

Tourism perception of cappadocia: Sentiment analysis and thematic review of economic, socio-cultural and environmental impacts

Özge KAYA¹, Nurten ULUSAY², Nazife KAYA²

¹Nevşehir Hacı Bektaş Veli University, Faculty of Tourism, Nevşehir, Türkiye

²Nevşehir Hacı Bektaş Veli University, Faculty of Economics and Administrative Sciences, Nevşehir, Türkiye

Araştırma Makalesi/Research Article		DOI: 10.70736/ijoess.1748
Gönderi Tarihi/ Received:	Kabul Tarihi/ Accepted:	Online Yayın Tarihi/ Published:
11.04.2025	29.08.2025	15.09.2025

Abstract

Analyzing tourist experiences through digital content is crucial for understanding destination image, visitor satisfaction and sustainable tourism development. This study examines how tourists perceive Cappadocia based on user-generated content on Reddit. Using the Python Reddit API Wrapper, 59 posts and 119 comments from 2013 to 2024 were collected and analyzed with text mining techniques. Emotion analysis via the NRC Emotion Lexicon identified dominant sentiments such as trust, anticipation and joy, while fear and sadness were linked mainly to safety or heritage concerns. A phenomenological approach and content analysis revealed five key themes: Cultural and Historical Values, Tourism and Economic Impacts, Social Interaction, Nature and Environment and Technological Innovation. The findings highlight Cappadocia's strong emotional appeal but also point to challenges like pricing, overcrowding and infrastructure issues. The study offers recommendations for sustainable destination management and emphasizes the value of integrating technologies like AR/VR and preserving cultural and natural assets. These insights can guide tourism stakeholders in enhancing visitor experiences and supporting long-term sustainability.

Keywords: Data Mining, Phenomenology, Tourism Economics, Text Mining, Sustainable Tourism

Kapadokya'da turizm algısı: Ekonomik, sosyokültürel ve çevresel etkilerin duygu analizi ve tematik incelemesi

Öz

Turist deneyimlerinin dijital ortamlarda paylaşılan içerikler üzerinden analiz edilmesi, destinasyon imajı, ziyaretçi memnuniyeti ve sürdürülebilir turizm politikalarının geliştirilmesi açısından büyük önem taşımaktadır. Bu çalışma, turistlerin Kapadokya'yı nasıl algıladıklarını Reddit platformundaki kullanıcı paylaşımları üzerinden incelemektedir. Python Reddit API Wrapper kullanılarak 2013–2024 yılları arasındaki 59 gönderi ve 119 yorum toplanmış ve metin madenciliği teknikleriyle analiz edilmiştir. Duygu analizi için NRC Duygu Sözlüğü kullanılarak güven, beklenti, neşe, korku ve üzüntü gibi duygular sınıflandırılmıştır. Ayrıca fenomenolojik yaklaşım ve geleneksel içerik analiziyle ziyaretçi deneyimlerinin duygusal ve tematik yapısı değerlendirilmiştir. Sonuçlar, turist paylaşımlarında özellikle güven, beklenti ve neşe gibi olumlu duyguların baskın olduğunu; korku ve üzüntü gibi olumsuz duyguların ise genellikle güvenlik veya kültürel mirasla ilgili endişelerde yer aldığını göstermektedir. Tematik analizde beş ana tema ortaya çıkmıştır: Kültürel ve Tarihî Değerler, Turizm ve Ekonomik Etkiler, Sosyal Etkileşim ve Görüşler, Doğa ve Çevre, Yenilik ve Teknoloji Kullanımı. Çalışma, Kapadokya'nın duygusal çekiciliğini vurgularken fiyatlandırma, kalabalıklaşma ve altyapı gibi iyileştirme alanlarına da dikkat çekmektedir. Sürdürülebilir destinasyon yönetimi ve kültürel-doğal mirasın korunmasına yönelik öneriler sunulmaktadır.

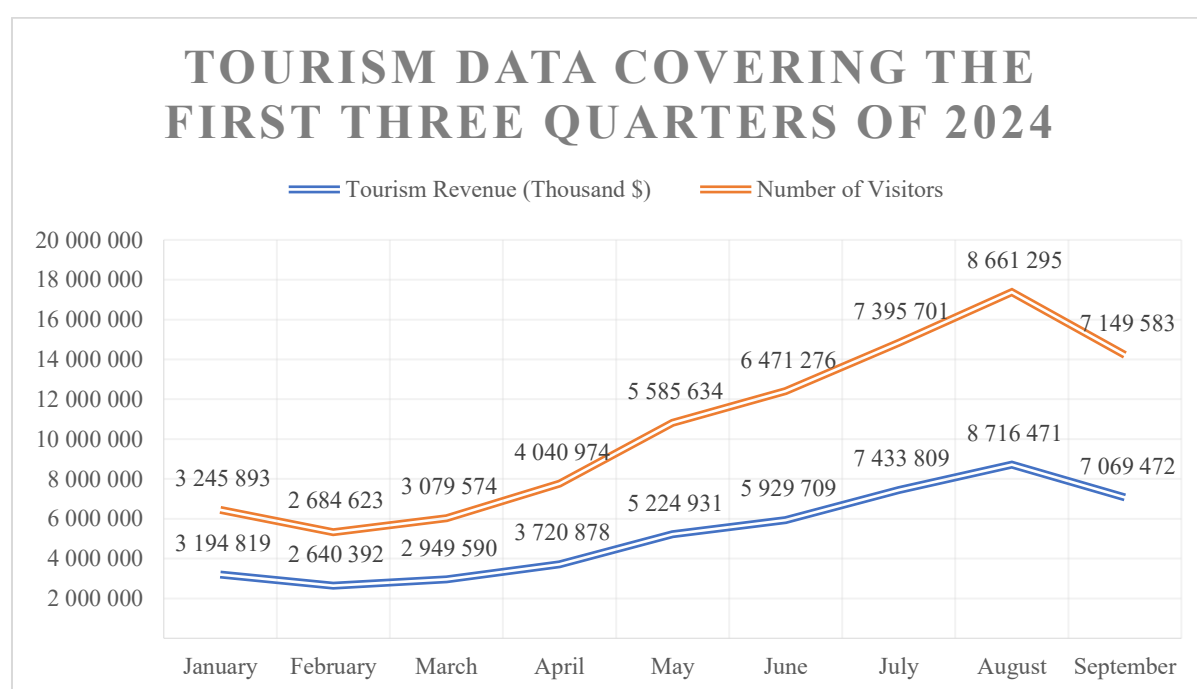
Anahtar Kelimeler: Veri Madenciliği, Fenomenoloji, Turizm Ekonomisi, Metin Madenciliği, Sürdürülebilir Turizm

Sorumlu Yazar/ Corresponded Author: Nurten ULUSAY, E-posta/ e-mail: nurtenulusay22@gmail.com

This study was previously presented as an abstract paper at the 5th International Cappadocia Graduate Student Congress on Social Sciences (KAPSOSBİL)

INTRODUCTION

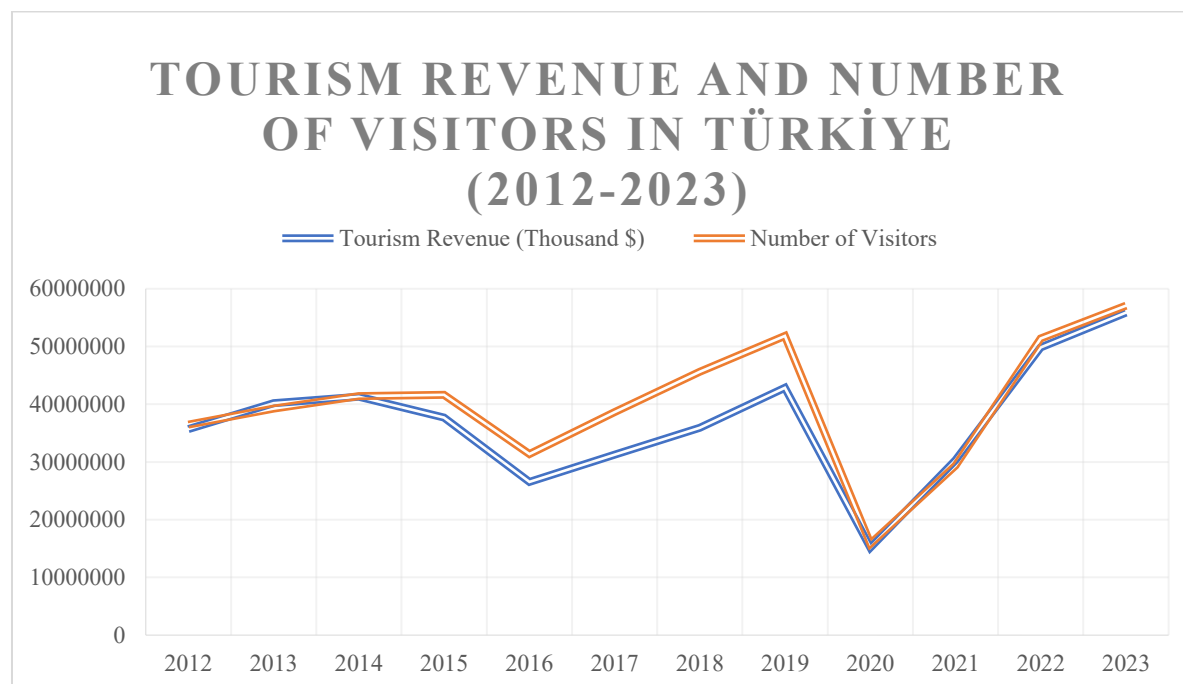
Tourism is one of the principal drivers of economic growth and cultural interaction (Bayer, 1992; as cited in Evci & Şahin, 2017; Nayir, 2009). While Türkiye's 2023 Tourism Strategy emphasizes the development of cultural routes and the increased visibility of local heritage, shortcomings persist in coordinated marketing and infrastructure to support cultural tourism (Şalvarcı, 2022; Erginal & Uludağ, 2018). In the first three quarters of 2024, Türkiye recorded 48.31 million visitors and \$46.88 billion in tourism revenue (TÜİK, 2024; see Graphic 1). The fluctuating trajectory over 2012–2023 underscores the sector's sensitivity to economic, social and environmental fluctuations alongside its concurrent resilience (TÜİK, 2024; see Graphic 2).



