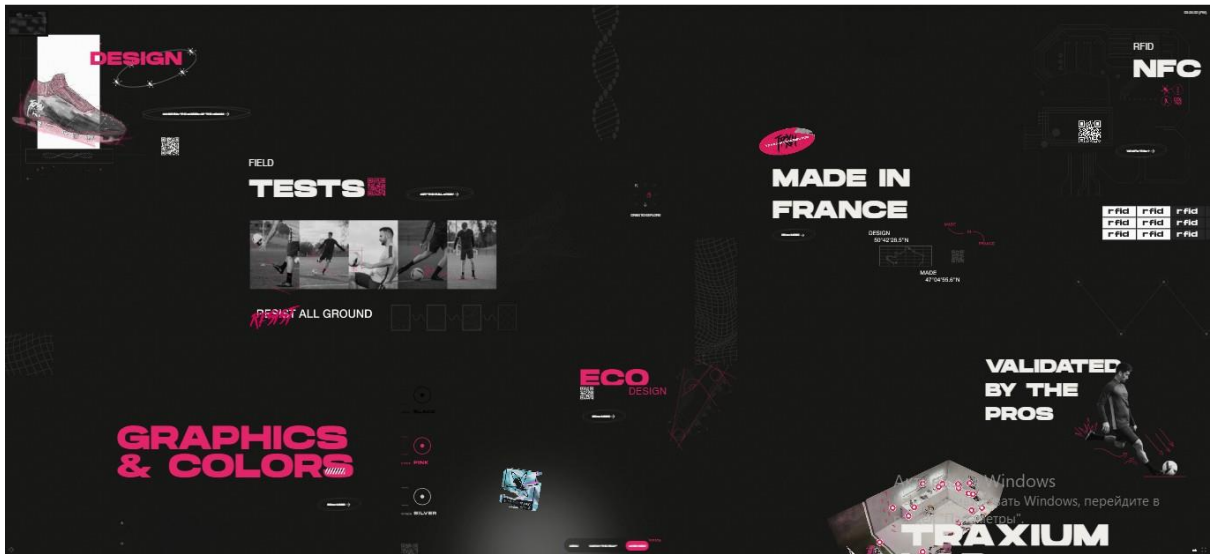


Figure 2.2 - KIPSTA TRAXIUM COMPRESSOR main website page

1. **Navigation Buttons:** The implementation of sound on the buttons helps with navigating through the difficult structure of the website. It provides audio feedback, making it easier for users to interact with the site.
2. **Autoplay Video:** The website offers the option to click a button that leads to an autoplay video. This feature provides a visual and auditory experience, allowing users to learn more about the product.
3. **Background Sound:** The website includes a background sound that features space motives. However, this choice of music might not align perfectly with the eco theme of the brand and the product being showcased.
4. **Sound Control:** The website provides a switch to turn the sound on or off, giving customers the opportunity to control their audio experience. However, a downside is that the sound is on by default, which may cause inconvenience to customers who prefer a silent browsing experience. Additionally, the mute button might be difficult to find quickly due to its small size and being represented by sound waves.

Overall, the use of sound on the website serves multiple purposes, such as aiding navigation, providing additional information through autoplay videos, and creating a

specific ambiance. However, considerations should be made to ensure that the chosen background sound aligns well with the theme and preferences of the target audience. Improving the visibility and accessibility of the sound control options could enhance the user experience.

3) FLAGSHIP WHISKEY

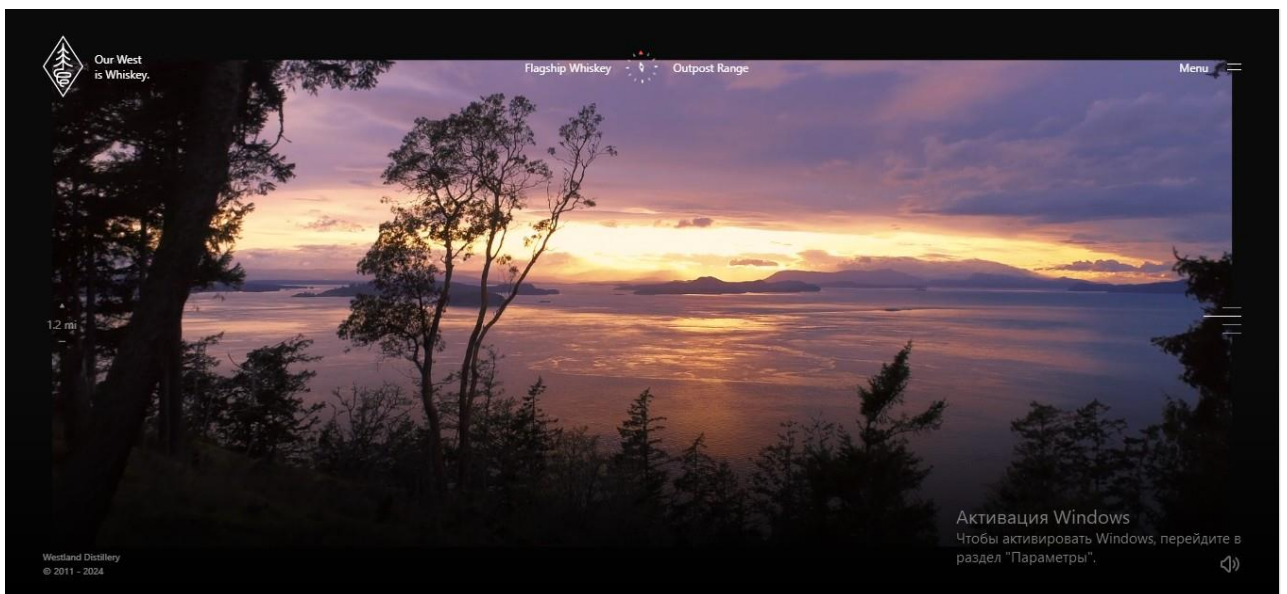


Figure 2.3 - FLAGSHIP WHISKEY main website page

Upon analyzing the music use on the website [20], the following observations can be made:

1. **Background Music:** The website incorporates background music that starts playing automatically upon loading the site. The music sets a specific tone and atmosphere, creating an immersive experience for visitors.
2. **Genre and Theme:** The chosen music aligns well with the theme of the website, which appears to be centered around whiskey and the West. The music evokes a sense of nostalgia, adventure, and rustic charm, enhancing the overall ambiance and storytelling aspect of the site.
3. **Sound Control:** The website provides a prominent and easily accessible sound control feature. Users have the option to turn the music on or off, allowing them to customize their browsing experience based on their preferences.

4. Integration with Visual Content: The music is synchronized with the visual elements on the website, such as transitions, animations, and scrolling effects. This integration enhances the overall sensory experience and creates a cohesive and engaging presentation.
5. Emotional Impact: The background music on the website plays a significant role in evoking emotions and immersing visitors in the brand's narrative. It adds depth and personality to the content, aiming to create a memorable and impactful user experience.

Overall, the music use on the website contributes to the brand's storytelling and helps create a unique atmosphere. It enhances the thematic elements, engages users emotionally, and adds an extra layer of immersion to the overall browsing experience. The inclusion of sound control ensures that visitors have the flexibility to enjoy the website with or without music, respecting individual preferences.

