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Examining Destination Image Sentiment and Influencing Factors in Mega Sport Events: A Multilingual Analysis of YouTube Comments

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Abstract

This study examines the impact of mega-events on public sentiments and perceptions of the host destination through social media. Drawing on cognitive appraisal theory, the research examines factors that positively and negatively affect public sentiments toward the destination. User-generated content (UGC) was collected from FIFA's official YouTube channel, which hosts more than 11,000 videos. Four videos relevant to the study were selected from the dataset, and 220,426 comments written in 55 different languages were extracted using Python-based language identification tools. The data were analyzed using a combination of methods, including the multilingual BERT model, Latent Dirichlet Allocation (LDA), and human-assisted interpretation, to identify destination image scenarios associated with the mega-sport event. The findings discussed the positive and negative sentiments expressed by the public toward the destination before and after the mega event. Our results showed that the opening and closing ceremony footage of the sports event, as well as the preparation and organization of the event, have not only attracted a favorable image toward the host destination but also helped mitigate negative and controversial issues associated with human rights and labor abuse, primarily raised by Western media. Despite earlier concerns about labor and human rights abuses, the situation has improved the perception of Middle Eastern nations, such as Qatar, as tourism destinations. Furthermore, from the pre-event phase to the end of the tournament, social media users continuously expressed positive sentiments, underscoring the power of digital communication in influencing perceptions of the host venue. The study discussed theoretical and practical implications and directions for future studies.

Keywords: Destination Image, Big Data, Machine Learning, Sports events, Event tourism, Qatar 2022, World Cup

Introduction

An image of a destination or a nation plays a vital role in destination marketing and management. Scholars have noticed that the image of a destination influences travel intention, destination choice, and positioning (Xu et al., 2023; Zuo et al., 2023). Countries worldwide focus on maintaining a favorable destination image. Among the leading destination image-building mechanisms, mega sports events such as the World Cup, play a crucial role in portraying a positive image of a destination, thereby reinforcing travel intentions and tourist flows. Over the past decade, digital platforms, mainly social media (Cheng et al., 2017; Wilk et al., 2024), have become pivotal in the tourism industry, profoundly influencing the image of destinations through their unique capacity for user-generated content (Kim et al., 2017). A prime example is the FIFA World Cup Qatar 2022, which received massive media coverage and social media engagement, reaching an estimated 5 billion people worldwide through 93.6 million posts and 5.95 billion interactions across social media platforms (FIFA, 2023, para. 3). While research explores how mega-event organizers and host countries leverage social media for promoting a destination (Lin et al., 2021), a gap remains in understanding how sports events influence destination image and public sentiment toward the host region.

Social media facilitates two-way communication, enabling organizers to promote destinations while allowing users in virtual communities to share their emotions, opinions, and behaviors in response to the organizers' content. This two-way interaction dynamic underscores the importance of examining whether the destination image presented through social media elicits positive sentiments and, if so, what factors contribute to these perceptions. Drawing on cognitive appraisal theory, individuals' emotional responses can be understood as outcomes of their cognitive evaluations of event-related experiences and underlying characteristics inherent in the events (Bagozzi et al., 1999; Johnson & Stewart, 2005). In the context of mega events, cognitive appraisal

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3 theory posits that users' emotional expressions on social media stem from their appraisal processes,
4 where individuals interpret and assign meaning to event-related information (Johnson & Stewart,
5 2005). Furthermore, while recent studies have advanced our understanding of public perceptions
6 toward mega-event hosts using Twitter data (e.g., Dun et al., 2022; Hassan & Wang, 2024; Wang,
7 2023), they primarily rely on single-language sentiment analysis and often lack a strong theoretical
8 foundation, such as cognitive appraisal theory, to explain destination image formation. Mega-sport
9 events, such as the FIFA World Cup Qatar 2022, attract vast global audiences, reflecting the
10 worldwide reach and influence of these events.

21 Given the multilingual nature of global audiences surrounding events such as the FIFA World
22 Cup, applying cognitive appraisal theory enables a deeper understanding of how individuals' diverse
23 linguistic backgrounds influence their interpretation and assignment of meaning to personally
24 significant experiences, which may reveal both cultural similarities and differences (Yeo & Ong,
25 2024). A multilingual approach is therefore particularly valuable, as language captures distinct
26 cultural expressions and emotional appraisals embedded in user-generated content (Yeo & Ong,
27 2024). Hence, the research questions of this study are 'what sentiments are expressed by social media
28 users in multiple languages regarding the mega sport events', 'why does sentiment intensity differ
29 across different stages of mega sport events?' and 'what factors contribute to positive and negative
30 perceptions of Qatar's destination image in the context of mega sport event, as reflected in user-
31 generated social media content?'

46 Accordingly, this study seeks to accomplish two broad objectives. First, it aims to explore the
47 sentiments expressed by social media users about the mega sport in three global languages, with
48 Qatar serving as the focal point of the destination image. This would help to uncover underlying
49 similarities and differences in sentiment expression and destination image formation across different
50 cultures and languages. Second, it seeks to examine the factors that influence both positive and
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3 negative perceptions of the host destination image in relation to the mega-sport event. This effort
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5 helps elucidate the underlying reasons for forming favorable and unfavorable perceptions of a
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7 destination image by analyzing social media data. To achieve its objectives, the study employs an
8
9 innovative approach that integrates cognitive appraisal theory with multilingual data analysis,
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11 utilizing the multilingual BERT model, Latent Dirichlet Allocation (LDA), and human-assisted
12
13 interpretation. In doing so, the study addresses a significant research gap, as destinations like the
14
15 Middle East have historically received limited scholarly attention regarding the impact of hosting
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17 mega global events on their destination image. Extant efforts also lack a multilingual emphasis,
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19 where the responses of diverse linguistic groups to international sports events are rarely analyzed in
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21 a single study. By analyzing the responses of a culturally diverse audience, this study enriches the
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23 literature while also setting a precedent for future research on mega-events hosted in emerging global
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25 regions.
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31 Methodologically, this study draws on user-generated multilingual UGC from YouTube
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33 videos, analyzed through BERTopic, which is an Artificial Intelligence (AI) technique that integrates
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35 deep learning with LDA topic modeling supplemented by human-assisted interpretation. This
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37 triangulated approach addresses recent scholarly calls (e.g., Cheng, 2025) to overcome geographical
38
39 barriers in destination image research. Unlike traditional impact assessments that rely on surveys,
40
41 economic indicators, or media reports, our method engages with large-scale, unstructured
42
43 multilingual textual data that is inherently tied to cultural expression. The richness of social media
44
45 further enables the examination of individual perceptions before, during, and long after mega-events,
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47 providing insights into the public image of host destinations. The following sections present the
48
49 literature review, methods, results, discussion, and conclusions.
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53 **Literature Review**