Graphic 1. Tourism data covering the first three quarters of 2024

Türkiye hosts numerous UNESCO World Heritage Sites, including cultural and natural destinations such as Cappadocia and Ephesus. Graphic 2 presents the annual visitor counts and tourism revenues, visualized using data from the Turkish Statistical Institute (TÜİK, 2024). In the fourth quarter of 2023, tourism revenue increased by 6.8% year-over-year to \$12.27 billion; for the full year, revenue rose by 16.9% to \$54.32 billion, with personal expenditures accounting for the bulk of receipts. In the same quarter, average overnight spending per visitor stood at \$93 (TÜİK, 2024). Over 2012–2023, fluctuations in revenue and arrivals trace a trajectory from the 2019 peak through the pandemic-induced contraction in 2020, followed by recovery in 2021–2022 and a return to historical highs in 2023. This pattern indicates that, while

the sector is sensitive to global economic, political and health-related developments, it also exhibits substantial resilience.



Graphic 2. Tourism revenue and number of visitors in Türkiye (2012-2023)

Cappadocia, situated within Türkiye's multi-faceted tourism portfolio, has gained increasing visibility domestically and internationally owing to its distinctive geomorphological formations and layered historical heritage; it stands out as a strategic destination and offers a conducive context for academic inquiry. A review of the literature reveals that there are numerous tourism studies on Cappadocia in Turkey (Kemer et al., 2025; Ozdemir & Koroglu, 2025; Karacaoğlu, 2025; Karagöz & Ramkissoon, 2025; Topuz Cerrah & Armatlı Köroğlu, 2024; Çamlıca, 2024; Aydın & Akpınar, 2023). Coban and Yildiz (2019) conducted qualitative interviews to identify the issues in Cappadocia's tourism and offered solutions to these problems. Büyükkuru and Yılmaz (2022) used a quantitative survey method to determine the perceptions of the local people in Cappadocia regarding the economic, socio-cultural and environmental impacts of tourism. Özel and Kozak (2017) examined the perceptions of Cappadocia residents regarding the effects of tourism development and attitudes toward tourism using a qualitative research method. Karakuş (2019) used multi-criteria decision-making techniques to overcome the challenges in the decision-making processes of complex industries like tourism and hospitality, ranking the most suitable tourism alternatives and providing guidance on which areas to prioritize. Cakir et al. (2018) explored the process of developing tourism-based livelihoods in the Cappadocia region using qualitative research methods. Tucker

and Emge (2010) examined the impact of tourism and heritage on local communities in the region through qualitative research. Avcıkurt (2009) addressed tourism issues in Cappadocia using a quantitative research method. Yılmaz and Aktaş (2015) investigated the effects of the global crisis on the tourism sector in Cappadocia using a survey method. These studies mainly focus on tourism perceptions, sustainable tourism and the economic aspects of Cappadocia, with an emphasis on both qualitative and quantitative analysis techniques.

Although existing studies have generated important evidence through qualitative interviews, surveys and multi-criteria decision-making approaches, research that systematically uncovers large-scale sentiment and thematic patterns in online user-generated data remains limited. Nevertheless, the literature focusing on online platforms includes sentiment analysis–based examinations of comments on Cappadocia (Barış-Tüzemen et al., 2023), text mining analyses of TripAdvisor reviews concerning World Heritage Sites (Özen, 2021) and content analyses of TripAdvisor e-complaints related to regional restaurants (Şahin Perçin & Yiğit, 2020); in addition, there are studies discussing the reconfiguration of the tourist experience through interactive/digital tools (Özen & İlhan, 2022; Zeng et al., 2022). However, the existing literature largely focuses on specific sub-experiences and remains limited in offering a comprehensive framework that models the quantitative distribution of emotions alongside thematic categories using longitudinal data. This study, however, is distinct in that it analyzes the perceptions of individuals visiting Cappadocia on the Reddit platform, considering the economic, socio-cultural and environmental impacts. Through sentiment analysis and thematic evaluation, it offers a different perspective by examining both the positive and negative aspects of visitors’ perceptions of Cappadocia. Our findings reveal that the region has strong potential in terms of the sustainability of its cultural and natural heritage, economic impacts and tourist satisfaction, while also highlighting the need for improvements in areas such as security and infrastructure.

METHOD

Research group

The data for this study were obtained from users on the Reddit platform who shared content about Cappadocia and commented on related posts. Reddit is a public and interactive social media platform where users create content and engage in discussions under various thematic categories. Using the Python Reddit API Wrapper, a total of 59 posts and 119 comments published between 2013 and 2024 were collected. The data were selected from content under subreddits related to tourism, travel and Turkey. The research group consists of

a naturally formed digital community of voluntary and anonymous users who expressed their experiences, expectations and criticisms about Cappadocia online. These users made their comments independently, without any intervention or guidance from the researchers. In this respect, the research group represents an organic sample that reflects the public perception of tourist destinations.

Data collection tools

The primary data collection tool used in this study was the Python Reddit API Wrapper (PRAW), which enabled systematic access to user-generated content on the Reddit platform. PRAW facilitated the extraction of posts and comments related to Cappadocia from relevant subreddits such as r/travel, r/Turkey and r/Cappadocia. The collected data included post titles, comment texts, timestamps and metadata such as upvotes and author usernames (anonymized during analysis).

Basic text mining techniques were used during the data preprocessing stage. This included the removal of stop words, punctuation and non-English content, as well as converting all text to lowercase and applying tokenization to prepare the data for further analysis.

For sentiment classification, the NRC Emotion Lexicon was employed. This lexicon identifies eight basic emotions (anger, fear, anticipation, trust, surprise, sadness, joy and disgust) and two sentiment polarities (positive and negative) in textual data. These tools collectively enabled the collection, cleaning and classification of data for meaningful interpretation.

Research process

The aim of this study is to examine tourism perceptions in Cappadocia by analyzing Reddit comments. For this purpose, 59 posts and 119 comments were collected using the Python Reddit API Wrapper. The dataset spans a wide time range, with the earliest post dated August 25, 2013 and the most recent post dated November 20, 2024. In this study, specific criteria were applied to the selection of Reddit data. First, searches were conducted in the r/travel, r/Turkey and r/Cappadocia subreddits using the keyword “Tourism in Cappadocia.” The analysis included discussion threads directly related to Cappadocia tourism and the comments posted under them. For instance, threads such as “Unprecedented necropolis site found in Cappadocia, one of Türkiye’s most important tourism centers”, “Hot Air Balloon Festival in Cappadocia, Turkey”, “Ballooning in Cappadocia”, “Why Do Hot Air Balloon Prices in Cappadocia Change Daily?”, “What is the Hot Air Balloon Experience Like in Cappadocia?”, “Exploring the Art of

Pottery Making in Cappadocia: Why You Should Choose Pottery Making”, “Discovering the Beauty of Cappadocia: A Comprehensive Guide to the Green Tour” and “Unraveling the Mysteries of Dervish Whirling Show: A Comprehensive Exploration of Its Rich History in Cappadocia” were included. In contrast, unrelated or contextually irrelevant threads such as “Don’t open it. Whatever you do, do not open the Ankaran sarcophagus” and “Week of Nightmares II: Electric Boogaloo” were excluded from the dataset. Additionally, to ensure language consistency, only English content was retained, while posts in other languages, spam content, duplicate entries and off-topic comments were filtered out. These criteria ensured that both posts and comments were systematically selected, thereby enhancing the reliability of the analyzed dataset.

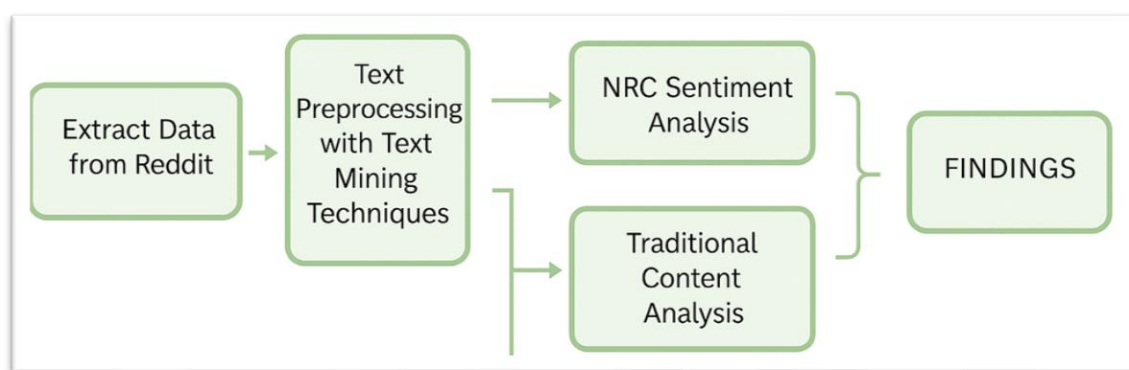


Figure 1. Research process

In the study, data were initially collected from Reddit, followed by sentiment analysis. The data were preprocessed using text mining techniques in preparation for further analysis. Subsequently, the emotions expressed in the comments were classified using the NRC sentiment analysis framework. To better understand the emotions revealed in the sentiment analysis, the Reddit data were thematically analyzed using traditional content analysis methods. The findings are presented based on the emotions identified through this thematic analysis. An overview of the study’s methodology is provided in Figure 1.