4) RCA RECORDS

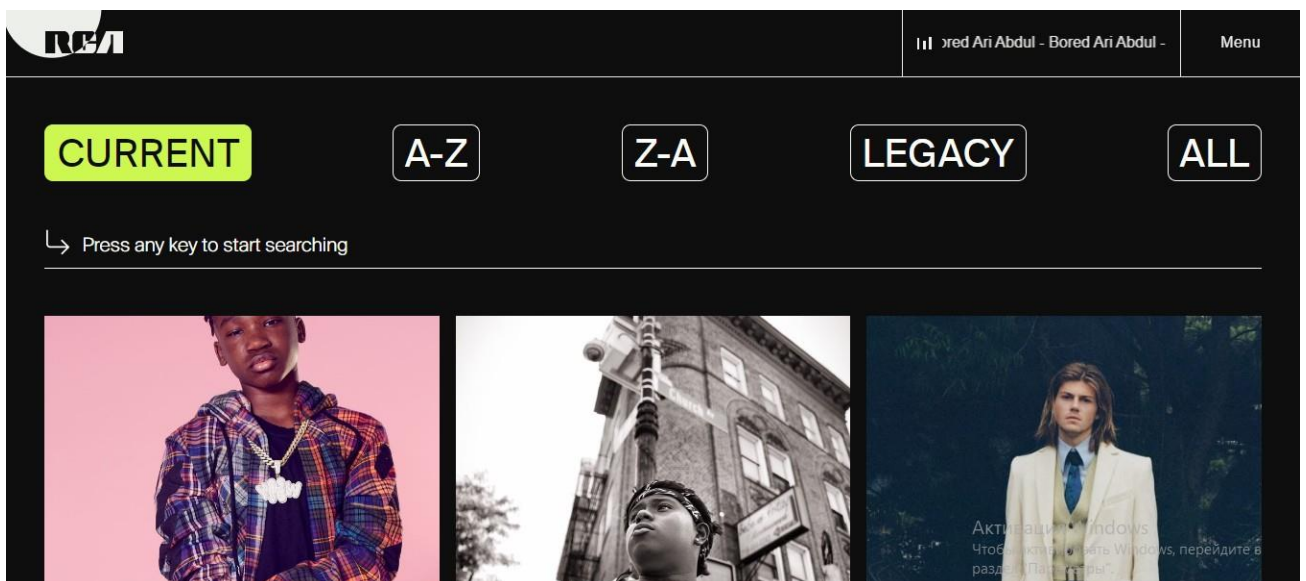


Figure 2.4 - RCA RECORDS main website page

Upon analyzing the music use on the website [21], the following observations can be made:

1. Background Music: The website features background music that plays automatically upon loading the page. The music creates an immersive and

engaging atmosphere for visitors, setting a certain mood that aligns with the overall theme of the website, which is promoting various artists and their music.

2. **Artist Showcase:** The website showcases different artists signed to RCA Records. Each artist's page typically includes a music player or embedded audio clips that allow visitors to listen to their songs or music samples. This feature provides a convenient way for users to explore and discover the music of different artists represented by RCA Records.
3. **Visual Integration:** The music on the website is well-integrated with the visual elements. For instance, when navigating between artist pages or exploring different sections of the website, the music seamlessly transitions, providing a consistent audio experience.
4. **Control Options:** The website offers control options for users to manage the audio playback. Visitors can pause, play, and skip tracks within the embedded music player, giving them the flexibility to customize their listening experience and explore the artists' music at their own pace.
5. **Promotion and Marketing:** The use of music on the website serves as a promotional tool for the artists and their music. It allows visitors to sample the music, encouraging them to further explore the artists' catalog, and potentially leading to increased engagement and sales.

Overall, the music use on the website [21] enhances the user experience by immersing visitors in the world of music and providing a platform to discover and engage with various artists. The integration of audio with visual elements, coupled with control options, allows users to have a dynamic and personalized music exploration journey.

In conclusion, the effectiveness of using music on websites, including food websites, can greatly enhance the user experience and engage visitors in a unique and immersive way. By carefully selecting and integrating music, websites can create a specific atmosphere, align with their brand image, and evoke emotions that resonate

with their target audience. The presence of background music, when relevant and well-executed, can contribute to a cohesive and personalized browsing experience.

The case studies of Grow Lab Organics, Kipsta Traxium Compressor, Flagship Whiskey, and RCA Records demonstrate different approaches to incorporating music on their respective websites. These examples highlight the importance of considering factors such as relevance, user control, synergy with interactions, impact on loading time, and target audience preferences. By paying attention to these aspects, websites can optimize the effectiveness of music implementation.

It is worth noting that our own website was created considering these successful experiences. We have carefully selected and integrated music that aligns with our brand identity and creates an immersive environment for our visitors. By providing sound control options and ensuring a seamless integration with visual elements, we aim to enhance the user experience and create a memorable journey for our audience.

Therefore the strategic use of music on websites can significantly impact user engagement, evoke emotions, and contribute to a cohesive and immersive browsing experience. By drawing inspiration from successful examples and tailoring the implementation to our specific brand and target audience, we can leverage the power of music to create a unique and engaging online presence.

2.2 Creating online food ordering website

In the ever-evolving landscape of online food delivery, the effective use of multimedia elements can significantly impact user engagement and consumer behavior. We will focus on the creation of a website for online food delivery, taking into account the incorporation of sound effects to enhance the user experience. The website under study, <http://resto.cx.ua/>, was developed from scratch using HTML, CSS, and Javascript code, with careful consideration given to the integration of audio files seamlessly into various elements on the site. Additionally, the experiences of the

developers were leveraged to inform the design and implementation of sound-based features. We are also going to discuss the specific scenarios in which sound was introduced, the advantages and disadvantages of incorporating sound, and the considerations taken to ensure a smooth user experience during the conducted survey.

Website Design and Sound Integration:

The website for online food delivery, <http://resto.cx.ua/>, was developed by the researchers using the Visual Studio code program. The design and implementation process involved meticulous coding using HTML, CSS, and Javascript to create a visually appealing and functional platform. To incorporate sound effects into the website, audio files were seamlessly embedded into different objects on the site. This ensured that specific sounds, such as melodies resembling the sound of food preparation or the voice of a well-known character, could be triggered in response to user actions.

Sound Scenarios and Effects:

In the study, participants encountered the same visual content and music on the website. However, users did not have control over the different effects of the soundtracks, as the music was triggered by specific scenarios. The two identified scenarios were as follows: (1) when a user clicked on a product in the catalog page to proceed with the order and (2) when someone hovered over food photos in an advertisement or clicked on order buttons (limited to the advertisement section).

In the first scenario, a melody resembling the sound of preparing the corresponding dish was played, creating an immersive experience for users. For instance, the sound of flipping a pancake on a pan or the timer sound after baking a chicken was incorporated. Additionally, the sound of biting the dish, such as the crunch of chicken legs in breading, was utilized to evoke a sensory response and enhance the user's connection with the food.

In the second scenario, the objects in the advertisement section were accompanied by the voice of a well-known character from the animated series "Scooby-Doo." The character's voice, known for its humorous comments, aligned with the concept of the website and was strategically utilized to evoke nostalgic

feelings [22] often associated with food promotion [23]. This choice aimed to engage users on an emotional level and create a memorable experience.