54 **Destination image formation and sport tourism**

55 Destination image is commonly recognized as the principal tool for understanding and determining
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3 the success of destinations in the tourism market. In earlier times, destination image was defined as
4
5 ‘the sum of a person’s beliefs, ideas, and impressions of a destination’ (Crompton, 1979, p. 18). Also,
6
7 Baloglu and McCleary (1999) defined destination image as an “individual’s mental representation of
8
9 knowledge (beliefs), feelings, and global impressions about a destination (p. 870). In such contexts,
10
11 the destination image encapsulates a comprehensive assessment of tourists' perceptions, attitudes,
12
13 and reflections towards the destination and its surrounding facilities. Concerning such destination
14
15 image perspectives, most studies conceptualize destination image as an ‘emotional construct’
16
17 (Sharma & Nayak, 2018; Stylidis, Woosnam, & Ivkov, 2020). This indicates that tourists’
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19 perceptions of the destination image determine the level and extent of competitiveness of a particular
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21 destination.
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26 The attractions that determine a destination’s image include nature-based attractions (Khanh,
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28 2020; Li & Wu, 2019; Jiang et al., 2018), cultural tourism, and special interest resources (Ab Karim
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30 & Chi, 2010; Suhartanto, Clemes, & Wibisono, 2018). Likewise, sports events have helped shape a
31
32 destination's image and enrich tourist flows (Morgan et al., 2021). This is particularly true when the
33
34 event is well-organized and widely publicized. A study by Huseynzade (2020) found that an event
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36 image has a positive influence on the destination image, which in turn affects tourists’ satisfaction
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38 and their intention to revisit the destination. However, the reverse effect, whereby the destination
39
40 image influences the image of an event, was found to be nonsignificant, suggesting that the event
41
42 itself plays a more dominant role in shaping destination image. Moreover, sports events could be
43
44 utilized as strategic tools for destination branding. Bazzanella et al. (2023) conducted a systematic
45
46 review and concluded that sports events can serve as unique assets for host destinations, offering
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48 visibility, economic benefits, and opportunities for repositioning a destination in the global tourism
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50 market. Their findings show that sports events can help destinations recover from crises (e.g., post-
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52 COVID-19) and attract new market segments.
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3 While sports events can enhance a destination's image, the impact is not always uniformly
4 positive (Kusumah & Wahyudin, 2024; Lin et al., 2021). Poor organization, negative media coverage,
5 or socio-political controversies can damage a destination's reputation. Moreover, the long-term
6 impact on destination image depends on sustained marketing efforts and the integration of sports
7 events into broader tourism strategies. Although previous studies have examined the features of
8 sports events and their impact on destination image (Kim & Choe, 2024; Küster-Boluda et al., 2023),
9 scholars have highlighted the limited exploration of how mega sports events influence destination
10 sentiment using big data, particularly from social media (Cheng et al., 2017). Although some studies
11 examine mega sports events occurring in Western contexts, there is limited knowledge regarding
12 tourists' perceptions and sentiments toward mega sports events hosted in non-Western contexts
13 (Senbeto et al., 2024). Hence, considering the aforementioned research gap on the adoption of big
14 data analysis and mega sports events hosted in non-Western contexts, this study explores the
15 sentiments expressed by social media users toward the mega sports event and the factors influencing
16 the destination image in this context.

35 **Cognitive appraisal theory**

36 Developed by Richard Lazarus in the 1960s, cognitive appraisal Theory posits that emotions arise
37 from an individual's interpretation of events and their perceived significance for personal well-being
38 (Lazarus, 1984). Emotional responses and stress are shaped not by the events themselves, but by how
39 individuals evaluate and react to them (Bagozzi et al., 1999; Johnson & Stewart, 2005; Smith &
40 Ellsworth, 1985). Watson and Spence (2007) provide an integrative review of cognitive appraisal
41 theory, highlighting four key appraisals that can predict a wide range of consumption-related
42 emotions: (1) Outcome desirability shows whether the outcome of a situation is positive or negative;
43 (2) Agency who or what caused an event, whether oneself, another person, or external circumstances;
44 (3) Fairness indicates how morally appropriate an event is perceived to be; and (4) Certainty is the
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3 perceived likelihood of a particular event occurring. More recently, Yeo and Ong (2024) conducted
4 a meta-analytic review spanning the last six decades and identified 47 distinct appraisal approaches.
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7 Scholars have applied these approaches using various theoretical orientations, methodologies,
8
9 samples, and contexts. Despite this diversity, goal-related appraisal, agency, normative significance,
10
11 and certainty consistently emerge as important differentiators of emotional responses.
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14 This perspective has been widely applied in tourism research, particularly in studies
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16 examining tourists' attitudes and evaluations of destinations based on personal experiences,
17
18 expectations, and information from promotional sources (Baloglu, 1998; Chew & Jahari, 2014).
19
20 More recently, cognitive appraisal theory has gained traction in tourism literature as a framework for
21
22 understanding emotional responses to travel experiences (Bai et al., 2024; Song & Lu, 2024). As a
23
24 componential theory of emotion, it emphasizes that emotions are dynamic and evolve through
25
26 continuous interaction between the individual and their environment. Unlike broader emotion
27
28 theories that focus on general cognitive influences, appraisal theories identify specific evaluative
29
30 dimensions, such as relevance, coping potential, and normative significance that shape emotional
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32 differentiation (Moors et al., 2013; Senbeto, 2025; Troiano et al., 2023).
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37 Cognitive appraisal theory also provides a structured model for analyzing emotional
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39 processes, including primary appraisal (evaluating whether an event is irrelevant, positive, or
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41 stressful), secondary appraisal (assessing coping resources), and reappraisal (re-evaluating the event
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43 as new information emerges). As Roseman et al. (1990) explain, "evaluations and interpretations of
44
45 events, rather than events per se, determine whether an emotion will be felt and which emotion it will
46
47 be" (p. 899). This framework helps explain why individuals may experience different emotions in
48
49 response to the same event, destination, or scenario (Siemer et al., 2007). In this study, cognitive
50
51 appraisal theory is adopted to examine destination image in the context of mega sport events, with a
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53 focus on identifying factors that influence both positive and negative perceptions before and after the
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3 event.

4 **Sentiment analysis**

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6 People's sentiments toward hosting mega-events, such as the World Cup, have been increasingly
7 explored in the literature, particularly through platforms like Twitter (Dun et al., 2022; Hassan &
8 Wang, 2024; Ishac et al., 2024). For example, Dun et al. (2022) collected and analyzed 4,458,914
9 tweets containing the word “Qatar” over six months to examine public perceptions of Qatar as the
10 host nation of the FIFA Men’s World Cup. They employed a combination of manual coding and
11 computer-assisted analysis. Their findings suggest that hosting a mega sporting event does not
12 necessarily improve a nation's branding or enhance its soft power, especially in the Global North.
13 Hassan and Wang (2024) examined public opinion on the use of sport as a tool for soft power through
14 Twitter data collected during the one-month World Cup period. Using RoBERTa, a machine
15 learning-based sentiment analysis model, their findings indicate a decline in the prominence of
16 political and social issues as the tournament progressed, offering insights into the temporal dynamics
17 of online discourse during major events. Similarly, Ishac et al. (2024) used a lexicon-based approach
18 to analyze Arabic-language tweets from the Gulf Cooperation Council (GCC) region. Their results
19 show a significant increase in positive sentiment during the tournament. They also found that Arabic
20 tweets from outside the GCC region reflected similarly positive perceptions of the event and host
21 country.
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43 While recent studies (e.g., Dun et al., 2022; Hassan & Wang, 2024) have advanced our
44 understanding of public sentiment during the 2022 FIFA World Cup using Twitter data, they
45 primarily rely on text-based analysis and predominantly focus on sentiment. In contrast, YouTube
46 remains an underutilized yet highly valuable platform for analyzing destination images. This is
47 because videos provide a vivid and interactive medium for event organizers to promote events and
48 host destinations (Tafesse, 2020). Moreover, most previous studies rely on a single language analysis
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of sentiment, typically English or Arabic, which limits their cultural scope. A multilingual perspective is better to capture the full range of global audience reactions. YouTube also provides more space for viewers to express opinions through comments, and users tend to engage more deeply with video content by spending more time watching and processing visuals. This leads to more immersive and informed evaluations of host destinations. Methodologically, prior studies often use lexicon-based or manual coding approaches, which constrain scalability and depth. Hence, there is a need to analyze the large volume of multilingual social media data to better understand the impact of mega sports events on destination image, especially in under-explored regions such as the Middle East (Mamo et al., 2024). By incorporating a more advanced, state-of-the-art sentiment analysis approach on a visual medium and a multilingual analysis of data. The present study addresses the limitations of extant studies and contributes to the literature. The findings provide a more comprehensive and multimodal understanding of how mega sporting events influence destination image.