Data analysis

Comments on Cappadocia tourism posted on Reddit were analyzed using the NRC Emotion Lexicon and classified into eight basic emotion categories, including trust, anticipation, joy, fear and sadness. To gain an in-depth understanding of tourists’ subjective experiences and the meanings they attribute to their visits, a phenomenological approach was adopted. The phenomenon examined in this study comprises tourists’ perceptions of their Cappadocia experiences and the meanings ascribed to those experiences.

In this context, the data were interpreted through conventional content analysis. To distill the essence of tourist perceptions, recurring expressions in the comments were systematically coded, organized into themes and interpreted to uncover the underlying structure of the tourist experience. This approach enabled a deeper understanding of tourists' subjective experiences and the meanings attached to Cappadocia visits. The combined use of these analytical techniques provided a holistic account of the emotional and perceptual dynamics of Cappadocia tourism and yielded valuable implications for sustainable destination management and visitor satisfaction.

NRC Emotion lexicon

The NRC Emotion Lexicon is a natural language processing tool used to classify human emotions through text analysis. Developed in 2010 by Saif M. Mohammad and Peter D. Turney at the National Research Council of Canada (NRC), the lexicon consists of an extensive list of words tagged with emotional labels. It includes eight basic emotions—joy, sadness, anger, fear, surprise, disgust, trust and anticipation—as well as positive and negative sentiment polarities.

Each word in the lexicon is annotated based on its association with one or more of these emotional categories. The NRC Emotion Lexicon is widely used to analyze the emotional tone of various types of written content, including social media posts, user comments and news articles. It has broad applications in fields such as text mining, sentiment analysis and emotion classification, contributing valuable insights in disciplines like user experience research, marketing and political science.

In this study, the NRC Emotion Lexicon was used to classify the emotions expressed in Reddit comments about Cappadocia tourism. The emotions were categorized into basic emotional categories such as trust, anticipation, joy, fear and sadness. This method, utilizing the NRC Emotion Lexicon, allowed us to interpret the emotional dynamics of Cappadocia tourism in greater detail and provided meaningful insights for improving sustainable tourism management and enhancing the visitor experience.

Phenomenological research methods

In this study, a phenomenological research approach was chosen to examine tourists' perceptions of Cappadocia. Phenomenology focuses on understanding how individuals perceive and make sense of their life experiences. The phenomenon investigated in this study is the perceptions of tourists regarding Cappadocia. This approach was chosen to gain a deeper

understanding of the subjective experiences of tourists related to their visits to the region, based on comments from the Reddit platform.

Phenomenological methods aim to capture the essence of participants' life experiences, highlighting their perceptions and interpretations. In this context, the study aimed to understand how tourists perceive Cappadocia's natural beauty, historical significance, cultural heritage and economic aspects. Additionally, it examined how these perceptions affect tourists' emotional responses, satisfaction and overall experiences.

The use of a phenomenological approach enabled the study to not only conduct a thematic analysis of tourists' perceptions but also explore the deeper meanings behind the emotional and cognitive processes shaping these perceptions. This approach played a crucial role in understanding the broader impacts of Cappadocia tourism on sustainable development and visitor satisfaction. The combination of phenomenology, sentiment analysis and traditional content analysis allowed the study to provide a comprehensive understanding of the emotional dynamics and thematic elements of Cappadocia tourism, offering valuable insights for both tourism management and policy development.

Traditional content analysis

In order to examine the phenomenon of "tourists' perceptions of Cappadocia" based on Reddit comments, the data collected through text mining techniques were analyzed using traditional content analysis. Traditional Content Analysis is a qualitative research method aimed at examining text-based data in detail to identify themes, patterns and meaningful categories. In traditional content analysis, researchers do not begin with predefined theories or categories; instead, they focus directly on the meaning units within the data. This indicates an inductive approach—meaning that themes and concepts emerge from the data itself.

The research process begins with a careful reading of the data, during which recurring codes or expressions are identified. These codes are then grouped to form broader themes. This method is widely used in the social sciences, particularly for exploring perceptions, attitudes and experiences. Traditional content analysis allows for the examination of data within its natural context, helping researchers to better understand participants' perspectives.

Table 1. Themes and categories

Theme Name	Category Name
Cultural and Historical Values	Archaeological Discoveries
	Historical Architecture and Art
	Preservation of Natural and Historical Heritage
Tourism and Economic Impacts	Creative Tourism Activities
	Tourist Experiences and Expectations
	Economic Development and Infrastructure
Social Interaction and Opinions	Local People's Views
	Tourist Perceptions
	International Interest and Media
Nature and Environment	Natural Beauty
	Ecological Conservation
Innovation and Technological Use	The Role of Technology in Tourism
	Scientific and Archaeological Studies

The themes and categories derived from the analysis presented in Table 1 were compiled based on traditional content analysis methods. In this process, recurring codes and expressions were identified through careful examination of the data and these codes were grouped under broader themes. To create the categories, similar expressions and words found in the Reddit comments were first coded and then these codes were grouped based on semantic similarities. For example, codes such as “nature,” “beauty,” and “scenery” were grouped together to form the theme of “Natural Beauty.” Similarly, codes like “history,” “archaeology,” and “heritage” were combined to create the theme of “Cultural and Historical Values.”

Each category was derived from codes that frequently appeared in the comments and were semantically related. These categories were shaped as main themes that reflect various aspects of tourists’ perceptions of Cappadocia. The categories emerged from the relationships between recurring and meaningful units in the data and this process aimed to create a meaningful structure while preserving the natural context of the data. In this way, the connections between categories were also analyzed to provide a deeper understanding of tourists’ perceptions and experiences.

FINDINGS

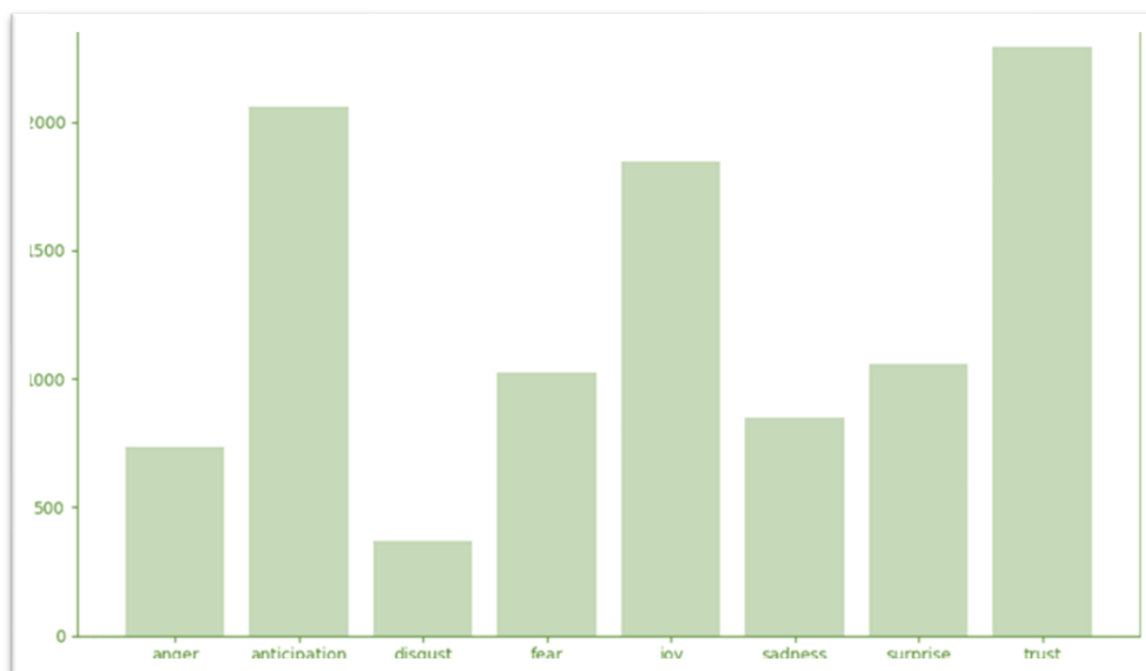
In this section, the findings are examined under two main headings: the results of the sentiment analysis and the results of the traditional content analysis.