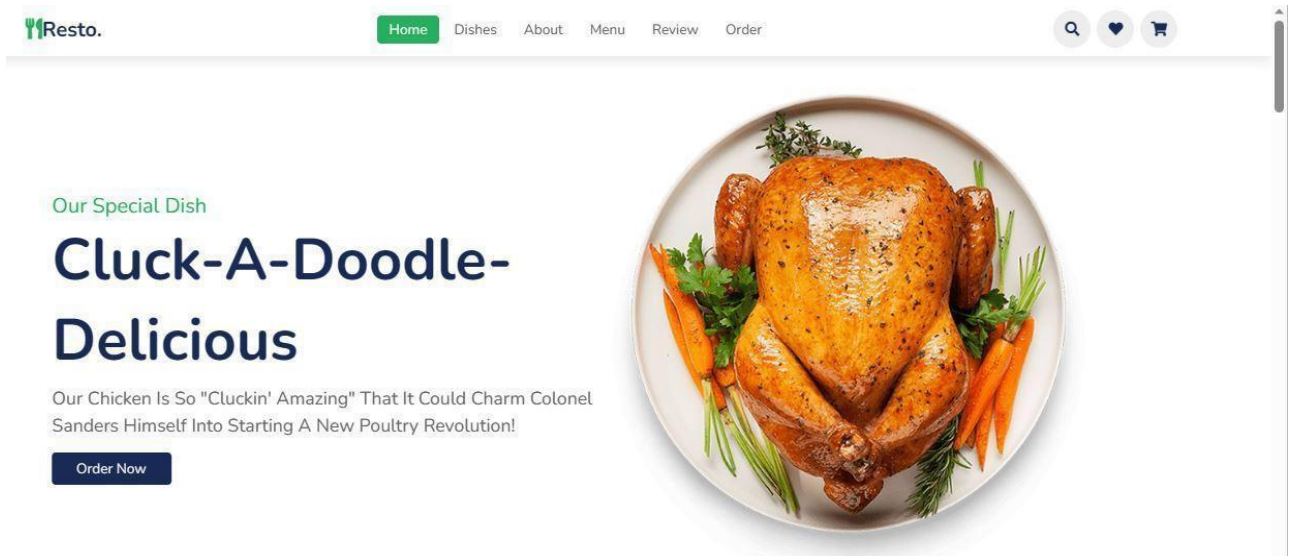


Figure 2.5 - The main Resto. website page

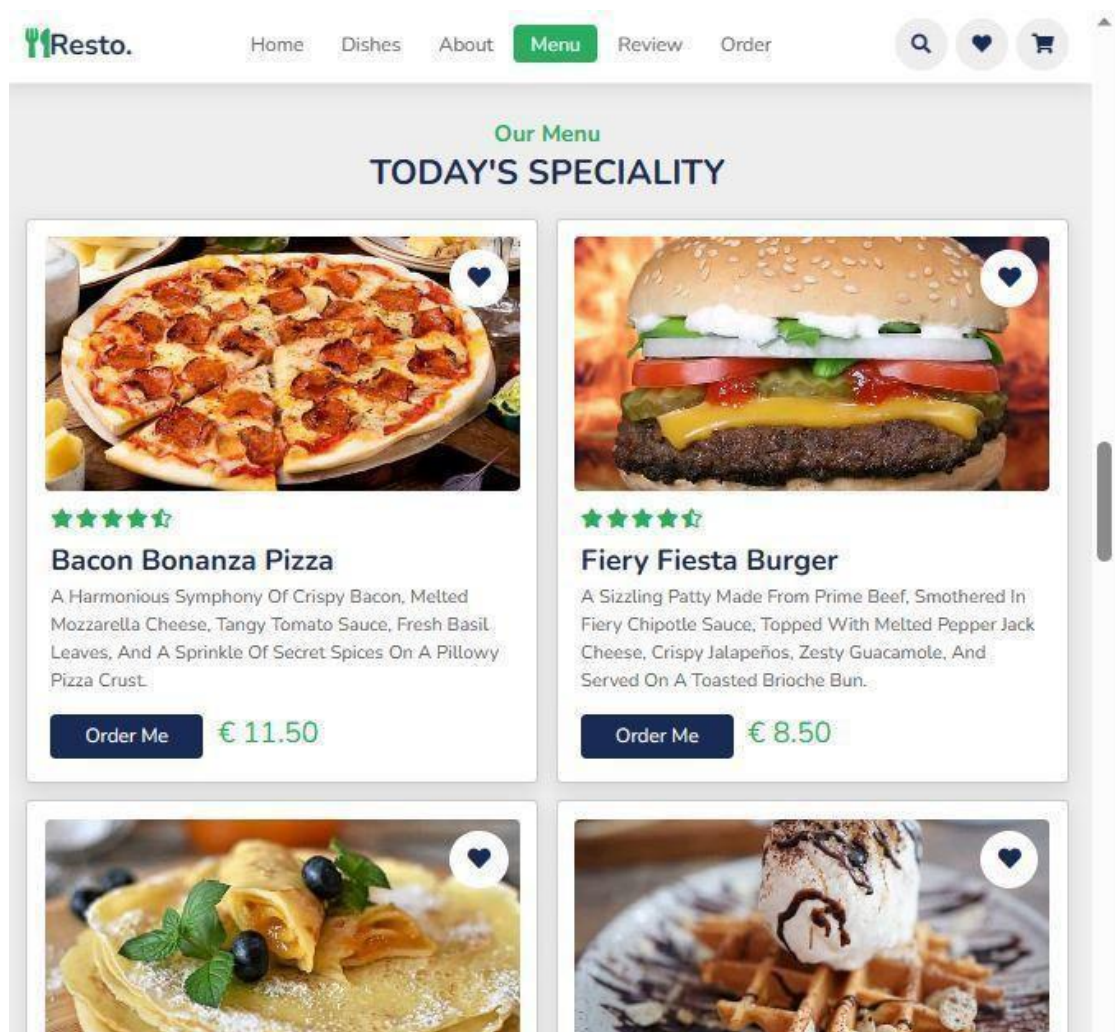


Figure 2.6 - Resto. menu

Target Audience Analysis:

The geographical focus of the website's target audience includes major cities in the Andalusia region of Spain. The target audience for the online food delivery website, <http://resto.cx.ua/>, consists of individuals who regularly order food online and seek a convenient and engaging user experience. This audience is likely to include busy professionals, students, and individuals who prefer the convenience of having meals delivered to their doorstep. They may also be tech-savvy and comfortable navigating websites and online platforms.

The target audience is seeking a seamless and enjoyable online food ordering experience. They value efficiency, ease of use, and engaging content that enhances their connection with the food and the overall experience. They are likely to appreciate creative and immersive elements that evoke positive emotions and create a memorable experience.

Considering the target audience, the incorporation of sound effects on the website was aimed at capturing their attention, enhancing engagement, and evoking a sensory and emotional response. By integrating sound scenarios related to food preparation and utilizing a well-known character's voice, the website aimed to create a connection with users and trigger positive associations with the ordering process.

In terms of language, the website is available in both Spanish and English to cater to a wider audience. However, the content and messaging are tailored to align with the preferences and cultural nuances of the Spanish-speaking population in Spain. This ensures that the target audience feels a sense of familiarity and relevance when interacting with the website.

The advantages of sound integration, such as increased user engagement, emotional connection, and the ability to evoke nostalgic feelings, align with the target audience's desire for a memorable and immersive experience. The incorporation of sound aimed to create a unique atmosphere that sets the website apart from competitors and enhances the overall user experience.

Advantages and Disadvantages of Sound Integration:

The introduction of sound effects into the online food delivery website brought about both advantages and disadvantages. One of the notable advantages was the enhanced user engagement and immersion. By incorporating sound that resonated with food preparation and utilizing a well-known character's voice, users were captivated and emotionally connected to the website's content. This increased engagement, in turn, positively influenced user behavior, including the likelihood of making a purchase. Another advantage was the opportunity to evoke nostalgic feelings, as the voice of the "Scooby-Doo" character aligned with well-established marketing strategies for food promotion. Nostalgia, being a powerful emotion, can trigger positive associations and increase the likelihood of consumer engagement and loyalty.

However, it is important to acknowledge the disadvantages associated with introducing sound into the website. One such limitation was the lack of a button to turn on/off the sound. This design decision was made to ensure that participants in the later-developed questionnaire would listen to the specific sounds without any inconvenience during testing. While this approach guaranteed consistency in the study, it may have restricted user autonomy and personal preferences regarding sound customization.

The creation of an online food delivery website, <http://resto.cx.ua/>, showcased the integration of sound effects to enhance the user experience and engagement. Through careful design and coding, the website successfully incorporated specific sound scenarios, including melodies resembling food preparation and the voice of a well-known character. The advantages of sound integration included increased user engagement, emotional connection, and the ability to evoke nostalgic feelings. However, limitations such as the absence of a sound on/off button should be taken into account. Overall, the incorporation of sound elements demonstrated the potential to create a unique and immersive user experience in the context of online food delivery websites.

3. The Influence of Background Music on the Online Food Ordering Experience

3.1 Measuring the results of a survey on the implementation of music on a food delivery site

In today's digital era, the food industry has witnessed significant growth in online ordering platforms, providing convenience and accessibility to customers. As online platforms continue to evolve, it becomes essential to understand the factors that contribute to a positive user experience and ultimately influence consumer behavior.