Methods

Context and Data Collection

This study employed purposeful sampling to collect user-generated content (UGC) from FIFA's official YouTube channel. Established in September 2006, the channel has posted over 11,000 videos as of the data collection period, garnering more than 7 billion total views and attracting over 22 million followers. FIFA's YouTube channel was selected for this study for several reasons. First, as the official channel of the world's most prestigious soccer organization, FIFA's YouTube content is professionally curated to portray Qatar's destination image both before and after the event. Second, YouTube videos provide rich content at relatively low cognitive effort for consumers (Roma & Aloini, 2019), making the platform well-suited for fostering high interactivity and user engagement. Additionally, each video includes a variety of metadata, such as titles, thumbnails, descriptions, views, likes, comments, replies, duration, and publication dates, offering a comprehensive dataset for

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3 analysis (Tafesse, 2020). Third, YouTube stands as one of the longest-established social media
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5 platforms. Finally, YouTube's audiovisual format enables viewers to both see and hear content,
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7 allowing for a more immersive and nuanced understanding compared to text- or image-based
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9 platforms such as Twitter or Instagram. With YouTube's global reach and FIFA's influence across
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11 over 200 countries, the platform enables the evaluation of Qatar's destination image using a more
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13 representative and diverse sample than surveys or country-specific studies. The data for this study
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15 were collected using the YouTube Data API v3, focusing on videos posted between November 18,
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17 2022, and December 18, 2022, aligning with the duration of the event (Hassan & Wang, 2024).
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19 During this period, a total of 524 videos were identified. After reviewing the video titles, descriptions,
20
21 and thumbnails, four videos were selected for their relevance to the FIFA World Cup 2022,
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23 particularly concerning the event's opening and closing ceremonies, as well as content about Qatar's
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25 destination image.
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31 These four videos were posted between November 18 and November 22, 2022. The first
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33 video, featuring Jung Kook (of BTS) and Fahad Al Kubaisi performing "Dreamers" for the FIFA
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35 World Cup 2022 soundtrack, was posted on November 22, 2022, and garnered 266,936,327 views,
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37 5,819,504 likes, and 274,087 comments. The second video, titled "Tukoh Taka - Official FIFA Fan
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39 Festival™ Anthem," featuring Nicki Minaj, Maluma, and Myriam Fares, was posted on November
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41 18, 2022, and received 167,355,924 views, 1,890,763 likes, and 140,100 comments. The third video,
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43 showcasing the FIFA World Cup Qatar 2022 closing ceremony, was also posted on November 18,
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45 2022, and accumulated 63,391,612 views, 771,963 likes, and 29,439 comments. Finally, the fourth
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47 video, which highlights Jung Kook's performance of "Dreamers" at the opening ceremony, was
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49 posted on November 18, 2022, and attracted 60,545,242 views, 1,976,238 likes, and 72,868
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51 comments. The four videos were purposively selected from FIFA's official webcast based on their
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53 clear connection to the concept of destination image. Each video focused on key moments of the
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World Cup that highlighted Qatar's role as the host nation, specifically showcasing the opening and closing ceremonies, local culture, infrastructure, and tourism-related content. In contrast, most other videos from the one month focused on player performance and match highlights, providing limited representation of the host country. Therefore, our selection prioritized content that visually and thematically contributed to shaping Qatar's image as a travel and cultural destination. Through the analysis of these videos, the study aims to explore how the World Cup's opening and closing ceremonies, along with music-related content, contribute to shaping Qatar's destination image in the global context.

Data Preprocessing

First, comments from the four videos were filtered between November 18 and November 22, 2022.

Using the lang detect and re libraries in Python, the data were categorized by language and emoji content. The re.sub() function from the re-package was then used to remove punctuation and special characters from the text. The pattern [^\w\s] matches any character that is not a word character (\w) or whitespace (\s), effectively removing punctuation marks such as commas and periods. This step utilizes the native Python string method lower(), which converts all characters to lowercase for consistency in case. Tokenization, typically performed with libraries like NLTK or spaCy, was implicitly handled by the pre-trained model loaded via the transformers pipeline, as the sentiment_pipeline handles this automatically. The Pandas library ensured the text was valid before performing sentiment analysis, thereby avoiding errors caused by None or other non-string data types.

Analytical Procedures

Furthermore, this study performed sentiment analysis to explore destination images related to mega sports events, based on the World Cup. Sentiment analysis is conducted using the sentiment pipeline, which is initialized with the pre-trained model nlptown/bert-base-multilingual-uncased-sentiment. This model, fine-tuned specifically for sentiment classification, leverages the BERT architecture—a

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2
3 deep learning model that processes text in context rather than in isolation. Unlike traditional rule-
4 based systems, BERT learns patterns from large datasets, which allows it to recognize and classify
5 sentiment based on context. Its self-attention mechanism helps the model focus on relevant parts of
6 the text, while its deep representations capture the meanings of words in context. The model
7 continuously improves through fine-tuning, which helps it better associate text patterns with
8 sentiment labels.
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17 Multilingual data cleaning was implicitly managed by the multilingual model from the
18 transformer's library, specifically, `nlptown/bert-base-multilingual-uncased-sentiment`. Such a
19 multilingual BERT model allows the pipeline to process text in various languages and assign
20 sentiment labels (e.g., positive, negative) without additional preprocessing steps for language
21 identification, as it is fine-tuned for sentiment analysis across multiple languages. BERT captures the
22 overall sentiment by considering the surrounding words in a sentence. The model assigns sentiment
23 on a 1 to 5-star scale, where 1 star represents very negative sentiment, 2 stars indicate negative
24 sentiment, 3 stars reflect neutral sentiment, 4 stars signal positive sentiment, and 5 stars denote very
25 positive sentiment.
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37 **Topic Modeling**

38 Latent Dirichlet Allocation (LDA) was used to classify content by identifying topics based on
39 coherence scores derived from the Gensim model. Coherence scores were calculated for languages
40 selected for analysis, including English, Spanish, and Arabic. In topic modeling, the coherence value
41 measures the semantic similarity between each word in the extracted topics. When the generated
42 topics are semantically interpretable, topic coherence scores tend to be high. Several measures based
43 on the word co-occurrence scores of the most significant terms for each distinct topic have been
44 applied in topic extraction literature. A common best practice to determine how interpretable a topic
45 is involves evaluating the coherence matrix. Once the coherence matrix is used, two assured extracted
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3 topics are considered well interpretable. To validate the generated topics, 20 keywords from each
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5 topic were extracted, and 50 randomly selected comments were reviewed by the first author, who has
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7 experience in coding social media data, to assess their reliability and interpretability. The topics were
8
9 then labeled based on their alignment with theoretical frameworks in relation to existing literature
10
11 (Lee et al., 2020; Mamo, 2025). This process ensured both the validity and theoretical grounding of
12
13 the analysis, combining coherence values with human expert judgment.
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16 17 **Data Analysis**