Sentiment analysis results

The findings of the NRC sentiment analysis regarding tourism in Cappadocia reveal that visitors’ strong emotional connections to the region are rooted in various factors. The high expression of trust (2291 points) reflects a deep appreciation for the preservation of the region’s historical heritage and cultural richness, as well as the hospitality of the local people. Following

trust, the emotions of anticipation (2062 points) and joy (1846 points) indicate that tourists arrive with curiosity and excitement and enjoy the unique experiences offered during their visit. Additionally, the high score for surprise (1060 points) suggests that Cappadocia's distinctive natural landscapes and archaeological discoveries evoke a sense of wonder among visitors.

However, the presence of lower scores for fear (1026 points) and sadness (850 points) suggests that some visitors experienced concerns or disappointment, possibly due to infrastructure deficiencies or unmet expectations. Still, the relatively low levels of anger (736 points) and disgust (368 points) indicate that negative emotions are limited, highlighting that Cappadocia generally leaves a positive impression on its visitors. This suggests that while tourism in the region typically offers a favorable experience, addressing certain shortcomings could further enhance visitor satisfaction. Graphic 3 provides a visual overview of the sentiment analysis results.



Graphic 3. Sentiment analysis results

The sentiment analysis findings for Cappadocia highlight the region's strong tourism potential while also emphasizing the importance of a holistic tourism management approach that meets visitor expectations and ensures the protection of both the local community and natural heritage. Enhancing the preservation of the area's natural and historical assets, promoting sustainable tourism practices and diversifying visitor experiences are identified as key objectives for future development.

Findings obtained through traditional content analysis

The results of the traditional content analysis regarding the perception of tourism in Cappadocia are grouped under five main themes: “Cultural and Historical Values,” “Tourism and Economic Impacts,” “Social Interaction and Opinions,” “Nature and Environment,” and “Innovation and Technological Use.” According to these findings, Cappadocia continues to be a global attraction due to its cultural and historical richness, archaeological discoveries and architectural heritage.

Additionally, efforts to preserve its natural and historical assets help ensure the sustainability of landmarks such as fairy chimneys and ancient cities, while tourism activities support the economy and create new opportunities for the local population. While emotions such as trust, joy and anticipation are dominant among visitors, the presence of negative feelings like fear and sadness indicates a need for improvements in safety and infrastructure.

Theme 1. Cultural and historical values

The findings under this theme are presented in three main categories: Archaeological Discoveries, Historical Architecture and Art and Preservation of Natural and Historical Heritage.

Category 1: Archaeological Discoveries

Reddit users highlight the importance of archaeological excavations in Cappadocia for uncovering the region’s historical heritage. These findings not only enhance the region’s tourist appeal but also strengthen its position within global cultural heritage. Some users mention that these archaeological discoveries have increased international interest in Cappadocia and highlighted the region’s cultural depth. Comments stress the need for more support for archaeological research, advocating for the documentation and preservation of such findings using scientific methods. Furthermore, integrating excavations with tourism is seen as a way to help visitors better understand the region’s historical context. Overall, archaeological findings hold great potential for preserving and promoting Cappadocia’s cultural and historical values. Examples of comments that contributed to this category include the following:

“Recent excavation works in the Göreme Open-Air Museum have uncovered artifacts from ancient civilizations, sparking great interest among archaeologists and visitors.”

“Currently, outside the known area of rock-carved tombs in front of the Tokalı Church in Göreme, a necropolis area has been discovered for the first time. The latest discovery included a child’s grave along with various artifacts. Once the works are completed, these artifacts will be displayed at the Nevşehir Museum.”

“Excavations at the ancient city of Sobessos have uncovered important Roman ruins, shedding light on Cappadocia’s historical richness during the Roman period.”

“The project in Göreme aims to transform the Open-Air Museum area into an archaeological park, allowing visitors to experience the excavation sites in a more interactive way.”

“Nevşehir Hacı Bektaş Veli University is actively involved in the region’s excavation projects, contributing to the preservation and study of Cappadocia’s heritage.”

Category 2: Historical Architecture and Art

Cappadocia’s historical architecture and artworks stand out as significant elements shaping the region’s cultural identity and tourist appeal. In the comments, historical structures such as rock-hewn churches, frescoes and underground cities provide visitors with a unique opportunity to travel back in time, creating an exceptional experience. Tourists appreciate the current efforts to preserve these historical and artistic works, while some request further restoration and more informational materials. It is emphasized that the international promotion of Cappadocia’s rich historical and artistic heritage should be enhanced, with the aim of further strengthening the region’s tourism potential. The comments highlight that these works are not only significant for tourism but also for the transmission of cultural heritage to future generations. Overall, historical architecture and art are considered the cornerstones of Cappadocia’s cultural richness. Some of the comments in this category are as follows:

“Frescoes depicting Jesus Christ and the Apostles, as well as scenes from the Bible, were damaged. Each fresco has been covered with writings in various languages.”

“The 12th-century Domed Church, located in the Soğanlı Valley of Kayseri province, was damaged by treasure hunters. This church, which hosts about 50 rock churches and caves, features frescoes depicting Jesus and the Apostles.”

“The Tokalı Church, located near the Göreme Open-Air Museum, is a large rock-hewn church. This church is considered more impressive than other rock-hewn churches in the region due to its massive size, impressive underground chapel and 9th-century frescoes depicting the life of Jesus.”

“Göreme Open-Air Museum is one of the most important sites in Cappadocia. It houses an extensive collection of rock-hewn churches and monasteries. These structures are decorated with well-preserved frescoes, primarily depicting scenes from the Bible and offering insights into Byzantine religious art and architecture.”

Category 3: Conservation of Natural and Historical Heritage

The importance of preserving Cappadocia’s unique natural and historical heritage is once again emphasized through efforts to ensure the longevity of the region’s distinctive landscape. Landmarks such as the Fairy Chimneys, underground cities, rock-hewn churches and homes have become symbols of the region and are not only tourist attractions but also values that must be preserved as part of humanity’s heritage. Comments highlight that these sites should be viewed not only for tourism purposes but also as a cultural and historical responsibility. It is noted that stricter environmental and tourism policies must be applied to combat illegal construction and preserve the region’s natural formations. Additionally, the importance of measures such as sustainable tourism practices, controlling visitor density, combating illegal construction and raising local awareness is emphasized. Failure to implement these measures could damage the natural and historical fabric, which would negatively affect both the local population and the tourism sector. In general, the preservation of Cappadocia’s natural and historical heritage is seen as an indispensable element for maintaining the region’s long-term value as a world heritage site and it is concluded that sustainable steps must be taken to protect this heritage. Some comments in this category are as follows:

“Cappadocia authorities are actively fighting illegal construction in the region and have removed approximately 500 illegal structures to date.”

“To preserve the region’s natural landscape, these illegal buildings have been removed and continuous restoration works are being carried out in historical sites.”

“Fairy Chimney preservation projects aim to ensure the long-term longevity of the region’s unique landscape.”

“With new regulations, natural areas around Göreme have been placed under protection.”

“Cappadocia authorities are taking strict measures to prevent the deterioration of the natural landscape and are enforcing new construction regulations.”

“The removal of illegal structures that damage the region’s natural and historical fabric is critical for the sustainability of Cappadocia.”

“The excavation works under the guidance of Nevşehir Hacı Bektaş Veli University are of great importance for preserving the region’s natural and historical structures.”

Theme 2. Tourism and economic impacts

The findings under this theme are presented under three main categories: Creative Tourism Activities, Tourist Experiences and Expectations and Economic Development and Infrastructure.

Category 1: Creative Tourism Activities

The importance of unique and participatory activities offered to tourists in Cappadocia is emphasized. Comments reveal that creative tourism activities, which provide opportunities to experience the region’s historical, cultural and natural beauty, have a positive impact on visitors. Activities such as pottery making, wine tastings, local cooking classes and photography workshops offer tourists both enjoyable and culturally rich experiences. Moreover, it is noted that these activities contribute to the local economy, support local producers and help promote traditional handicrafts. Some comments highlight the need for increased promotional efforts to reach wider audiences with creative tourism activities and stress the importance of organizing these activities within the framework of sustainable tourism. Overall, creative tourism activities are emphasized as playing a critical role in enhancing Cappadocia’s tourism potential and enriching the visitor experience. Some of the comments in this category are as follows:

“The Whirling Dervishes Show is a cultural performance that blends spirituality with creativity, offering tourists a chance to experience an art form deeply rooted in the region’s traditions.”

“Pottery making stands out as an interactive, creative activity that allows visitors to fully engage with the region’s culture, support local artisans and create unique souvenirs.”

“Green Tour’s guide promotes creative tourism by encouraging visitors to explore Cappadocia’s landscapes, ancient history and hidden treasures.”

“Participating in pottery making is not only an unforgettable experience but also offers the opportunity to create personalized souvenirs as lasting reminders of your time in Cappadocia.”

“Pottery making is not only a creative outlet but also an activity that promotes awareness and relaxation. The tactile sensation of working with clay and the repetition of shaping movements can have a calming effect on both the mind and body.”

“One of the most compelling reasons to choose pottery making is the hands-on learning experience it offers. Under the guidance of master craftsmen, participants have the opportunity to shape, model and decorate their own ceramic pieces using traditional techniques.”

“Pottery making in Cappadocia has deep roots in the region’s cultural heritage, dating back to ancient times.”