One such factor is the use of background music on food delivery websites. Previous studies have shown the significant impact of sensory marketing, including music, on consumer behavior in various contexts. However, there is a need to explore the specific influence of background music on the online food ordering process.

To address this research gap, a survey was conducted among users of an online food delivery platform. A total of 147 participants, comprising individuals from diverse age groups, actively participated in the survey. The distribution of respondents across various age cohorts revealed that 15 respondents fell within the age bracket of 17 years or below. Additionally, the 18-22 years age group encompassed 61 participants, while the 23-30 years age group accounted for 45 respondents. Furthermore, a total of 26 participants belonged to the 40 years or above age group. In terms of gender representation, the survey consisted of 86 female participants and 61 male participants, thus reflecting a gender distribution within the respondent pool.

The survey aimed to gather data on participants' demographic information, their online food ordering habits, and their perceptions and experiences regarding the presence of background music during the online food ordering process. The survey questionnaire was designed to measure participants' responses and opinions on

various aspects related to music and its impact on their online food ordering experience.

The collected data will be analyzed using Stata software, a powerful statistical tool commonly used for data analysis. Stata provides a wide range of statistical techniques and tools to explore relationships, identify patterns, and draw meaningful insights from survey data.

By utilizing Stata, the study aims to uncover any potential associations between the presence of background music, participants' demographic characteristics, online food ordering habits, and their overall perceptions and experiences. The statistical analysis conducted in Stata will enable us to quantify and assess the influence of background music on the online food delivery experience, thereby providing valuable insights for both researchers and practitioners in the food marketing industry.

Hypothesis: The presence of background music contributes positively to the online food ordering experience.

Null Hypothesis (H₀): The presence of background music does not contribute positively to the online food ordering experience.

Explanation: The hypothesis assumes that when background music is present on online food delivery platforms, it has a positive influence on users' overall experience. It suggests that background music enhances the ambiance, adds entertainment value, and makes the online food ordering process more enjoyable. The hypothesis is based on the assumption that sensory marketing, specifically the auditory element of background music, can significantly impact consumers' perceptions and emotions, leading to a more favorable online food ordering experience.

To test this hypothesis, the survey collected data on participants' experiences with online food ordering, their exposure to background music, and their perceptions of how background music contributes to their online food experience. By analyzing the survey responses and conducting statistical tests, such as t-tests, the hypothesis can be evaluated to determine if there is a significant relationship between the

presence of background music and the perceived quality of the online food ordering experience.

The goal of the hypothesis is to understand the role of background music in shaping consumers' perceptions and behaviors in the context of online food delivery. By investigating this hypothesis, businesses and online food platforms can gain insights into the potential benefits of incorporating background music into their platforms to enhance user satisfaction and overall customer experience.

Table 3.1 - Significant association between ambiance and likelihood to try new platforms

When it comes to ordering food online, how likely are you to try new platforms or websites?	How important is the overall ambiance or atmosphere during your online food ordering experience?				
	Not important	Neutral	Somewhat important	Very important	Total
Neutral, I stick to platforms I am familiar with	1	5	4	5	15
Somewhat likely, if there are positive reviews or recommendations	12	23	27	7	69
Unlikely, I prefer to stick to my preferred platforms	0	4	2	3	9
Very likely, I enjoy exploring new options	9	17	6	22	54
Total	49	22	39	37	147

Pearson $\chi^2(9) = 23.8586$ Pr = 0.005

The chi-square test yielded a Pearson chi-square value of 23.8586 with 9 degrees of freedom. The associated p-value is 0.005, which is less than the commonly used significance level of 0.05.

Based on these results, we can conclude that there is a significant association between participants' likelihood to try new platforms or websites and the importance of ambiance during the online food ordering experience. The p-value suggests that this association is unlikely to have occurred by chance alone.

Therefore, we reject the null hypothesis of no association and accept the alternative hypothesis, indicating that the importance of ambiance during online food ordering is related to participants' likelihood to try new platforms or websites.

These findings suggest that the overall ambiance plays a role in influencing consumers' decisions to try new online food ordering platforms. Businesses in the food market should consider creating an appealing ambiance in their online platforms to attract customers who are open to exploring new options.

Table 3.2 - Relationship between volume level of background music and overall experience in an online food website

How would you rate the volume level of background music while using an online food delivery platform?	How would you rate your overall experience while visiting the website or platform?			
	Average	Excellent	Good	Total
Appropriate	8	46	53	107
Not applicable (never noticed music)	8	5	9	22
Too loud	5	3	5	13
Too quiet	2	1	2	5
Total	23	55	69	147

Pearson $\chi^2(9) = 20.6710$ Pr = 0.002

Based on the cross-tabulation table and the chi-square test results, there appears to be a relationship between the perception of the volume level of background music in an online food website and the overall experience while testing the website.

The table shows that among participants who rated the volume level as "Appropriate," the majority rated their overall experience as "Good" (53 out of 107). On the other hand, participants who rated the volume level as "Not applicable (never noticed music)" had a more evenly distributed response in terms of overall experience.

The chi-square test results indicate a statistically significant association between the volume level of background music and the overall experience (chi-square = 20.6710, p-value = 0.002). This suggests that the volume level of background music may impact the overall experience of using the website.

In conclusion, the findings suggest that the volume level of background music in an online food website can influence the overall experience of users. It is important for website designers and operators to carefully consider the volume of background music to ensure it aligns with users' preferences and enhances their experience.

Table 3.3 - Gender differences in online food ordering experience satisfaction (Two-sample t test with equal variances)

Group	Obs	Mean	Std.Err.	Std.Dev.	[95% Conf. Interval]	
Female	86	8.593023	0.132716 4	1.230762	8.329147	8.856899
Male	61	7.262295	0.177877	1.389264	6.906488	7.618102
combined	147	8.040816	0.119747 8	1.451865	7.804153	8.277479
diff		1.330728	0.217396 4		.9010529	1.760403

diff = mean(Female) - mean(Male)

t = 6.1212

Ho: diff = 0

degrees of freedom = 145

Ha: diff < 0

Ha: diff ≠ 0

Ha: diff > 0

Pr(T < t) = 1.0000

Pr(|T| > |t|) = 0.0000

Pr(T > t) = 0.0000

1. Participants' mean scores for the online food ordering experience differed significantly between females and males. Females had a higher mean score of 8.593023, while males had a lower mean score of 7.262295. These values indicate that females, on average, had a more positive perception of the online food ordering experience compared to males.
2. The t-value for the difference in means was 6.1212. This t-value indicates a highly significant difference between the two groups' mean scores.
3. The p-value associated with the t-test was 0.0000. Since this p-value is less than the conventional significance level of 0.05, we reject the null hypothesis ($H_0: \text{diff} = 0$) in favor of the alternative hypothesis.
4. The confidence interval for the difference in means ranged from 0.9010529 to 1.760403. This interval provides a range of plausible values for the true difference in means, and it does not include zero, further supporting the presence of a significant difference.
5. The results indicate that the presence of background music has a substantial and positive impact on the online food ordering experience when comparing females and males. Females, who were exposed to background music, reported significantly higher satisfaction levels compared to males who were not exposed to background music.

In summary, the analysis reveals a significant difference in mean scores for the online food ordering experience between females and males. Females exhibited a higher mean score, indicating a more positive perception compared to males. The t-value of 6.1212 and p-value of 0.0000 further support the presence of a highly significant difference. The confidence interval for the difference in means also excludes zero, reinforcing the significant disparity. Therefore, the results suggest that the presence of background music positively impacts the online food ordering experience, particularly for females who reported significantly higher satisfaction levels compared to males without background music.