18 During a one-month period, FIFA's YouTube channel published over 524 videos, highlighting its
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20 high activity during this time. From this collection, we selected four videos relevant to the study's
21
22 context. Figure 1 presents the distribution and frequency of comments. We collected 220,426
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24 comments, and after data cleaning, retained 206,532 comments. Using langdetect, a Python port of
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26 Google's language-detection library, we identified 55 different languages among these comments.
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28 This result reflects the distribution of YouTube comments on the FIFA World Cup opening and
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30 closing ceremonies, highlighting the diverse cultural and linguistic backgrounds represented. English
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32 (en) dominates the conversation with 73,709 comments, highlighting its role as the primary language
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34 for global discussions. Spanish (es), with 28,350 comments, indicates significant participation from
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36 Spanish-speaking countries, likely reflecting the event's popularity in Latin America and Spain.
37
38 Arabic (ar) contributes 15,829 comments, likely due to the World Cup being hosted in Arab regions.
39
40 Indonesian (id) and Portuguese (pt), with 8,642 and 8,008 comments, respectively, demonstrate
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42 notable engagement from Southeast Asia and Lusophone countries, such as Brazil, a football
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44 powerhouse. Tagalog (tl), with 7,016 comments, highlights active participation from the Philippines,
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46 while Korean (ko), with 5,555 comments, shows active participation from the Korean region.
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54 Insert Figure 1 here.
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56 Smaller numbers of comments, in the thousands, come from languages like Estonian (et),
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3 Afrikaans (af), and Somali (so), indicating a vast cultural reach. Comments in German (de), Russian
4 (ru), and French (fr) further illustrate the global diversity of the audience. Swahili (sw), with 4,283
5 comments, points to growing interest in East Africa, while Finnish (fi), Vietnamese (vi), and Dutch
6 (nl) showcase engagement from their respective regions. Turkish (tr), Persian (fa), and Croatian (hr)
7 are also featured in the data, reflecting cultural pride and connection to the global event. Additionally,
8 there are 31 languages with fewer than 1,679 occurrences, which were not recognized by the software
9 in 16,662 identified comments. Figure 2 illustrates the language categories that facilitate a more
10 focused analysis, based on their frequency in the data, and labels them accordingly. The most frequent
11 languages include those with the highest frequencies, such as English, Spanish, and Arabic, which
12 reflect the broadest global reach. The languages common to specific regions feature exhibits
13 moderate frequencies, such as Indonesian, Afrikaans, and Korean, indicating regional engagement.
14 Other notable languages include those with lower frequencies but still significant cultural
15 representation, such as German, Swahili, Russian, and French. Meanwhile, Less Frequent and
16 Specialized Languages represent rare languages, such as Slovak and Romanian, with minimal
17 occurrences. Lastly, rare languages, such as Hungarian and Japanese, appear infrequently, suggesting
18 niche audiences with specific cultural connections. This classification helps provide a clearer
19 understanding of the global and regional diversity in the dataset. There are 139,839 comments
20 without emojis and 80,587 comments with emojis. The dataset's word count ranges from 0 to 2124
21 words, with a median of 5 words and a mean of 8.944 words. For character count, the data ranges
22 from 0 to 8712 characters, with a median of 30 characters and a mean of 51.73 characters. This
23 analysis includes emojis, which contribute to the higher character count.
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55 **Results and discussion**

56 **Destination image through sentiments expressed toward a mega sports event**

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3 The results indicate that the sentiment distribution reveals a significant positive response overall. The
4 highest number of comments, 140,247 (68%), corresponds to 5-star ratings, reflecting strong
5 approval and satisfaction. Figure 3 shows the sentiment distribution categorized by star level. This is
6 followed by a notable group of 1-star ratings, with 30,386 (15%) comments indicating areas of
7 dissatisfaction. The 3-star ratings, totaling 23,392 comments, suggest a more neutral stance.
8
9 Meanwhile, the 4-star ratings, with 8,163 comments, indicate generally positive feedback. The 2-star
10 ratings, with 4,344 comments, indicate some dissatisfaction, although it is relatively low compared
11 to the higher ratings. The predominantly positive sentiment can be attributed to the experiences and
12 reactions of social media users while watching various videos. As they process the information, they
13 contribute to their own positive perceptions. Since this study analyzes comments from social media
14 users who actively engage with the videos, the positive sentiment reflects individual evaluations and
15 interpretations of the 2022 World Cup. Given that these videos have been viewed by hundreds of
16 millions of people worldwide, Qatar may experience increased travel intentions from potential
17 tourists in the future.
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35 The findings show that while the positive sentiment outweighs the negative, approximately
36 20% of the responses are negative. This aligns with the cognitive appraisal theory, which suggests
37 that individuals exposed to the same stimuli may experience different emotions (Nguyen et al., 2024;
38 Qu et al., 2024). In this case, individuals process information in different ways. For example, some
39 may perceive Qatar as using the World Cup primarily as a soft power strategy rather than as a genuine
40 effort to integrate sports into its cultural, political, and economic structures.
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51 Insert Figure 3 here.
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53 **Differences in destination sentiments between pre-event and post-event periods**

54 The findings also revealed differences in the destination image, as evidenced by shifts in sentiment
55 between the pre-event and post-event periods. Figure 4 provides an overview of the proportional
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3 distribution of sentiment ratings (1 star to 5 stars) over time. The overall trend shows that highly
4 positive sentiments (5 stars), representing strong approval and satisfaction, consistently dominated
5 in late November, starting above 75%, but gradually declined to the 40%-50% range by mid-
6 December. In contrast, the 1-star ratings, indicating significant dissatisfaction and negative feedback,
7 slightly increased, rising from around 11% in late November to nearly 30% in mid-December. Middle
8 ratings, i.e., 2-4 stars, remained relatively stable with minor fluctuations. 3-star ratings, representing
9 a neutral stance, typically accounted for 10%-20%, while 2-star and 4-star ratings, reflecting areas of
10 slight dissatisfaction and generally positive feedback, stayed at lower proportions. The decline in 5-
11 star ratings corresponds with the rise in 1-star ratings, signaling a noticeable shift in sentiment over
12 time.
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26 The predominantly positive sentiment observed throughout the study remained consistent
27 over time, suggesting a stable emotional response from social media users. This aligns with cognitive
28 appraisal theory, which posits that individuals evaluate and interpret stimuli based on their personal
29 experiences, emotions, and cognitive frameworks (Doan et al., 2024; Song & Lu, 2024). As users
30 engaged with video content related to the 2022 World Cup, they continuously processed the
31 information, reinforcing their positive perceptions. These reactions were shaped by their exposure to
32 the online event and the broader narratives and content presented in the videos. Such consistent
33 positive sentiment suggests that individuals favorably appraised the event, associating it with their
34 pre-existing beliefs and ideas about Qatar, soccer, and perhaps even shared experiences within the
35 YouTube community. This provides empirical evidence to support Baloglu and McCleary's (1999)
36 assertion that positive experiences shape global impressions. The persistent positive sentiment
37 indicates that users not only enjoyed the content but also internalized and reinforced their favorable
38 interpretations over time.
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Insert Figure 4 here.

Factors influencing destination images and sentiments

The findings examine the factors that influence the destination image. We focused on analyzing the most frequent languages (e.g., English, Spanish, and Arabic) to gain more relevant and representative insights and to ensure efficient resource allocation. This approach is critical, as this study is among the few that explore varying levels of language use. Tables 1, 2, and 3 present the topic statements expressed in the three main languages: English, Spanish, and Arabic. The findings indicate that, across the three languages analyzed, a common factor contributing to positive sentiment was the cognitive appraisal of music appreciation and collaboration among artists, which fostered collective support across diverse language groups, reflecting outcome desirability (Bagozzi et al., 1999). This suggests that the music performance was perceived as both desirable and personally relevant, representing a general evaluation of pleasantness (Watson & Spence, 2007). These findings highlight that music can serve as a universal phenomenon appreciated by individuals from different cultures, particularly when presented collaboratively. As shown in the appendices, viewers' emotional responses included admiration, love, and pride, which involve low-effort appraisal and high pleasantness (Smith & Ellsworth, 1985), reflecting the extent to which the situation was perceived as relevant to personal goals and well-being (Lazarus, 1984). For instance, pride is elicited when an individual appraises a situation as aligned with their goals (Roseman, 2001) and is generally associated with positive valence (Bagozzi et al., 1999). In the context of a mega-event, positive sentiment for Jungkook's performance provides a basis for pride, while love and affection are strongly linked to perceptions of pleasantness (Yeo & Ong, 2024).

Insert Table 1 here.

Insert Table 2 here.

Insert Table 3 here.