Category 2: Tourist Experiences and Expectations

When considering the experiences of tourists visiting Cappadocia and their expectations for the region, it is observed that the majority of tourists are highly satisfied with the region’s natural and cultural wealth, but there are some areas where they have requests for improvement. Unique experiences such as the Fairy Chimneys, underground cities and hot air balloon tours leave a strong impact on tourists, while iconic activities like hot air balloons being offered almost year-round further enhance the region’s appeal. However, some tourists have expressed concerns about overcrowding, high prices, transportation difficulties and inadequate infrastructure. Tourists expect improvements in service quality through better signage, greater access to information and the implementation of sustainable tourism practices. Additionally, factors such as gastronomy, authentic experiences and interaction with local people stand out as contributors to increased visitor satisfaction. Overall, it is emphasized that while tourists are

satisfied with their experiences in Cappadocia, there is a need to develop services and infrastructure to meet expectations. Some comments in this category include:

“Visitors frequently highlight the exceptional hospitality of the local people in Cappadocia, noting that it adds a unique charm to their experiences.”

“Hot air balloon tours at sunrise offer breathtaking views of the region, making it an unforgettable experience.”

“Tourists are enchanted by the mystical atmosphere of Cappadocia’s valleys, expressing that it gives them the feeling of walking through history.”

“Tourists visiting Cappadocia show respect for the region’s culture, which encourages local businesses to invest more in preserving the heritage.”

“Tourists are not increasing inflation; the real issue is that travel agencies and hotels prefer to receive payments in foreign currency rather than Turkish Lira.”

Category 3: Economic Development and Infrastructure

The impact of tourism on economic growth and infrastructure development in the Cappadocia region highlights its role as a significant source of income for the local economy and an opportunity for increasing local employment. Comments indicate that sectors such as accommodation, restaurants and tour guiding have created job opportunities, with tourism being a key element in the region’s economic development. Additionally, popular activities like balloon tours contribute to the global promotion of the region and support economic growth. However, it is pointed out that with the increasing number of tourists, some infrastructure shortcomings have emerged. Comments stress the need for increased investments in infrastructure areas such as transportation, accommodation and environmental regulations, noting that these improvements will enhance the tourist experience and contribute to the quality of life for local residents. Furthermore, it is emphasized that tourism revenues should be distributed sustainably and fairly, ensuring both economic growth and social justice. Overall, economic development and infrastructure improvements are seen as the key to more effectively utilizing Cappadocia’s tourism potential. Some comments in this category are as follows:

“The balloon tours in Cappadocia provide a significant contribution to the region’s tourism economy. Hotels, restaurants and other tourism businesses benefit greatly from these balloon tours.”

“Investments in new tourism infrastructure have made Cappadocia more accessible to travelers, improving the overall tourism experience.”

“The development of parking facilities in Göreme has greatly facilitated visitors by addressing the challenges posed by the increasing number of tourists.”

“With the support of tourism projects, the local economy has been significantly strengthened, creating sustainable income sources for small businesses in the region.”

“Balloon tourism creates job opportunities for the local community and supports economic development.”

“Now might be the best time to visit Türkiye because the Turkish Lira has significantly lost value against the exchange rate. If you bring plenty of dollars or euros, you can have the time of your life, as everything will be much cheaper for you now.”

Theme 3. Social interaction and opinions

The findings under this theme are presented under three main categories: Local People's Views, Tourist Perceptions and International Interest and Media.

Category 1: Local People's Views

The thoughts of the people living in Cappadocia regarding tourism and the development of the region reflect both the economic benefits of tourism and the challenges it brings. While the local community is pleased with the opportunities that tourism brings to the region's economy, they are concerned that overtourism may lead to environmental and social pressures. Specifically, it is emphasized that high tourist density could harm the natural and cultural heritage and negatively impact the quality of local life. Some comments stress that tourism should be managed in a way that preserves the local lifestyle and cultural identity and it is important to involve the local population more in the tourism sector. The local community underscores that sustainable management of tourism is vital for the region's future and that local participation in this process is necessary. Some comments in this category include:

“The local population is known for its warm approach to tourists and many local businesses support tourism by offering regional flavors, making the visitors' experiences even more special.”

“We don’t hate it. In fact, sometimes I wake up early to go watch the balloons and wave at the tourists. Also, touristy places are usually not where most locals live or go.”

“People who live here probably appreciate tourism because it’s a big part of their economy.”

“Cappadocia authorities are taking strict measures to prevent the deterioration of the natural landscape and are enforcing new construction regulations.”

Category 2: Tourists’ Perceptions

The experiences and perceptions of tourists visiting Cappadocia are shaped by admiration for the region’s unique natural and historical wealth. Comments highlight that extraordinary places such as the Fairy Chimneys, underground cities and valleys provide visitors with unforgettable memories. Furthermore, hot air balloon tours and authentic accommodation options offer tourists the opportunity to experience the region’s distinctive atmosphere. However, some comments also highlight criticisms regarding the quality of tourism services, particularly pointing out issues such as high prices, overcrowding and environmental damage. While Cappadocia’s historical texture and natural beauty are praised by tourists, it is emphasized that tourism policies need to be developed to ensure the sustainable preservation of the region. The importance of sustainability-based solutions for increasing tourist satisfaction and preserving the region is noted. Some of the comments in this category include:

“The severe damage to the walls of the churches drew reactions from visitors and the local population.”

“The valley around the Göreme Open-Air Museum looks magnificent with balloons in the early morning. It’s definitely a must-see spot.”

“Visitors frequently highlight the exceptional hospitality of the local people in Cappadocia, noting that it adds a unique charm to their experiences.”

Category 3: International Interest and Media

Cappadocia’s global recognition and the role of the media in this process are emphasized. Comments indicate that the region receives significant attention from international tourists and media outlets due to its unique geography and cultural heritage. Particularly, the impressive photos and videos shared on social media platforms are cited as increasing the region’s global popularity. In addition, it is noted that international documentaries, films and digital content

showcase Cappadocia's unique charm, highlighting the positive impact these promotions have on tourism. Some comments express that this international interest generated through the media could raise awareness about preserving the region's cultural and natural heritage, while others warn that excessive promotion and uncontrolled tourism could harm the region. Overall, it is emphasized that international interest and media play a critical role in positioning Cappadocia as a global destination, but this situation must be managed sustainably. Some of the comments in this category are as follows:

"Cappadocia frequently appears in international travel blogs and videos, with influencers praising the fairy chimneys and the region's unique landscapes."

"Cappadocia's unique hot air balloon tours have become a viral phenomenon on platforms like Instagram, attracting millions of viewers with their captivating visuals."

"The sky filled with balloons at sunrise in Cappadocia has become one of the most photographed scenes worldwide, showcasing the region's allure."

Theme 4. Nature and environment

The findings under this theme are presented under two main categories: Natural Beauty and Ecological Conservation.

Category 1: Natural Beauty

Cappadocia's unique natural formations and captivating landscapes significantly enhance the region's appeal and importance in tourism. Comments highlight how the fairy chimneys, underground cities, valleys and natural rock formations reinforce the aesthetic value and historical significance of the region. The area's history intertwined with nature offers visitors a unique experience, attracting tourists through activities like nature photography, hiking tours and hot air ballooning. Additionally, it is emphasized that the geographical structure of the region must be preserved while developing sustainable tourism practices. The natural beauty of Cappadocia is not only a tourist attraction but also something that must be conserved as a world heritage. The need for conscious tourism policies to promote and protect these natural beauties is underlined, emphasizing the importance of keeping the region valuable for both the local population and visitors. Some of the comments in this category are as follows:

“Cappadocia, located in Central Anatolia, Türkiye, is renowned for its unique moon-like landscape, underground cities, rock churches and houses carved into the rocks.”

“The valley around the Göreme Open-Air Museum looks magnificent with balloons in the early morning. It’s definitely a must-see spot.”

“Hiking in Zelve Valley feels like being in another world. I was amazed by the region’s natural texture.”

“Cappadocia’s nature is truly captivating. The churches and valleys hidden among the stones are wonderful.”

“The fairy chimneys create a fantastic landscape that looks like it’s straight out of a fairytale, with a variety of sizes and shapes.”

Category 2: Ecological Conservation

The preservation of Cappadocia’s natural and cultural heritage is of great importance for the future of the region. The region’s sensitive ecosystem faces threats such as intense tourism pressures and illegal construction, highlighting the need for sustainability-focused approaches. The removal of illegal structures is a significant step in preventing these threats, while the development of waste management and environmental awareness programs is also crucial. Furthermore, promoting sustainable tourism types, such as ecotourism and green tourism, offers great opportunities for raising awareness among tourists and protecting natural resources. Modern technologies and scientific methods can be effectively used in the rehabilitation and monitoring of the region’s natural areas. In this context, the preservation of Cappadocia’s unique natural beauty and ecological values is not only critical for the region but also for global environmental heritage. Some of the comments in this category are as follows:

“The removal of illegal structures in Cappadocia has significantly contributed to the preservation of the region’s natural beauty, ensuring its sustainability for future generations.”

“Sustainable tourism initiatives in Cappadocia aim to balance the increasing number of visitors with environmental protection and encourage eco-friendly practices.”

“The natural landscape in Cappadocia is one of the main elements of tourism. Preserving this landscape requires cooperation from all parties involved.”

“Educational campaigns in the region are raising awareness among both tourists and locals about the importance of preserving Cappadocia’s unique ecosystem.”

Theme 5. Innovation and technological use

The findings under this theme are presented under two main categories: The Role of Technology in Tourism and Scientific and Archaeological Studies.