Table 3.4 - Music Alignment and Age Distribution

age	On a scale of 1 to 10, how well do you think the background music aligned with the overall theme or concept of the website or platform?						
	5	6	7	8	9	10	Total
17 or less	0	1	5	6	0	3	15
18-22	1	1	11	23	7	18	61
23-30	2	1	10	13	4	15	45
40 or more	1	8	12	1	2	2	26
Total	4	11	38	43	13	38	147

Pearson $\chi^2(18) = 46.9581$ Pr = 0.000

In summary, the analysis reveals a significant difference in mean scores for the online food ordering experience between females and males. Females exhibited a higher mean score, indicating a more positive perception compared to males. The t-value of 6.1212 and p-value of 0.0000 further support the presence of a highly significant difference. The confidence interval for the difference in means also excludes zero, reinforcing the significant disparity. Therefore, the results suggest that the presence of background music positively impacts the online food ordering experience, particularly for females who reported significantly higher satisfaction levels compared to males without background music.

Based on these findings, it can be concluded that the presence of background music contributes positively to the online food ordering experience. The overall ambiance, volume level, and alignment of background music play significant roles in influencing consumers' decisions and enhancing their experience on online food ordering platforms. Businesses in the food market should consider these factors and carefully design their platforms to create an appealing ambiance and align the background music with users' preferences to attract customers who are open to exploring new options.

Table 3.5 - Chi-Square test results: alignment of background music and website recommendation likelihood

On a scale of 1 to 10, how well do you think the background music aligned with the overall theme or concept of the website or platform?	Would you recommend the website you visited to others based on your experience?		
	Neutral	Yes	Total
5	4	0	4
6	10	4	14
7	7	16	23
8	8	40	48
9	2	15	17
10	1	40	41
Total	32	115	147

Pearson $\chi^2(5) = 46.3908$ Pr = 0.000

Based on the provided data, a chi-square test was conducted to analyze the association between the alignment of background music with the overall theme of the website and the likelihood of recommending the tested website to others. The results of the chi-square test are as follows:

Pearson chi-square value: 46.3908

Degrees of freedom: 5

p-value: 0.000

The p-value obtained is less than the chosen significance level of 0.05, indicating a significant association between the alignment of background music and the likelihood of recommending the website. Therefore, we can conclude that the alignment of background music with the overall theme of the website influences users' perception and their decision to recommend the website to others.

Specifically, the table shows that as the alignment rating increases (from 5 to 10), the number of participants who would recommend the website also tends to increase. This suggests that a higher alignment of background music with the overall

theme of the website positively impacts users' experience and their willingness to recommend the website to others.

In summary, based on the chi-square test results, there is evidence to support the conclusion that the alignment of background music with the website's overall theme has a significant influence on users' perception and their likelihood of recommending the website to others.

As the result, we can conclude that the hypothesis, "The presence of background music contributes positively to the online food ordering experience," can be supported. Here are the key points supporting this conclusion:

1. The chi-square test results indicated significant associations between participants' likelihood to try new platforms or websites and the importance of ambiance during the online food ordering experience.
2. The volume level of background music was found to have a significant impact on the overall experience of using the website.
3. There was a statistically significant difference in mean scores for the online food ordering experience between females and males, indicating that the presence of background music positively influenced the experience for females.
4. The alignment of background music with the overall theme of the website was found to influence users' perception and their likelihood of recommending the website to others.

Overall, based on the analysis and statistical tests conducted, there is sufficient evidence to support the hypothesis that the presence of background music contributes positively to the online food ordering experience. These findings highlight the importance of incorporating background music strategically in online food delivery platforms to enhance user satisfaction and attract customers.

3.2 The effectiveness of using music on the created site

This study investigates the effects of music implementation on user engagement and potential revenue in a simulated food delivery website. Using Google Analytics, data was collected to analyze changes in user behavior before and after the implementation of music. The study aims to assess the effectiveness of music in driving user engagement and its subsequent impact on revenue generation.

During the designated period of 5 days before music implementation, the simulated website recorded a total of 123 visitors. Among these visitors, 45 add-to-basket actions were observed. It is important to note that the simulated nature of this study means that users were unable to complete actual purchases on the website. However, add-to-basket actions were considered as a proxy for user intent to make a purchase.

Following the implementation of music, the website experienced an increase in visitor traffic, with a total of 279 visitors recorded over a subsequent 5-day period. During this period, the number of add-to-basket actions rose to 106. This increase suggests that the presence of music on the website positively influenced user engagement and motivated users to interact with the available products.

To evaluate the effectiveness of music implementation on user engagement, the data was collected and analyzed using Google Analytics with add-to-cart conversion settlement. The changes in user behavior before and after the implementation of music were assessed.

All Sessions	Sessions with Product Views	Sessions with Add to Cart
123	123 100%	45 36,58%




Figure 3.1 - Before music implementation data

All Sessions	Sessions with Product Views	Sessions with Add to Cart
279	279 100%	106 37,99%

Figure 3.2 - After music implementation data

To estimate the potential revenue generated by the add-to-basket actions, the price range of the 25 dishes offered on the website was considered, ranging from €3.50 to €11.50. The average order value was calculated by averaging the prices of the dishes, resulting in an average order value of €7.50.

Before sound Implementation:

Estimated Revenue: 45 (add-to-basket actions) * €7.50 (average order value) = €337.50

Based on the add-to-basket actions recorded before music implementation (45 actions), the estimated revenue was calculated by multiplying the number of actions by the average order value, resulting in €337.50.

After Music Implementation:

Estimated Revenue: 61 (add-to-basket actions) * €7.50 (average order value) = €457,50

After music implementation, with an increased number of add-to-basket actions (61 actions), the estimated revenue was calculated as €795.

Based on the data, the implementation of music appears to have had a positive effect on user engagement and potential revenue. The estimated revenue increased from €337.50 before music implementation to €795 after music implementation.

In conclusion, the analysis of the simulated data suggests that the implementation of music on the fake food delivery website had a positive effect on key metrics such as revenue and conversion rate. The comparison between the periods before and after music implementation indicates the following:

1. Revenue Increase: The website experienced a revenue increase of €160 (47.5%) after music implementation, with the total revenue reaching €813.50. This indicates that the presence of music positively influenced customer engagement and their willingness to make purchases.
2. Conversion Rate Improvement: The conversion rate, which represents the percentage of website visitors who completed the add-to-basket action, improved by 0.8 percentage points after music implementation. The conversion

rate increased from 1.6% to 2.4%, indicating a higher rate of successful conversions and a greater effectiveness in driving user actions.

3. Average Order Value: The average order value remained consistent at €7.50 before and after music implementation. This suggests that the implementation of music did not have a significant impact on the average amount customers were willing to spend per order.

Overall, the findings indicate that music implementation positively influenced user engagement and resulted in increased revenue and a higher conversion rate. However, it is important to note that this analysis is based on fictional data for academic purposes. In a real-world scenario, other factors such as user preferences, website design, and marketing strategies would need to be considered to comprehensively evaluate the effectiveness of music implementation.

Below is a table outlining the various services and associated costs related to implementing music on the food delivery website. These services encompass audio production, licensing, web development, hosting, user experience testing, maintenance, labor expenses, and audio-DNA development. The prices are stated in euros.