English-language responses

English-language responses reveal a cohesive and highly positive narrative. Fans primarily express goal-related appraisal, evaluating Jungkook's extraordinary talent and live performances (Topic 1) as well as his collaborations and achievements (Topic 3) as highly desirable and personally meaningful (Watson & Spence, 2007; Bai et al., 2024). Normative significance (fairness) is the next most prevalent, as fans interpret his achievements, such as the World Cup performance and solo debut, as symbolically meaningful within the global ARMY community. Agency is evident in fans' perception that their support and engagement contribute to Jungkook's success, reinforcing pride and collective identity. Finally, certainty is reflected in the confidence with which fans assess his consistent excellence. These appraisals underpin the emotions of love, support (Topic 2), and overwhelming pride (Topic 5), showing how English-speaking fans integrate personal, social, and symbolic evaluations in their emotional responses.

Spanish-language responses

Spanish-language responses display vigorous emotional intensity, with agency as the most prominent appraisal. Fans describe their personal contributions, mobilization, and sacrifices in support of Jungkook (Topics 5–6), highlighting their active role in shaping the outcomes. Goal-related appraisal follows, as fans evaluate his performances and music as fulfilling personal desires and aspirations (Topics 1–2). Normative significance emerges as fans align their actions with collective expectations of the ARMY community, positioning themselves as defenders of the artist. Certainty appears in their confident belief that these efforts positively impact Jungkook's success.

Arabic-language responses

Intense celebratory and communal emotions characterize Arabic-language responses. Goal-related appraisal is the most prominent, with fans evaluating Jungkook and Fahad's performances (Topics

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3 1–2, 9) as highly desirable and meaningful. Normative significance closely follows, emphasizing
4 cultural pride and the social importance of collaborative achievement (Topic 4). Agency is also
5 evident, as fans actively mobilize streams and promotions to support the artists (Topics 7–8).
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7 Certainty is less dominant but present in fans' confident expectations for the artists' continued
8 success. Across the three languages, goal-related appraisal consistently drives emotional responses,
9 reflecting universal recognition of the desirability and personal relevance of Jungkook's
10 performances. Agency is most salient in Spanish responses, highlighting active participation and
11 personal investment, whereas normative significance dominates English and Arabic responses,
12 reflecting the social and cultural meaning of the performances. In particular, Arabic-language
13 comments reveal that individuals evaluated the event through the lens of cultural pride and group
14 identity, emphasizing the representation of Arab artists and the collaborative performance across
15 South Korea, Qatar, and Morocco. This appraisal underscores that fans evaluated the event not solely
16 as a musical performance but also as a symbol of international collaboration and national prestige,
17 consistent with cognitive appraisal theory's focus on self-relevance and group affiliation (Qu et al.,
18 2024; Song & Lu, 2024). Certainty is generally less influential but present across all groups, framing
19 fans' confidence in the positive outcomes of their appraisal. These patterns suggest that while the
20 appraisal of personal goals is universally important, cultural and linguistic contexts influence whether
21 fans prioritize their own agency, collective norms, or social significance in expressing emotions.
22 Arabic-speaking fans, in particular, tend to emphasize identity, pride, and comparative evaluation in
23 their responses.

24 **Conclusion and implications**

25 **Theoretical and Practical Implications**

26 The results of this study offer several theoretical implications. By examining social media users'
27 sentiments through YouTube views and comments, particularly in the context of mega-events, the
28 findings highlight how public emotions influence destination image and demonstrate football's

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3 universal appeal as a unifying event across cultures and continents. First, by adopting cognitive
4 appraisal theory as an interpretive lens, this study provided a nuanced understanding of how mega
5 sporting events shape public sentiment across diverse linguistic and cultural contexts. While prior
6 research has explored destination image in sports settings (Kim & Choe, 2024; Kusumah &
7 Wahyudin, 2024), limited attention has been given to the role of language in shaping appraisals and
8 emotional responses. Our findings show that goal-related appraisal consistently drives emotions
9 across the three languages analyzed, reflecting the universal desirability and personal relevance of
10 the event (Yeo & Ong, 2024). In line with this, the study illustrates how tourists evaluate mega-sport
11 events based on their personal preferences and values. It also explores how they interpret public
12 sentiment surrounding the event, which may influence their travel decisions.
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26 In contrast, agency is most prominent in Spanish responses, highlighting the audience's
27 personal investment in the event, whereas normative significance dominates English and Arabic
28 responses, emphasizing the social and cultural meanings that the audience associates with the event.
29 Arabic-language comments further reveal evaluations shaped by cultural pride and group identity,
30 highlighting the international collaboration and national prestige associated with hosting the FIFA
31 World Cup. These later findings underscore the role of self-relevance and group affiliation in the
32 audience's appraisal of mega-sport events (Qu et al., 2024; Song & Lu, 2024). Certainty is a less
33 dominant but consistently present appraisal across all languages. It reflects tourists' confidence in
34 positive outcomes, such as safety, logistics, and local conditions, when perceived as reliable, and
35 increases the likelihood of them proceeding with travel plans to mega-sport events. The findings offer
36 empirical insights into the cognitive pathways involved, revealing both convergence and divergence
37 in appraisal processes. Emotional valences such as love, admiration, and pride remain predominantly
38 positive. These results contribute to a deeper understanding of how appraisal mechanisms operate in
39 multilingual and multicultural mega-event contexts.
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3 Second, this study contributes to the limited tourism literature on mega-sport events and
4 destination image in non-Western contexts (Cheng et al.,2017), particularly in Middle Eastern
5 settings. Previous research on destination image has largely focused on developed nations, often
6 neglecting the Middle East, a region frequently associated with threats like terrorism and war
7 (Baalbaki & Zizka, 2024; Darabi et al., 2023). By analyzing how positive and negative sentiments
8 are expressed during mega-events, this study provided valuable insights for crisis management
9 relevant to the region. Our results examined destination image formations based on online user-
10 generated data, contributing to the scarce tourism literature in assessing the formation of destination
11 image in the Middle East region through big data analysis. Third, the findings demonstrate
12 methodological advancement by showcasing the potential of integrating quantitative and qualitative
13 big-data approaches to gain a holistic understanding of destination image through sentiment analysis.
14 The analysis has been effective in comprehending social media data (Wilk et al., 2024) and utilizing
15 it as a feedback channel for refining opinions and comments regarding the destination and sports
16 events. Such approaches help extend and monitor tourism development based on customer feedback.
17 The results demonstrate the role of social media, including YouTube data, in shaping destination
18 images during mega-events, highlighting the power of user-generated content and online interactions.

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40 Finally, this study contributes to the sport tourism literature (Chalip et al., 2003; Kaplanidou
41 & Vogt, 2007) by emphasizing the role of social media data in understanding the formation of
42 induced destination image. Building on Byon and Zhang's (2010) conceptualization—which
43 suggests that destination marketing efforts primarily shape images within the sport context—this
44 study extends the theoretical framework into the digital era. It demonstrates how contemporary social
45 media platforms serve as powerful tools for cultivating and influencing public perception. Consistent
46 with Wilk et al.'s (2024) findings on the role of Twitter and online newspapers in defending
47 destination brands, spreading positivity, and fostering activism in disaster-affected regions, this study
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3 extends the discussion to YouTube video comments in the context of a mega-sports event. Given the
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5 emotional intensity and global appeal of mega-sport events such as the FIFA World Cup and the
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7 Olympic Games, the findings illustrate how purposefully crafted content disseminated through social
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9 media influences destination image across multilingual audiences.
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12 Practically, understanding destination images through sentiment analysis toward the
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14 destination has practical implications for managers, marketers, and destination management
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16 organizations. The findings can lead to a deeper understanding of how digital platforms influence
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18 public perceptions and the spread of information, which is crucial for modern marketing strategies.
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20 Building on innovatively constructed sentiment analysis, we captured tourists' sentiment images,
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22 demonstrating their sentiments before, during, and after the event. Overall, the findings revealed
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24 positive comments on destinations, especially the opening ceremony of the World Cup 2022, and the
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26 excellent organization attracted favorable sentiments, contributing to a positive destination image of
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28 Qatar. Contrastingly, human rights and labor abuse issues mentioned by the Western media in the
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30 pre-event phases tend to receive unfavorable evaluations, which in turn result in negative destination
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32 images.
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38 Based on the study's findings, Destination Management Organizations (DMOs) should
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40 strategically manage tourism development by addressing negative sentiments and reinforcing the
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42 positive perceptions the destination has garnered. This approach will help enhance the overall image
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44 and appeal of the destination. For instance, given that positive tourist perceptions and perceived
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46 image help to improve the host destination's image (Van Dyk, Tkaczynski, & Slabbert, 2019),
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48 managers should consider prospective visitors and their desired tourism experiences as part of their
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50 management and strategic development. This paper advances contemporary destination image
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52 studies by utilizing user-generated content and sentiment analysis, with a focus on mega sports events
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54 hosted in non-Western regions. This study's methodology overcomes barriers to transmuting
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3 immense volumes of tourist review data into beneficial sources of information for destination
4 management organizations and policymakers. The findings of this study shed light on the availability
5 and importance of a large volume of reviews, providing more in-depth marketing and managerial
6 information generated by tourists and event attendees.
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10 11 12 **Limitations and directions for future research**