Category 1: The Role of Technology in Tourism

The tourism sector in Cappadocia is undergoing a major transformation with the influence of technology. In recent years, the use of digital innovations has played a critical role in enhancing the region’s tourist appeal and enriching visitor experiences. Technologies such as augmented reality (AR) and virtual reality (VR) offer opportunities to promote Cappadocia’s historical and cultural heritage in a more engaging and informative way. Social media platforms and digital mapping applications have strengthened the region’s online promotion, attracting more tourists and making the region a popular destination year-round. Online booking systems and app-based tour guides have made travel more efficient and accessible for tourists, increasing the region’s accessibility. The widespread use of mobile and digital payment systems has greatly facilitated international tourists. Additionally, smart city applications and data analytics technologies support guiding tourists toward sustainable travel options, playing an important role in ensuring the region’s environmental sustainability. As a result, technology is not only a key tool in planning tourism activities but also plays a crucial role in the sustainable development of Cappadocia. Some comments in this category are as follows:

“Using mobile apps like Google Maps or dedicated trail apps has significantly improved the travel experience.”

“Virtual reality tours offered by some travel agencies provide tourists with a unique preview of Cappadocia’s landscapes and underground cities before visiting.”

“Mobile apps have transformed the way tourists explore Cappadocia; they offer guided tours, maps and augmented reality features to enhance the experience.”

“Online reservation systems for hot air balloon tours and cave hotels have made planning much easier for international tourists.”

“Drone photography has allowed tourists to capture stunning aerial views of Cappadocia’s unique landscapes, creating unforgettable memories.”

Category 2: Scientific and Archaeological Studies

The importance of Cappadocia’s archaeological and scientific potential, as well as the innovative work being carried out in the region, is emphasized. Specifically, the discovery of a unique necropolis area during excavations in front of Tokalı Church demonstrates that the region is not only a tourist attraction but also valuable for scientific discoveries. The discovery of various artifacts, such as a child’s grave, during these excavations allows for a better understanding of the area’s historical and cultural heritage. Collaborative work with Nevşehir Hacı Bektaş Veli University has led to the planning of the expansion of the Cappadocia Open-Air Museum into an “archaeological park.” Additionally, innovative steps to preserve the region’s natural structure and combat illegal construction highlight the impact of technology on conservation efforts. The general commentary on this theme shows that scientific research plays a critical role not only in preserving cultural heritage but also in globally promoting Cappadocia’s unique value. Some comments in this category are as follows:

“The excavation works under the guidance of Nevşehir Hacı Bektaş Veli University are of great importance for preserving the region’s natural and historical structures.”

“In 2025, archaeological sites in Göreme are planned to be opened. This project will contribute to preserving the region’s cultural heritage.”

“The ‘Heritage for the Future’ initiative includes detailed excavations at Tokalı Church and the Balcony Church, aiming to integrate these findings into tourism development plans.”

DISCUSSION AND CONCLUSION

Emotional experiences exert a significant influence on tourist loyalty by shaping revisit intentions and visitor–destination interactions (Li et al., 2024). Empirical evidence indicates that positive affect—particularly trust, joy and anticipation—creates a strong linkage between tourists’ emotional responses and their intention to return (Yang et al., 2023). Sari and Burhanudin (2023) show that emotional experience functions as an antecedent of conative loyalty, with revisit intention acting as a mediating mechanism that strengthens overall destination loyalty. This finding is corroborated by Elbaz et al. (2021), who demonstrate that heightened emotional satisfaction fosters tourist loyalty and reinforces destination image.

Accordingly, emotion-centered frameworks in tourism research underscore that the affective dimensions of experience are critical determinants of loyalty-related behaviors. In this study, the findings of the NRC emotion analysis and traditional content analysis regarding the Cappadocia destination were examined together, revealing that the emotional tone of tourist experiences is generally positive. According to the NRC sentiment analysis, emotions such as trust, joy and anticipation were predominant in visitor comments. This result aligns with findings in the literature suggesting that positive emotions dominate tourism experiences. For instance, Barış-Tüzemen et al. (2023) found that 90% of the comments related to Cappadocia contained positive sentiments. Similarly, Özen (2021) reported that 75% of foreign tourists' comments regarding Cappadocia's World Heritage Site reflected a positive perception. The presence of trust among tourists may reflect a sense of satisfaction and safety with the destination and the services offered. Emotions such as joy and anticipation suggest that visitors greatly enjoyed their experiences in Cappadocia and arrived with high expectations. Indeed, studies on other destinations have also shown that joy and trust are among the most frequently experienced emotions during travel (Surugiu et al., 2023). These findings indicate that Cappadocia is generally perceived by tourists as a destination that meets expectations, provides satisfaction and evokes positive emotions.

The content analysis results reveal that the aspects most appreciated by tourists in Cappadocia revolve around the region's geo-cultural landscape. Visitors frequently express admiration for natural formations such as fairy chimneys and valleys, as well as cultural landmarks like underground cities and historical churches (Özen, 2021). These sites are central to Cappadocia's appeal, carrying the traces of ancient civilizations across thousands of years. This geo-archaeological palimpsest plays a pivotal role in forming Cappadocia's touristic image and evidences its rich cultural heritage (Günden & Günden, 2022). Notably, structures such as the Dark Church in the Göreme Open-Air Museum are often mentioned in tourist reviews and serve as major points of interest. Additionally, one of the most iconic experiences associated with Cappadocia—hot air balloon tours—elicits considerable excitement among visitors. The analysis clearly shows the popularity of balloon flights as reflected in user comments. Balloons coloring the sky at sunrise offer visitors an awe-inspiring and joyful experience. Similarly, Cappadocia's cave hotels and traditional lodging experiences significantly contribute to visitor satisfaction. A recent study analyzing Airbnb reviews in the Göreme region found that unique accommodation features—such as cave rooms, panoramic views and the opportunity to watch balloons from the hotel—greatly enhance guest satisfaction. The same study also emphasized

that while Cappadocia's authentic architectural character (e.g., rock-carved spaces) provides strong aesthetic appeal, the quality of service must meet high standards to sustain this experience (Çamlıca, 2024). Thus, the region's natural beauty and cultural heritage elements positively influence tourists and generate favorable emotions, highlighting Cappadocia's competitive advantage as a destination. Similarly, another study conducted sentiment analysis based on elements affecting tourists' dining experiences at "Cappadocia home-cooking" restaurants, providing a more detailed understanding of emotional states (Özen & İlhan, 2022). The findings support the emphasis in the literature that Cappadocia offers "unique" and immersive tourism experiences. Studies on guest experiences in the region define Cappadocia as a leading destination for immersive and authentic travel, attributing much of this success to the strength of its cultural and natural heritage (Çamlıca, 2024).

On the other hand, this study also reveals that some negative emotions related to the Cappadocia experience—although relatively limited in frequency—were expressed by visitors. Emotions such as fear and sadness identified in the NRC analysis, while not as prominent as positive feelings, may indicate certain sources of dissatisfaction or concern. For instance, the emotion of fear may be linked to tourists' anxieties regarding safety or comfort during their experiences. Activities such as hot air balloon rides, horseback safaris, or visits to narrow underground cities in Cappadocia can trigger fears of heights, claustrophobia, or general safety concerns among some visitors. The literature also notes that high-risk or adventure-based tourism activities may provoke anxiety to some extent. Sadness, on the other hand, often stems from disappointment or distressing observations. Some tourists, for example, report feeling a mixture of sadness and frustration when their expectations are not met or when they witness damage to the region's cultural heritage. One visitor to the Göreme Open-Air Museum expressed shock and disappointment over the neglect of certain artifacts and the lack of attention by local authorities, stating, "It was shocking to witness such historical neglect" (Barış-Tüzemen et al., 2023). Similarly, several visitors mentioned feelings of sadness and anger after seeing graffiti and scratches on the walls of rock-cut churches, describing such damage as "unacceptable" (Özen, 2021). These examples suggest that negative emotions often reflect the value that tourists assign to the destination—that is, they regard Cappadocia as so meaningful and precious that any form of degradation leads to emotional disappointment. Ultimately, although fear- and sadness-related emotions are in the minority, they provide critical insights into the aspects of the tourist experience that require improvement.

A review of the critical comments reveals that tourist dissatisfaction tends to concentrate around specific issues. The most frequently mentioned problems include infrastructure and maintenance deficiencies, overcrowding and high prices. Many visitors complained that some sites were extremely crowded, especially during peak season and noted that the excessive crowds negatively impacted their overall experience (Bariş-Tüzemen et al., 2023). Overcrowding, by limiting tourists' ability to take photographs comfortably or explore sites at a leisurely pace, emerged as a major source of dissatisfaction in user comments. Similarly, pricing also attracted criticism. Foreign tourists highlighted that certain services and entrance fees were more expensive than expected. One visitor, for instance, criticized the Göreme Open-Air Museum for being three times more expensive than a comparable nearby site, despite many sections being closed to the public (Bariş-Tüzemen et al., 2023). These examples indicate that visitors carefully evaluate the price-to-service ratio and expect a better experience when paying higher fees. Criticism regarding infrastructure and site management was also significant. Some tourists expressed dissatisfaction with inadequate facilities such as restrooms, transportation options and directional signage, as well as the poor maintenance of historical sites. In particular, issues such as closed sections, lack of restoration, or insufficient supervision (e.g., allowing visitors to damage historical artifacts) led to disappointment (Özen, 2021). Furthermore, a notable finding in the study by Barış-Tüzemen et al. (2023) was that the most common complaint in reviews of Cappadocia concerned staff attitude. Reports of rude or indifferent behavior by staff in certain businesses were frequently noted in negative comments. Such criticisms related to service quality are key factors that can negatively impact the destination's image. Many studies in the literature on destination satisfaction emphasize that infrastructure quality, reasonable pricing and high service standards play a crucial role in ensuring tourist satisfaction. For example, an analysis of Airbnb guest experiences in Göreme emphasized that while accommodation providers may offer unique settings, they must not neglect fundamental service components such as cleanliness, maintenance and hospitality (Çamlıca, 2024). This highlights the importance of continuously improving the quality of tourism products and services in Cappadocia.