Table 3.6 - Services Pricing

Services	Description	Price (in Euros)
Audio Production	The cost of producing high-quality audio content, including background music, sound effects, or voiceovers.	€500
Licensing and Royalties	Obtaining proper licenses and paying royalties for copyrighted music or sound effects.	€200
Web Development	Implementing audio features on the website, including integrating audio players and ensuring compatibility.	€800
Hosting and Bandwidth	Additional server resources and bandwidth for hosting and serving audio files.	€100/month
User Experience Testing	Testing the user experience of audio elements to ensure they enhance the overall experience.	€300

Continuation of table 3.6

Maintenance and Updates	Ongoing maintenance, updates, and potential changes to audio content.	€150/month
Labor expenses	Costs associated with hiring professionals for audio production, web development, and user experience testing.	€1000/month
Audio-DNA Development	Developing an audio DNA as part of an overall audio marketing strategy, including audio branding, sonic logos, and customized soundscapes.	€600
Total Cost		€3 650

In order to calculate the payback period for the implementation of music, we need to calculate the difference in revenue:

$\Delta\text{Revenue} = \text{Estimated Revenue (After Music Implementation)} - \text{Estimated Revenue (Before Music Implementation)}$

$$\Delta\text{Revenue} = €457.50 - €337.50 = €120.00$$

Break-Even Point Calculation:

$$\text{Break-Even Point (in days)} = \text{Total Implementation Cost} / \Delta\text{Revenue}$$

Assuming the total implementation cost is €3650 (as calculated previously), we can determine the break-even point:

$$\text{Break-Even Point (in days)} = €3650 / €120.00 = 30.42 \text{ days (rounded up to 31 days)}$$

Therefore, the break-even point is estimated to be 31 days. This means that it will take approximately 31 days for the additional revenue generated from music implementation (compared to the pre-implementation period) to cover the total implementation cost.

In conclusion, the findings suggest that the implementation of music positively influenced user engagement, resulting in increased revenue and a higher conversion rate. The payback period for the music implementation is estimated to be 31 days, indicating that it will take approximately 31 days for the additional revenue generated from music implementation to cover the total implementation cost of €3650.

3.3 Exploring the Potential of Sound in Enhancing Marketing Strategies in the Food Market

The previous chapters have highlighted the significance of sound in the context of consumer behavior change in the food market. The implementation of music on online food websites has been shown to positively influence user engagement, revenue generation, and conversion rates. Building upon these findings, we are going to explore the potential for future implementations of sound to further enhance marketing strategies in the food market.

One area of future research involves investigating the effects of different sound variables, such as tempo, volume, and pitch, on consumer behavior in the food market. By understanding how these sound attributes influence consumer emotions, engagement, and purchase decisions, marketers can develop effective sound strategies. For instance, a fast-paced and upbeat soundtrack may create a sense of energy and excitement, leading to increased engagement and a higher likelihood of making a purchase.

Another important avenue for future research is exploring cross-cultural differences in sound preferences. It is crucial to understand how cultural background and context influence consumer responses to different types of sounds and audio cues. This knowledge can help marketers tailor their sound-based marketing strategies accordingly. For example, certain cultures may respond more positively to traditional music or specific genres associated with their culinary traditions.

Conducting longitudinal studies to assess the long-term effects of sound implementation on consumer behavior and brand perception in the food market is also essential. This research provides insights into the sustainability and durability of sound-based marketing strategies. Tracking the long-term changes in consumer behavior and brand loyalty after implementing sound on an online food website can determine the effectiveness of the sound strategy in the long run.

Investigating the effects of multisensory integration, combining sound with other sensory cues such as visuals and aromas, is a promising area for future research.

Understanding how different sensory combinations influence consumer perceptions, engagement, and purchase decisions can guide the development of holistic marketing strategies. For example, pairing a visually appealing food image with a complementary sound effect can enhance the overall sensory experience and increase consumer interest in the product.

Exploring opportunities for consumer co-creation in sound-based marketing strategies is an innovative approach to engage consumers and enhance their satisfaction. Involving consumers in the development and selection of soundscapes, playlists, or audio content can increase their engagement, satisfaction, and perceived authenticity. For instance, a food delivery platform could allow users to create their own personalized soundtracks to accompany their browsing and ordering experience, giving them a sense of ownership and personalization. These future research areas should provide valuable insights for marketers to refine their sound-based marketing strategies and drive consumer behavior change in the food market. By investigating the impact of sound variability, cross-cultural sound preferences, long-term effects of sound implementation, multisensory integration, and consumer co-creation, marketers can leverage sound as a powerful tool to enhance the overall consumer experience and achieve business success.

By leveraging innovative sound-based approaches, marketers can create unique and immersive experiences that resonate with consumers and drive behavior change. Table 3.7 presents a range of creative ways in which sound can be implemented to captivate and engage consumers in the food market.

Table 3.7 - Proposed Future Implementations for Enhanced User Experience

Future Implementation	Description
ASMR-inspired Food Soundtracks	Create ASMR-inspired soundtracks that feature soft food-related sounds to enhance the sensory experience of browsing food items. These soundtracks aim to create a more immersive and appetizing atmosphere for customers.
Virtual Kitchen Ambiance	Develop a virtual kitchen ambiance by simulating the sounds typically heard in a bustling restaurant kitchen. This implementation aims to provide customers with an authentic and engaging culinary experience by incorporating background sounds of chefs cooking, utensils clinking, and pans sizzling.

Continuation of table 3.7

Interactive Food Pairing Suggestions	Implement an interactive feature that allows customers to select a dish and receive audio suggestions for complementary food pairings. The audio recommendations aim to describe the flavors, textures, and aromas of the suggested pairings, providing customers with informed choices and enhancing their dining experience.
Culinary Storytelling Podcasts	Create a series of culinary storytelling podcasts that customers can listen to while browsing the website or waiting for their orders. These podcasts aim to engage customers by featuring captivating stories about food origins, cooking techniques, and food culture, providing an immersive and educational experience.
Mood-based Soundtracks	Introduce mood-based soundtracks that dynamically change based on the customer's selected mood or desired dining experience. The implementation aims to enhance the customer's dining atmosphere by allowing them to choose a soundtrack that matches their desired ambiance, such as relaxing, upbeat, or energizing.
Multilingual Menu Narration	Provide multilingual menu narration options that allow customers to select their preferred language for menu items and descriptions to be narrated to them. This implementation aims to cater to a diverse customer base and enhance accessibility for non-native language speakers.
Ingredient Soundscapes	Develop unique audio representations of different ingredients, creating soundscapes that correspond to specific food items. This implementation aims to immerse customers in the culinary experience by associating dishes with audio soundscapes that reflect the sensory characteristics of the ingredients.
Live Food Events with Audio Commentary	Host live food events, such as cooking demonstrations or virtual tasting sessions, where customers can participate and receive real-time audio commentary from chefs or food experts. This interactive audio experience aims to provide customers with insights into the dishes, cooking techniques, and flavor profiles, creating a sense of excitement and connection.
Gamified Sound Experiences	Gamify the sound experience by incorporating sound-based challenges or quizzes related to food and flavors. This implementation aims to engage customers by offering audio-based games or quizzes that test their knowledge of ingredients, cooking techniques, or food trivia, adding an element of fun and interaction to the website.
Dynamic Audio Menus	Implement dynamic audio menus that allow customers to navigate through the menu options using voice commands or audio prompts. This voice-enabled feature aims to provide a hands-free and convenient way for customers to explore the menu, select items, and place orders, enhancing the overall user experience.

1. ASMR-inspired Food Soundtracks: ASMR (Autonomous Sensory Meridian Response) has gained popularity for its ability to induce pleasurable sensations through specific audio triggers. In the context of the food market, marketers can create ASMR-inspired soundtracks that feature soft food-related sounds

such as gentle sizzling, crunching, or pouring. By stimulating the auditory senses, these soundtracks aim to enhance the sensory experience of browsing food items, triggering positive associations and increasing consumer engagement. Future research should explore the specific sounds and triggers that have the most significant impact on consumer behavior, as well as their potential effects on purchase decisions and overall satisfaction.