13 This study offers empirical insights into the impact of mega sports events on destination image,
14 examining both positive and negative effects through sentiment analysis. Yet, it has several
15 limitations that need to be acknowledged. First, the study focuses on a specific destination, Qatar,
16 and may not fully represent sentiments and images toward other countries and regions. Second, the
17 present study relies on YouTube data for sentiment analysis, which may not capture sentiments
18 expressed on different platforms and may limit a comprehensive understanding of the destination
19 image in the context of mega sports events. Third, while the study presents qualitative evidence
20 through traveler comments and opinions, the analysis may lack depth and nuance due to the reliance
21 on limited qualitative data sources. Incorporating additional qualitative research methods, such as
22 interviews or surveys, could provide richer insights into the factors influencing changes in sentiment.
23 Replicating the current study in different geographical settings, events, and types of other sports
24 events will also have considerable implications. Future studies could also conduct comparative
25 analyses across various religions and economic contexts.
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43 Finally, a key limitation and future opportunity of this study is its focus on only three
44 languages despite the dataset containing at least 28 languages. These languages were chosen for their
45 prominence and relevance to the FIFA World Cup 2022 audience. However, the dataset includes
46 widely spoken languages, such as French, and region-specific ones like Indonesian, which may not
47 fully capture the diversity of cultural perspectives in the global audience. Future studies should
48 explore a broader range of languages, taking into account the cultural and regional nuances that shape
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3 perceptions of mega-sport events, such as the FIFA World Cup. Studies could provide a more
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5 comprehensive understanding of how multilingual audiences construct their perceptions of
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7 destination images by examining the connection between language and culture.
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For Peer Review

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Figure 1 Distribution and frequency of comments