Overall, the findings of our study indicate that Cappadocia offers an emotionally rich and satisfying tourist experience, while also highlighting certain areas that require improvement for sustainable destination management. The fact that the vast majority of tourists leave the region with a sense of satisfaction is a positive indicator of the destination's long-term success and makes a significant contribution to the local economy. Cappadocia's strong and unique

destination image—centered around its fairy chimneys, valleys, underground cities and historical heritage—generates feelings of admiration, trust and attachment among visitors. However, the negative experiences and critical feedback identified in our analysis convey important messages to destination managers and stakeholders. In particular, issues associated with overtourism, such as overcrowding and its resulting negative impacts, not only harm the visitor experience but also pose risks to the region’s geo-cultural landscape. Indeed, studies on popular destinations around the world emphasize that uncontrolled visitor flows can strain infrastructure, reduce visitor satisfaction and damage local heritage. In the case of Cappadocia, similar concerns have been raised in evaluation reports for the Göreme National Park, a UNESCO World Heritage Site (Demirçivi, 2017). These reports highlight risks such as overcapacity, physical degradation and visual pollution, recommending proactive measures. Our study’s findings show that tourists are aware of preservation issues and have high expectations for the protection of cultural and natural assets. This is reflected in visitor comments that express sensitivity and criticism regarding the neglect of historical sites (Özen, 2021). In this context, destination management should focus on enhancing the visitor experience while preserving the values that make Cappadocia attractive, in line with the principles of sustainable tourism. Investing in infrastructure, managing visitor flow effectively (e.g., spreading visitation across different periods, limiting access to sensitive areas) and maintaining a balanced price-to-service ratio will increase current tourist satisfaction and reduce the likelihood of negative experiences in the future. Ultimately, the emotion-based findings of this study offer a comprehensive perspective on both the strengths and areas for development in Cappadocia tourism. The results align significantly with existing literature and provide both theoretical and practical insights, especially regarding the emotional dimensions of tourist experiences, the importance of cultural heritage and sustainable destination management. Thus, ensuring that Cappadocia continues to evoke positive emotions in the future will depend on preserving its current strengths while addressing areas of concern through strategic improvements.

Pricing policies implemented in tourist destinations are among the key factors that directly affect visitor satisfaction. In the case of Cappadocia, it is frequently observed that tourists complain about high prices. Indeed, an analysis of online reviews related to tourism businesses in the region reveals that price-related complaints are notably high; approximately one-fifth of all complaints were reported to be directly associated with the theme of “expensiveness” (Şahin Perçin & Yiğit, 2020). This finding indicates that many tourists visiting

Cappadocia perceive a mismatch between the prices they pay and the quality of services or experiences they receive. The literature also confirms a strong relationship between perceived price fairness and tourist satisfaction. For example, a study conducted in Egypt's hospitality sector showed that tourists' perceptions of fair and consistent pricing significantly enhanced satisfaction, whereas perceptions of inconsistency or discrimination in pricing negatively affected satisfaction and loyalty (Abou Zeid & Abouraia, 2019). Therefore, the careful management of pricing policies in destinations —*ensuring that pricing is proportional to the quality of the experience, competitive and fair*— is considered vital for maintaining visitor satisfaction. In the case of Cappadocia, minimizing comments such as “not worth the money I paid” will be important for protecting the destination's image and encouraging repeat visits.

In conclusion, enhancing tourist satisfaction and mitigating the negative perception of high prices in Cappadocia requires both improving traditional service quality (establishing a fair price–value balance and delivering high-quality, hospitable service) and enriching experiences by leveraging the possibilities of the digital age. Complaints about high prices can only be addressed by increasing the perceived value of the tourist experience. This can be achieved by providing customer-oriented, quality service on one hand and on the other, by redesigning how tourists explore the region through technologies such as AR and VR. Findings in the literature also show that when digital applications are properly integrated, they contribute significantly to visitor satisfaction and thereby enhance destination competitiveness (Cabeleira & Vaz de Carvalho, 2025; Zeng et al., 2022). For a world-renowned destination like Cappadocia, innovative and visitor-centered approaches can help establish sustainable tourism satisfaction and foster a positive brand image.

Cappadocia, with its natural beauty, historical and cultural riches, is an important hub for both national and international tourism. The region is home to unique assets such as the fairy chimneys, underground cities and rock-hewn churches adorned with frescoes, leaving a strong positive impact on visitors. However, in order to fully realize its sustainable tourism potential, strategic interventions are needed. Tourists have raised concerns about issues such as high prices, inadequate infrastructure and environmental pressures. Moreover, the region's increasing popularity, driven by social media and international media, also brings the risks of uncontrolled tourism.

Recommendations

The preservation of the region's natural and historical heritage requires sustainable tourism policies supported by concrete actions. In particular, visitor quotas and digital reservation systems are recommended to manage overcrowding, in line with Demirçivi's (2017) proposals for Göreme National Park. Infrastructure investments should prioritize eco-friendly transportation, green parking systems and improved signage, while deeper integration of local communities into the tourism value chain through cooperatives would strengthen both economic and social benefits. Moreover, the influence of pricing policies on tourist perceptions, as demonstrated by Şahin Perçin and Yiğit (2020), offers valuable guidance in this regard. Enhancing visitor experiences through digital tools is further supported by the findings of Zeng et al. (2022) and Cabeleira and Vaz de Carvalho (2025) on the role of AR/VR applications in reshaping tourism. Finally, environmental awareness programs targeting both tourists and local residents emerge as a critical policy instrument for institutionalizing sustainable tourism.

Limitations and strengths

This study has several limitations. The data being sourced from the Reddit platform may be a limiting factor, as it does not capture the opinions from other social media platforms or different data sources. Future research should diversify data collection sources and conduct more comprehensive analyses.

REFERENCES

- Abou Zeid, R. M., & Abouraia, M. G. (2019). Price discrimination and its impact on tourist satisfaction and loyalty: Evidence from tourist companies and five star hotels. *Journal of the Faculty of Tourism and Hotels-University of Sadat City*, 3(1).
- Avcıkurt, C. (2009). The importance of natural and cultural heritage in tourism: A case of Cappadocia. *Management and Education*, 1, 23-32.
- Aydın, Ş., & Akpınar, A. (2023). *Faith tourism potential of Cappadocia region*. Request & Demand Address, 343, 1-14.
- Barış-Tüzemen, Ö., Tüzemen, S., & Çelik, A. K. (2023). Sentiment analysis of reviews on cappadocia: The land of beautiful horses in the eyes of tourists. *European Journal of Tourism, Hospitality and Recreation*, 13(2), 188-197. <https://doi.org/10.2478/ejthr-2023-0015>
- Bayer, M. Z. (1992). *Turizme giriş* [Introduction to Tourism]. İşletme Fakültesi Yayını.
- Büyükkuru, M., & Yılmaz, İ. (2022). Determining the development level of Cappadocia tourism. *Journal of Tourism & Management Research*, 7(1), 2149-6528. <http://doi.org/10.5281/zenodo.650133>
- Cabeleira, M., & Vaz de Carvalho, C. (2025). Using augmented reality to improve touristic efficacy. *Computers*, 14(2), 75. <https://doi.org/10.3390/computers14020075>