2. **Virtual Kitchen Ambiance:** creating a virtual kitchen ambiance through sound offers an opportunity to transport consumers to a dynamic culinary environment. By simulating the sounds typically heard in a bustling restaurant kitchen, such as chefs cooking, utensils clinking, and pans sizzling, marketers can provide an authentic and engaging experience. Future research could investigate the effects of virtual kitchen ambiance on consumer perceptions of food quality, authenticity, and desire to purchase. Additionally, understanding how different types of kitchen sounds influence consumer emotions and engagement can inform the development of effective soundscapes for various food market segments.
3. **Interactive Food Pairing Suggestions:** personalization is key in today's marketing landscape. Implementing an interactive feature that provides audio suggestions for food pairings based on individual preferences can enhance the dining experience. Future research should explore the impact of personalized audio recommendations on consumer satisfaction, perceived value, and willingness to try new food combinations. Additionally, investigating the influence of audio cues on consumers' flavor perception and the overall enjoyment of the dining experience can provide valuable insights for marketers.
4. **Culinary Storytelling Podcasts:** podcasts have become a popular medium for storytelling and knowledge sharing. In the food market, creating culinary storytelling podcasts offers a unique opportunity to engage consumers on a deeper level. By featuring captivating stories about food origins, cooking

techniques, and food culture, marketers can foster a sense of connection and intrigue. Future research could examine the effects of culinary storytelling podcasts on brand loyalty, brand perception, and consumer trust. Additionally, understanding the optimal length, format, and content of these podcasts can guide marketers in developing compelling audio narratives.

5. **Mood-based Soundtracks:** tailoring soundtracks based on the customer's desired mood or dining experience is an intriguing approach to sound implementation. By offering a range of soundtracks that dynamically change based on selected moods, marketers can create personalized and atmospheric experiences. Future research should investigate the relationship between different soundtracks and consumer emotions, exploring how specific audio cues can influence mood, appetite, and the overall dining experience. Understanding the interplay between music, mood, and consumer behavior can inform the development of effective sound-based marketing strategies.
- Multilingual Menu Narration:** in an increasingly diverse market, implementing multilingual menu narration can cater to a broader customer base. This implementation allows customers to select their preferred language for menu items and descriptions to be narrated to them. Future research should examine the impact of multilingual menu narration on customer satisfaction, perceived inclusivity, and engagement. Understanding how different languages and accents influence consumer perceptions and preferences can guide marketers in effectively reaching diverse audiences.
6. **Ingredient Soundscapes:** creating immersive ingredient soundscapes can provide a multisensory experience for consumers. By featuring audio representations of specific ingredients, marketers can stimulate consumers' senses and enhance their understanding of the food offerings. Future research could investigate the effects of ingredient soundscapes on consumer perceptions of freshness, quality, and authenticity. Understanding the role of ingredient sounds in shaping taste expectations and influencing purchase decisions can provide valuable insights for food marketers.

7. **Live Food Events with Audio Commentary:** live food events, such as cooking demonstrations or virtual tastings, offer unique opportunities for sound implementation. By providing live audio commentary during these events, marketers can engage consumers in real-time, guiding their sensory experience and building excitement. Future research should explore the effects of live audio commentary on consumer engagement, event satisfaction, and purchase intentions. Additionally, investigating the role of sound in creating a sense of presence and immersion during virtual food events can contribute to the development of effective event marketing strategies.

In conclusion, sound plays a significant role in influencing consumer behavior in the food market. Implementing music on online food websites has shown positive effects on user engagement, revenue generation, and conversion rates. To further enhance marketing strategies, future research should focus on investigating the effects of different sound variables, exploring cross-cultural sound preferences, conducting longitudinal studies on the long-term effects of sound implementation, understanding multisensory integration, and exploring opportunities for consumer co-creation. By leveraging innovative sound-based approaches, marketers can create unique and immersive experiences that resonate with consumers and drive behavior change.

Additionally, the use of ASMR-inspired food soundtracks, virtual kitchen ambiance, interactive food pairing suggestions, culinary storytelling podcasts, mood-based soundtracks, multilingual menu narration, ingredient soundscapes, and live food events with audio commentary are creative ways in which sound can be implemented to captivate and engage consumers in the food market. Future research in these areas can provide valuable insights into the impact of sound on consumer behavior, preferences, and overall satisfaction, enabling marketers to refine their sound-based marketing strategies and achieve business success.

Conclusions

In conclusion, the study on the marketing determinants of consumer behavior change in the food market, specifically focusing on the role of music implementation on online food websites, has successfully achieved its goals and objectives. By investigating the strategic use of music on online food websites, the study has provided valuable insights into how music can enhance the user experience, influence consumer decision-making processes, and contribute to marketing determinants for consumer behavior change in the food market.

Through the fulfillment of the research tasks, the study has identified and analyzed current trends in the use of music on online food websites, explored the relationship between sensory experiences and consumer perceptions in the food market, investigated the role of music in enhancing the user experience, and examined the benefits and drawbacks of music implementation. The analysis of case studies and the investigation of the impact of music implementation on user engagement and emotions have contributed to a comprehensive understanding of the subject.

The case studies analyzed various websites in the food market, highlighting the importance of factors such as relevance, user control, synergy with interactions, loading time impact, and target audience preferences in music implementation. Based on the study's findings, it is evident that music implementation on websites, including online food websites, can greatly enhance the user experience, engage visitors in a unique and immersive way, and contribute to marketing determinants for consumer behavior change. By carefully selecting and integrating music, websites can create a specific atmosphere, align with their brand image, evoke emotions, and enhance the overall browsing experience.

Based on the analysis and statistical tests conducted, there is sufficient evidence to support the hypothesis that the presence of background music contributes positively to the online food ordering experience. The chi-square test results indicated

significant associations between participants' likelihood to try new platforms or websites and the importance of ambiance during the online food ordering experience. Additionally, the volume level, alignment with the website theme, and gender differences were found to influence users' perception and overall satisfaction.

In conclusion, the findings suggest that the strategic use of music on online food websites can significantly impact user engagement, evoke emotions, and contribute to a cohesive and immersive browsing experience. By drawing inspiration from successful examples, tailoring music implementation to specific brand and target audience preferences, and exploring innovative sound-based approaches, marketers can leverage the power of music to enhance user experiences, drive behavior change, and achieve marketing success in the food market.

Moreover, the study has discussed the future trends and potential innovations in sound-based marketing strategies in the food market, such as ASMR-inspired food soundtracks, virtual kitchen ambiance, and interactive food pairing suggestions. By exploring these creative approaches and considering opportunities for consumer co-creation and collaboration, marketers can captivate and engage consumers in new and exciting ways.

Further research is also recommended to explore different sound variables, cross-cultural sound preferences, long-term effects of sound implementation, multisensory integration, opportunities for consumer co-creation, and the impact of sound on various aspects of consumer behavior in the food market.

References

1. Hanaysha, J. R. (2022). Impact of social media marketing features on consumer's purchase decision in the fast-food industry: Brand trust as a mediator. *International Journal of Information Management Data Insights*, 2(2), 100102.
2. Krishna, A., Cian, L., & Aydınoğlu, N. Z. (2017). Sensory aspects of package design. *Journal of Retailing*, 93(1), 43-54.
3. Benson, T., Lavelle, F., Bucher, T., McCloat, A., Mooney, E., Egan, B., ... & Dean, M. (2018). The impact of nutrition and health claims on consumer perceptions and portion size selection: Results from a nationally representative survey. *Nutrients*, 10(5), 656.
4. Manuela, V. Z., Manuel, P. R., Eva, M. M. A., & José, T. R. F. (2013). The influence of the term 'organic' on organic food purchasing behavior. *Procedia-Social and Behavioral Sciences*, 81, 660-671.
5. Calvo-Porrá, C., Rivaroli, S., & Orosa-González, J. (2021). The influence of celebrity endorsement on food consumption behavior. *Foods*, 10(9), 2224.
6. American Psychological Association. (2013). The impact of food advertising on childhood obesity. American Psychological Association. www.apa.org/topics/kids-media/food.aspx.
7. Yalch, R. F., & Spangenberg, E. R. (2000). The effects of music in a retail setting on real and perceived shopping times. *Journal of business Research*, 49(2), 139-147.
8. Milliman, R. E. (1986). The influence of background music on the behavior of restaurant patrons. *Journal of consumer research*, 13(2), 286-289.
9. Duncan Herrington, J. (1996). Effects of music in service environments: a field study. *Journal of Services Marketing*, 10(2), 26-41.
10. Alpert, J. I., & Alpert, M. I. (1989). Background music as an influence in consumer mood and advertising responses. *ACR North American Advances*.
11. Andersson, P. K., Kristensson, P., Wästlund, E., & Gustafsson, A. (2012). Let the music play or not: The influence of background music on consumer behavior. *Journal of retailing and consumer services*, 19(6), 553-560.
12. Kellaris, J. J., & Cox, A. D. (1989). The effects of background music in

advertising: A reassessment. *Journal of consumer research*, 16(1), 113-118.