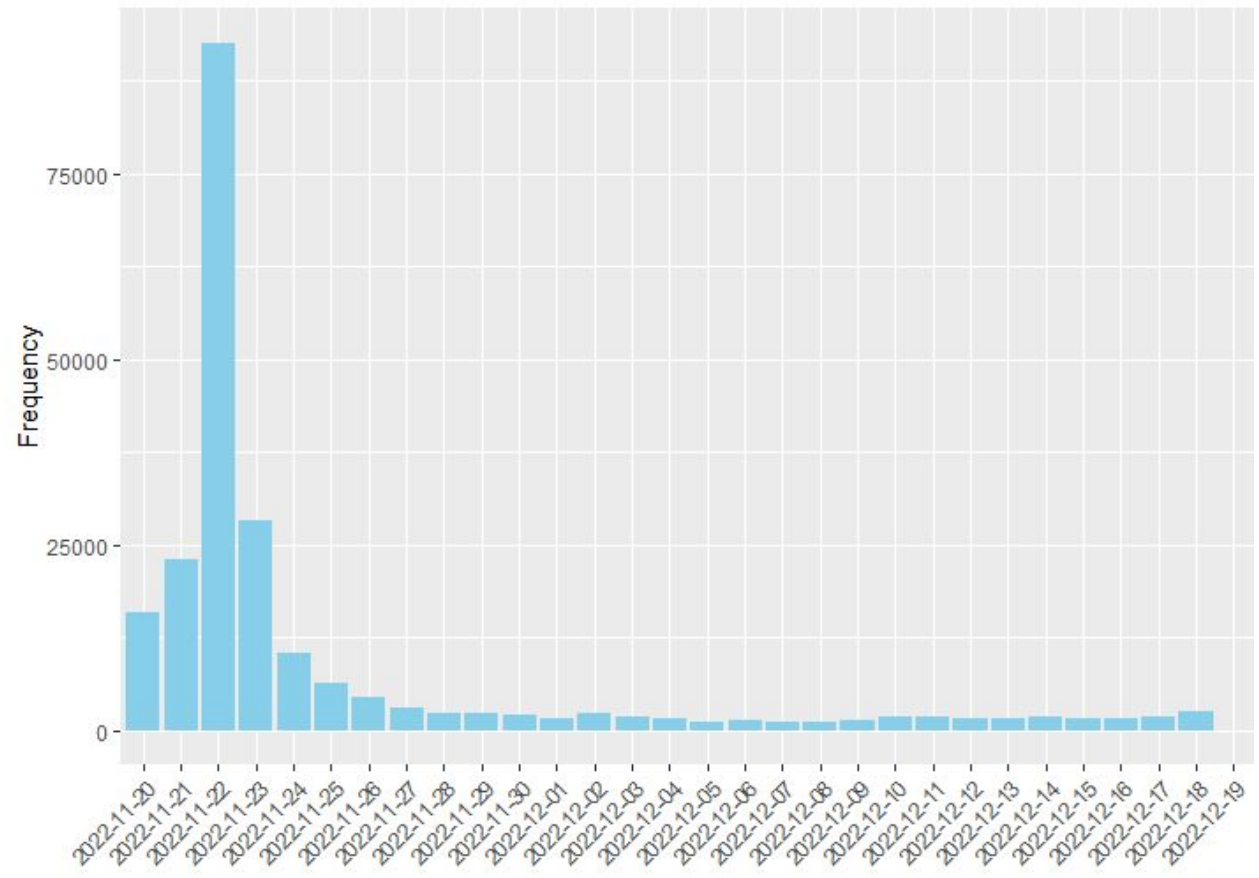


Figure 2 Language-based frequency

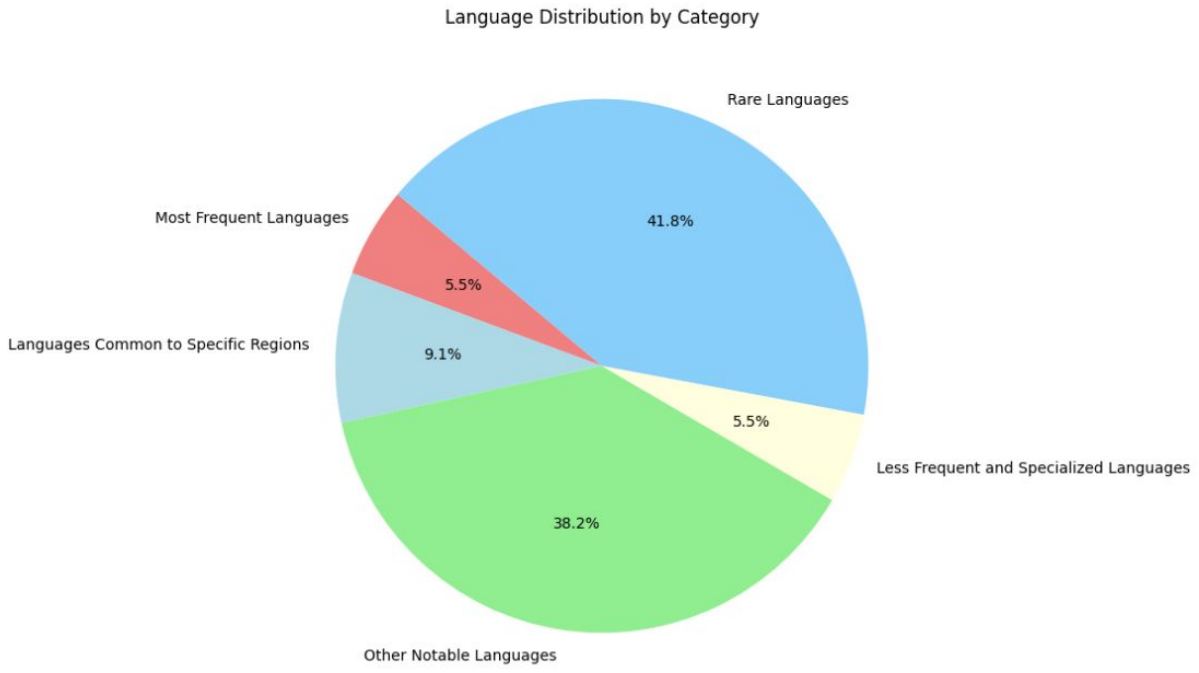


Figure 3 sentiments distribution for sampled data

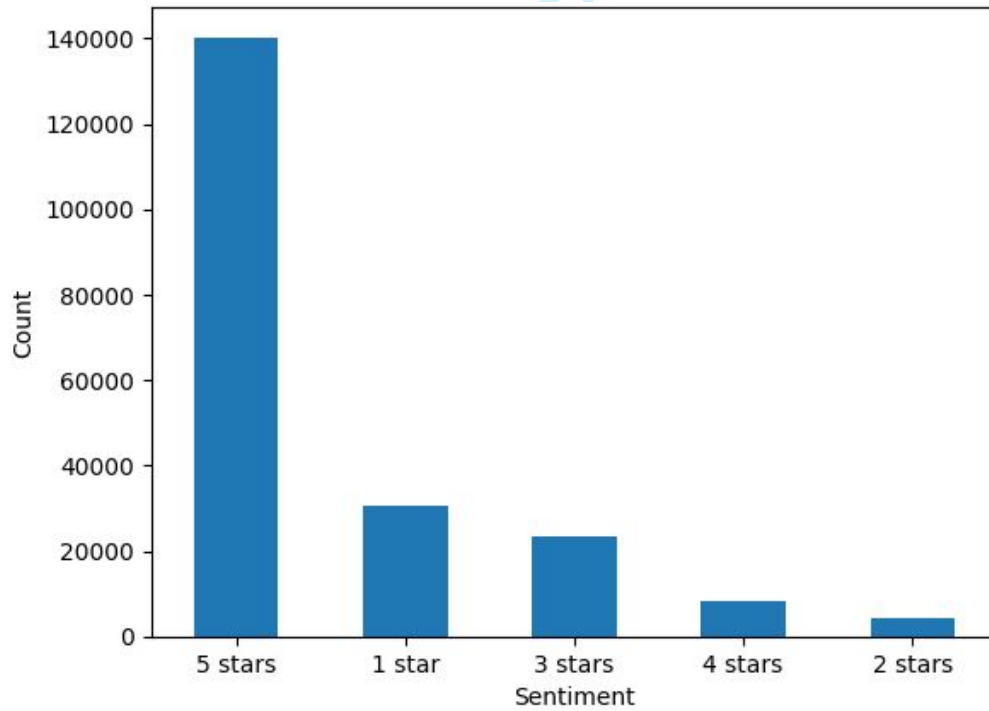
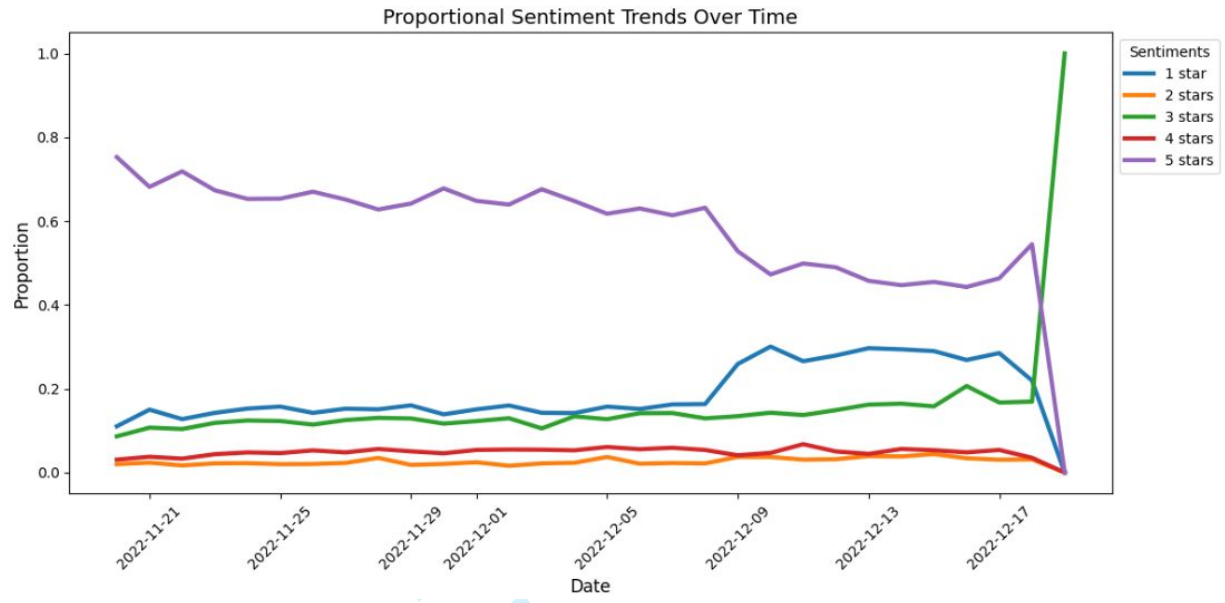


Figure 4 proportional distribution of sentiment ratings



Peer Review

Table 1. Topic statements expressed by English language

| Topic | Theme | Contents |
|---------|----------------------------------|---|
| Topic 1 | Jungkook's Performance & Talent | This topic centers around admiration for Jungkook's live performances, his extraordinary talent, and the pride fans feel seeing him represent BTS on the global stage. |
| Topic 2 | Love and Support for Jungkook | Fans express deep love and affection for Jungkook, celebrating his performances and expressing pride and admiration for him. There's also a strong sense of collective support among fans. |
| Topic 3 | Collaboration and Achievements | This topic emphasizes Jungkook's successful collaborations, particularly in the context of his involvement in major events like the World Cup, with fans expressing pride in his achievements and his artistry. |
| Topic 4 | Music as a Universal Language | Fans discuss how the song transcends cultural barriers, with a focus on the collaboration between Jungkook and Fahad, highlighting the power of music to unite and inspire people worldwide. |
| Topic 5 | Jungkook's World Cup Performance | This topic focuses on the overwhelming pride fans feel for Jungkook's performance at the World Cup, with many emphasizing how significant this achievement is for him and for BTS. |
| Topic 6 | Pride in Jungkook's Success | This topic is marked by fans expressing immense pride in Jungkook's success and career achievements, particularly his notable milestones, such as his solo debut and performances on international stages like the World Cup. |