- Cakir, O., Evren, S., Tören, E., & Kozak, N. (2018). Utilizing the sustainable livelihoods approach to evaluate tourism development from the rural host communities' point of view: The case of Cappadocia (Turkey). *GeoJournal of Tourism and Geosites*, 21(1), 7-25.
- Coban, G., & Yildiz, O. S. (2019). Developing a destination management model: Case of Cappadocia. *Tourism Management Perspectives*, 30, 117-128. <https://doi.org/10.1016/j.tmp.2019.02.012>
- Çamlıca, K. (2024). Evaluation of Cappadocia region in terms of sustainable development: Tourism sector. *Journal of Tourism & Gastronomy Studies*, 12(4), 3058-3074. <http://doi.org/10.21325/jotags.2024.1525>
- Çamlıca, K. (2024). Guest experience and unique accommodation features in Göreme, Cappadocia: An Airbnb review analysis. *Journal of Multidisciplinary Academic Tourism*, 9(3), 317-325. <https://doi.org/10.31822/jomat.2024-9-3-317>
- Demirçivi, B. M. (2017). Göreme Millî Parkı ve Kapadokya Kayalık Bölgeleri'ne ilişkin UNESCO raporu değerlendirmeleri ve öneriler. *Turizm Akademik Dergisi*, 4(2), 91-106.
- Elbaz, A. M., Abou Kamar, M. S., Onjewu, A. K. E., & Soliman, M. (2023). Evaluating the antecedents of health destination loyalty: The moderating role of destination trust and tourists' emotions. *International Journal of Hospitality & Tourism Administration*, 24(1), 1-28. <https://doi.org/10.1080/15256480.2021.1935394>
- Erginal, G. & Uludağ, M. (2018). Natural and anthropogenic threats to the cultural tourism potential of kıyıköy, kırklareli, Türkiye. *International Journal of Environment and Geoinformatics*, 5(3), 296-303. <https://doi.org/10.30897/ijegeo.465547>
- Evci, A., & Şahin, C. K. (2017). Evaluation of the Göreme Historical National Park in terms of tourism practices. *Eurasian Journal of Agricultural Research*, 1(2), 54-60.
- Günden, Y., & Günden, B. (2022). An innovative culture route proposal in destination management of Cappadocia region. *Revista Rosa dos Ventos-Turismo e Hospitalidade*, 14(3).
- Karacaoğlu, S. (2025). A comprehensive outlook of culture, creativity and sustainability in rural areas through tourism development. In *Niche Tourism and Sustainability: Perspectives, Practices and Prospects* (pp. 94-104). CABI.
- Karagöz, D., & Ramkissoon, H. (2025). The effect of heritagescapes on immersion and hedonia: The moderating role of visitor type. *International Journal of Tourism Research*, 27(3), e70026. <https://doi.org/10.1002/jtr.70026>
- Karakuş, Y. (2019). Identifying the best alternative tourism product for a destination: The case of Cappadocia. *Anais Brasileiros de Estudos Turísticos: ABET*, 9(1), 4.
- Kemer, E., Tekeli, M., Tekeli, E. K., & Etyemez, S. (2025). *The effect of local people's environmental attitudes and ecological awareness on environmentally friendly tourism behaviors within the scope of sustainable tourism: A research in Cappadocia region*. In *Meaningful Tourism* (pp. 281-293). Emerald Publishing Limited.
- Li, X., Yuan, Y., & Zhang, J. (2024). The influence of tourists' emotional experiences on destination loyalty from the perspective of community economy. *International Journal of Tourism Research*, 26(1), 1-14. <https://doi.org/10.1002/jtr.2630>

- Ozdemir, E., & Koroglu, A. (2025). An analysis of the perceived expensiveness of tourism destinations in Turkey through discourse analysis. *Prof. Dr. Laura Diaconu Maxim Uzm. Dt. İbrahim Tevfik GÜLŞEN*, 30, 84-98.
- Özel, Ç. H., & Kozak, N. (2017). An exploratory study of resident perceptions toward the tourism industry in Cappadocia: A social exchange theory approach. *Asia Pacific Journal of Tourism Research*, 22(3), 284-300. <https://doi.org/10.1080/10941665.2016.1236826>
- Özen, A. (2021). Evaluation of tourist reviews on tripadvisor for the protection of the world heritage sites: text mining approach. *Journal of Multidisciplinary Academic Tourism*, 6(1), 37-46. <https://doi.org/10.31822/jomat.876175>
- Özen, İ. & İlhan, İ. (2022). *Opinion mining in tourism*. Handbook of Research on Smart Technology Applications in the Tourism Industry, 1506-1527. <https://doi.org/10.4018/978-1-6684-6303-1.ch079>
- Sari, S. L., & Burhanudin, B. (2023). Emotional experience and conative loyalty: The mediating role of revisit intention. *Jurnal Manajemen Dan Kewirausahaan*, 11(1), 40-48.
- Surugiu, C., Surugiu, M. R., & Grădinaru, C. (2023). Targeting creativity through sentiment analysis: A survey on Bucharest city tourism. *SAGE Open*, 13(2), 21582440231167346. <https://doi.org/10.1177/21582440231167346>
- Şahin Perçin, N., & Yiğit, S. (2020). Tripadvisor da yer alan yiyecek ve içecek işletmeleri hakkındaki e-şikayetlerin değerlendirilmesi: Kapadokya bölgesi örneği. *Journal of Tourism and Gastronomy Studies*, 8(4), 2985-3001.
- Şalvarcı, S. (2022). Destinasyon pazarlaması bağlamında Türkiye'deki kültürel rotaların pest analizi ile incelenmesi. *Dokuz Eylül Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 24(1), 405-419. <https://doi.org/10.16953/deusosbil.1027989>
- Topuz Cerrah, N., & Armatlı Köroğlu, B. İ. L. G. E. (2024). Sustainable tourism as a way to cope with local economic vulnerabilities: The Ürgüp, Cappadocia case. *Sustainable Development*, 35(4), 452-466.
- Tucker, H., & Emge, A. (2010). Managing a world heritage site: The case of Cappadocia. *Anatolia*, 21(1), 41-54.
- TÜİK (Türkiye İstatistik Kurumu). (2024). Turizm İstatistikleri IV. Ceyrek: Ekim - Aralık, 2023. Yayımlanma Tarihi: 31 Ocak 2024, Saat: 10:00, Sayı: 53661. Erişim Tarihi: 26 Aralık 2024, <https://data.tuik.gov.tr/Bulten/Index?p=Turizm-Istatistikleri-IV.-Ceyrek:-Ekim---Aralik,-2023-53661>
- Yang, Y., Wang, Z., Shen, H., & Jiang, N. (2023). The impact of emotional experience on tourists' cultural identity and behavior in the cultural heritage tourism context: An empirical study on Dunhuang Mogao Grottoes. *Sustainability*, 15(11), 8823.
- Yılmaz, A., & Aktaş, S. G. (2015). The reflections of the recent global economic crisis on the Turkish tourism sector: The sample of Fairy Chimneys Area (Cappadocia). In *Hospitality, Travel and Tourism: Concepts, Methodologies, Tools and Applications* (pp. 934-944). IGI Global. <http://doi.org/10.4018/978-1-4666-6543-9.ch054>
- Zeng, Y., Liu, L., & Xu, R. (2022). The effects of a virtual reality tourism experience on tourist's cultural dissemination behavior. *Tourism and Hospitality*, 3(1), 314-329. <https://doi.org/10.3390/tourhosp3010021>

KATKI ORANI CONTRIBUTION RATE	AÇIKLAMA EXPLANATION	KATKIDA BULUNANLAR CONTRIBUTORS
Fikir ve Kavramsal Örgü <i>Idea or Notion</i>	Araştırma hipotezini veya fikrini oluşturmak <i>Form the research hypothesis or idea</i>	Nurten ULUSAY Özge KAYA Nazife KAYA
Tasarım <i>Design</i>	Yöntem ve araştırma desenini tasarlamak <i>To design the method and research design.</i>	Özge KAYA Nurten ULUSAY Nazife KAYA
Literatür Tarama <i>Literature Review</i>	Çalışma için gerekli literatürü taramak <i>Review the literature required for the study</i>	Nurten ULUSAY Özge KAYA Nazife KAYA
Veri Toplama ve İşleme <i>Data Collecting and Processing</i>	Verileri toplamak, düzenlemek ve raporlaştırmak <i>Collecting, organizing and reporting data</i>	Özge KAYA Nurten ULUSAY Nazife KAYA
Tartışma ve Yorum <i>Discussion and Commentary</i>	Elde edilen bulguların değerlendirilmesi <i>Evaluation of the obtained finding</i>	Nurten ULUSAY Özge KAYA Nazife KAYA

Destek ve Teşekkür Beyanı/ *Statement of Support and Acknowledgment*

Bu çalışmanın yazım sürecinde katkı ve/veya destek alınmamıştır.

No contribution and/or support was received during the writing process of this study.

Çatışma Beyanı/ *Statement of Conflict*

Araştırmacıların araştırma ile ilgili diğer kişi ve kurumlarla herhangi bir kişisel ve finansal çıkar çatışması yoktur.

Researchers do not have any personal or financial conflicts of interest with other people and institutions related to the research.

Etik Kurul Beyanı/ *Statement of Ethics Committee*

Bu çalışmada kullanılan veri toplama yöntemi Reddit platformu kullanılarak yapılan bir analize dayanmaktadır. Reddit, kullanıcıların paylaşımlarını herkese açık hale getiren bir sosyal medya platformu olduğundan, bu platformda paylaşılan gönderiler ve yorumlar herkesin erişimine açıktır. Dolayısıyla katılımcı gizliliği ve onayı açısından etik kurul onayına ihtiyaç duyulmamaktadır. Çalışmada yalnızca kamuya açık kaynaklardan elde edilen veriler kullanılmış, anonimleştirilmiş kullanıcı yorumları analiz edilmiştir. Araştırma kamuya açık, gönüllü veriler kullanılarak gerçekleştirildiği için katılımcılardan herhangi bir kişisel veri toplanmamıştır. Bu bağlamda, çalışma herhangi bir etik sorun teşkil etmemektedir ve veri toplama süreci tamamen şeffaf bir şekilde yürütülmüştür.

The data collection method used in this study was based on an analysis conducted using the Reddit platform. As Reddit is a social media platform that makes users' posts publicly accessible, the shared posts and comments on this platform are available to everyone. Therefore, there is no need for ethics committee approval in terms of participant privacy and consent. The study utilized data obtained solely from publicly accessible sources, analyzing anonymized user comments. Since the research was conducted using publicly available, voluntary data, no personal data was collected from participants. In this context, the study does not pose any ethical concerns and the data collection process was carried out in a completely transparent manner.



This study is licensed under a [Creative Commons Attribution-NonCommercial 4.0 International License \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/).