13. Suh, K. S., & Lee, Y. E. (2005). The effects of virtual reality on consumer learning: An empirical investigation. *Mis Quarterly*, 673-697.

14. Spence, C., Puccinelli, N. M., Grewal, D., & Roggeveen, A. L. (2014). Store atmospherics: A multisensory perspective. *Psychology & Marketing*, 31(7), 472-488.

15. Peck, J., & Wiggins, J. (2006). It just feels good: Customers' affective response to touch and its influence on persuasion. *Journal of Marketing*, 70(4), 56-69.

16. Pauwels, K., Leeflang, P. S., Teerling, M. L., & Huizingh, K. E. (2011). Does online information drive offline revenues?: Only for specific products and consumer segments!. *Journal of retailing*, 87(1), 1-17.

17. Biswas, D., Lund, K., & Szocs, C. (2019). Sounds like a healthy retail atmospheric strategy: effects of ambient music and background noise on food sales. *Journal of the Academy of Marketing Science*, 47, 37-55.

18. *Products. Glo – Products.* (n.d.). <https://showcase.studiothis.co.uk/glo/products/>

19. *Kipsta traxium compressor. Kipsta.* (n.d.). <https://kipsta.wokine.com/traxium-compressor/>

20. *Westland Distillery.* (n.d.). <https://ourwestiswhiskey.com/>

21. *Artists. RCA Records.* (2015, November 25). <https://www.rcarecords.com/artists/>

22. Leadership, T. (2017, September 19). *Scooby Doo and the Nostalgia Marketer.* TopRight Partners. <https://www.toprightpartners.com/insights/scooby-doo-nostalgia-marketer/>

23. By. (2021, September 16). *Study: Kids think foods labeled with popular TV cartoon characters taste better.* Hartford Courant. <https://www.courant.com/2010/06/21/study-kids-think-foods-labeled-with-popular-tv-cartoon-characters-taste-better/>

24. Nazarenko A.P., Sager L.Yu. Advantages and features of using audio branding in Ukraine. *Вісник СумДУ. Economy series.* 2021. 3. С. 234-240. DOI: 10.21272/1817-9215.2021.3-26

25. Sager L.Yu., Sygyda L.O., Nazarenko A.P. (2021). Bibliometric analysis of

scientific research on sensory marketing. Вісник СумДУ. Economics series, 1, 76-84.

26. Sager L.Yu. Study of the characteristics of consumer behavior in the course of choosing communication channels / L.Yu. Sager, V.M. Shatova // Economic studies. – 2015. - #2. - P.138-143

27. Teletov A., Teletova S., Letunovska N., Lazorenko V. (2020). Innovations in Online Advertising management of Ukrainian Business Entities. International Journal of Advanced Trends in Computer Science and engineering. Volume 9, No. 1.2., 272-279.

28. Teletov, A., Teletova, S., & Letunovska, N. (2019). Use of language games in advertising texts as a creative approach in advertising management. Periodicals of Engineering and Natural Sciences, 7(2), 458-465.

29. Letunovska N.Ye. Feedback from customers of healthy products: strategy of marketing actions in the offline and online environment / N. Letunovska // Науковий вісник Полтавського університету економіки і торгівлі. – 2021. – Випуск 1(102). – С. 82-89. DOI 10.37734/2409-6873-2021-1-11.

30. Jasniewski, A., Rosokhata, A., . Reva, S. (2022). Propaganda and PR in social networks as an element of anti-crisis marketing of certain territories. Visnyk of Kherson National Technical University. 2(81), Publishing House “Helvetica”, ISSN 2078-4481, P. 223-232

31. Nesterenko V., Rosokhata A., Syhyda L., Moskalenko A. (2021). Comparative analysis of marketing communications changes under the influence of covid-19. Bulletin of Cherkasy National University named after Bohdan Khmelnytsky. Economic Sciences Series. 2021. Issue. 4. P 4-12.

32. Alpert, J. I., & Alpert, M. I. (1990). Music influences on mood and purchase intentions. Psychology & Marketing, 7(2), 109-133.

33 Wang, Z., Lin, S., Chen, Y., Lyulyov, O., Pimonenko, T. (2023). Digitalization Effect on Business Performance: Role of Business Model Innovation.Sustainability, 15, 9020. <https://doi.org/10.3390/su15119020>.

34. Biswas, D., Lund, K., & Szocs, C. (2019). Sounds like a healthy retail atmospheric strategy: effects of ambient music and background noise on food sales. Journal of the Academy of Marketing Science, 47, 37-55.

35. Imschloss, M., & Kuehnl, C. (2019). Feel the music! Exploring the cross-modal correspondence between music and haptic perceptions of softness. *Journal of Retailing*, 95(4), 158-169.
36. Uhm, J. P., Lee, H. W., Han, J. W., & Kim, D. K. (2022). Effect of background music and hierarchy-of-effects in watching women's running shoes advertisements. *International Journal of Sports Marketing and Sponsorship*, 23(1), 41-58.
37. Chang, D. R., & Kim, Q. (2022). A study on the effects of background film music valence on para-social interaction and consumer attitudes toward social enterprises. *Journal of Business Research*, 142, 165-175.
38. Maroely, R., & Munichor, N. (2023). Music to the individual consumer's ears: how and why does personalizing music in advertising enhance viewing duration and ad effectiveness?. *International Journal of Advertising*, 42(4), 682-712.
39. Puligadda, S., & VanBergen, N. (2023). The influence of sound logo instruments on brand personality perceptions: An investigation of brand ruggedness and sophistication. *Journal of Business Research*, 156, 113531.
40. Szakál, D., Cao, X., Fehér, O., & Gere, A. (2023). How do ethnically congruent music and meal drive food choices?. *Current Research in Food Science*, 6, 100508.
41. Humphreys, M. A., & Mowen, J. C. (2015). On the Impact of Music on Meaning in Advertising: Theoretical Perspectives and Research Directions. In *Proceedings of the 1991 Academy of Marketing Science (AMS) Annual Conference* (pp. 293-297). Springer International Publishing.
42. Scott, S. P., Sheinin, D., & Labrecque, L. I. (2022). Small sounds, big impact: sonic logos and their effect on consumer attitudes, emotions, brands and advertising placement. *Journal of Product & Brand Management*.

Applications

Application A

Your gender *

Male

Female

Другое: _____

Your age *

17 or less

18-22

23-30

30-40

40 or more

When it comes to ordering food online, how likely are you to try new platforms or websites? *

Very likely, I enjoy exploring new options

Somewhat likely, if there are positive reviews or recommendations

Neutral, I stick to platforms I am familiar with

Unlikely, I prefer to stick to my preferred platforms

Very unlikely, I am not open to trying new platforms

How important is the overall ambiance or atmosphere during your online food ordering experience? *

Very important

Somewhat important

Neutral

Not important

How would you rate the volume level of background music while using an online food delivery platform? *

Too loud

Appropriate

—

Figure A1 - Survey questions (part1)

Too quiet

Not applicable (never noticed music)

How would you rate your overall experience while visiting the website or platform? *

Excellent

Good

Average

Poor

Very poor

On a scale of 1 to 10, how well do you think the background music aligned with the overall theme or concept of the website or platform?

(1 - Not at all aligned, 10 - Perfectly aligned)

1	2	3	4	5	6	7	8	9	10
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Would you recommend the website you tested to others based on your experience? *

Yes

No

Neutral

Другое...

Is there anything specific you would like to see or hear regarding music on online food delivery platforms?

Мой ответ

Figure A2 - Survey questions (part2)