Table 2. Topic statements expressed by Spanish

| 4 Topics | Theme | Spanish Example | Translation |
|---|--|--|--|
| 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 | Topic 1 Music and Performance Appreciation | "Me encantó, nos trajo recuerdos, me puso la piel de gallina al escuchar nuestros cantos y como siempre JK estuvo genial, la letra de la canción es del estilo de BTS ♥♥♥♥" | <i>(I loved it, it brought us memories, gave me goosebumps listening to our chants, and as always JK was amazing, the song's lyrics are BTS style ♥♥♥♥)</i> |
| 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 | Topic 2 Fan Pride and Support | "Amo leer los comentarios positivos que comienzan con 'no soy fan de BTS pero..... Jungkook y los demás chicos de BTS ofrecen música preciosa, ellos aman realmente la música y lo que hacen, lo hacen con el corazón. Por eso army siempre los apoyará y los va a defender siempre." | <i>(I love reading the positive comments that start with 'I'm not a BTS fan but..... Jungkook and the other BTS members offer beautiful music, they really love music, and what they do, they do with their hearts. That's why Army will always support and defend them.)</i> |
| 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 | Topic 3 Global Impact and Fan Engagement | Jungkook lo hizo perfecto, en tiempo récord se aprendió la coreografía y aunque tuviera nervios él siempre intenta hacer su trabajo de la mejor manera para dejar su país en alto y a army hacerlx orgullosx cada día, te amamos kookie | <i>Jungkook did it perfectly, he learned the choreography in record time, and even though he had nerves, he always tries to do his best to represent his country and make Army proud every day, we love you kookie</i> |
| 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 | Topic 4 Personal Connection and Admiration for | Orgullosa de ti JK lo hiciste increíble i love ♥□♥□ | <i>So proud of you JK, you did amazing, I love ♥□♥□)</i> |
| 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 | Topic 5 Collaboration and Achievements | Vamos Army tenemos que llegar a la meta de vistas, nuestro Golden Maknae se lo merece por esta hermosa canción sin olvidar a Fahad, los dos hicieron un gran trabajo así que apoyémoslos | <i>Let's go Army, we need to reach the view goal, our Golden Maknae deserves it for this beautiful song, not forgetting Fahad, they both did great work, so let's support them</i> |
| 32 33 34 35 36 37 38 39 40 41 | Topic 6 Overcoming Challenges and Celebrating Success | Si soy Army! Y también soy 'a dreamer'! Soy de Costa Rica y en la semana en que inauguraban el Mundial vendí algo que me dió justo para irme para Qatar. Muchos no estaban de acuerdo porque decían que debería ahorrar esa plata, pero Army!!! estar en esos estadios con 65.000 y escuchar a JK ahí y en todo el viaje fue maravilloso!!!! Lo volvería a hacer!!!! | <i>Yes, I am Army! And I am also 'a dreamer'! I'm from Costa Rica and during the week of the World Cup opening, I sold something that gave me just enough money to go to Qatar. Many didn't agree because they said I should save that money, but Army!!! being in those stadiums with 65,000 people and hearing JK there and on the whole trip was amazing!!!! I would do it again!!!</i> |
| 39 40 41 | Topic 7 Dedication and Loyalty of Army | A mí nadie me engaña, la ballena es army 😊😊 | <i>No one can fool me, the whale is Army 😊😊</i> |

Appendices

Figure 1a Topics and coherence score expressed in English

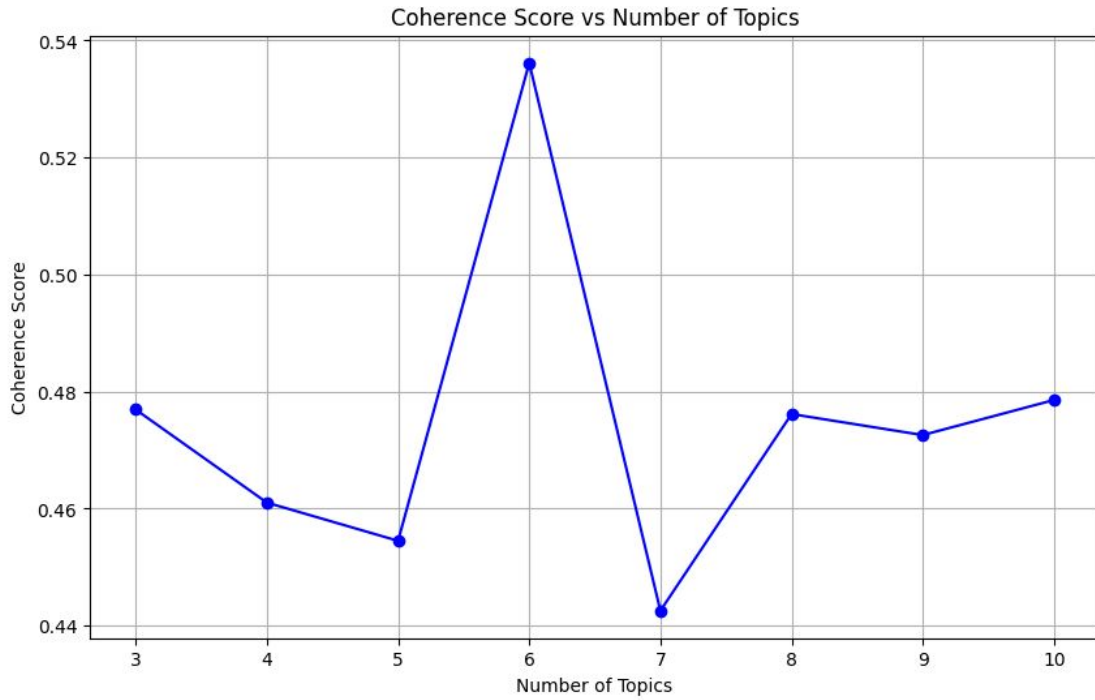


Figure 1b Topics and coherence score expressed in Spanish

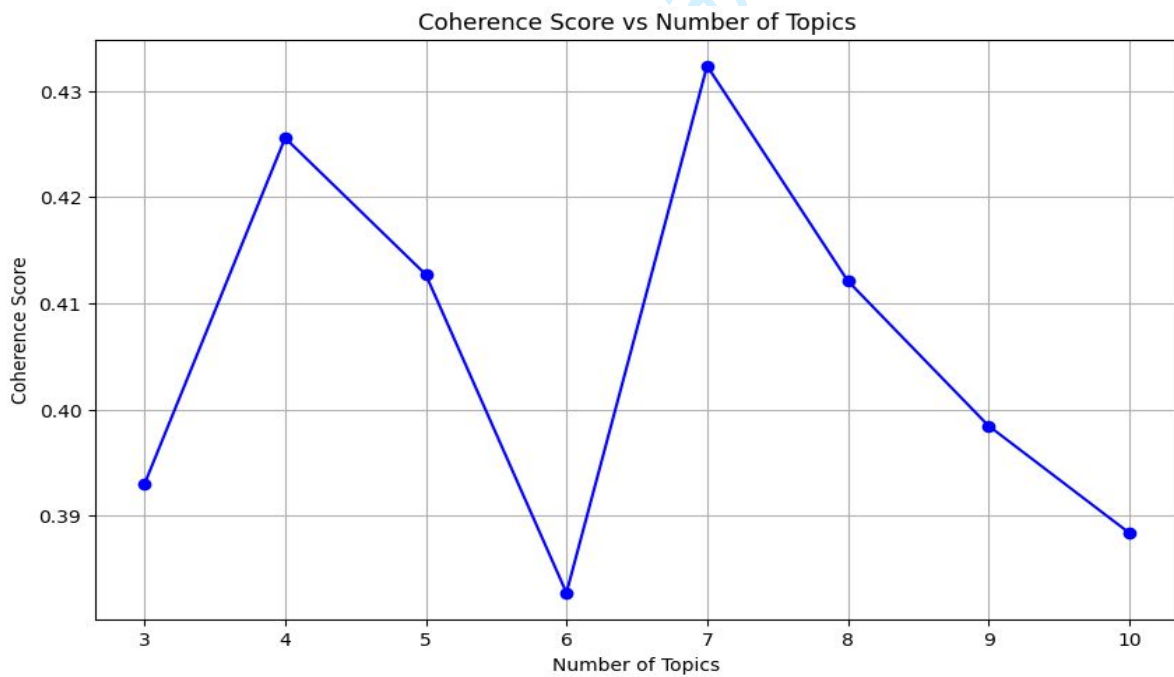


Figure 1c Topics and coherence score expressed in Arabic