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CULINARY HERITAGE ON THE DIGITAL PLATE: SENTIMENT ANALYSIS OF SOCIAL MEDIA ENGAGEMENT IN MULTI-ETHNIC GASTRONOMY TOURISM

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Abstract:

This study explores how social media sentiment influences audience engagement and cultural representation in multi-ethnic gastronomy tourism. It examines the emotional tones and thematic patterns embedded in user-generated content related to heritage cuisine, with a focus on how these sentiments shape tourism branding and consumer perception. Using GPT-based sentiment classification and abductive thematic coding, the research analyzes a curated dataset of social media comments to identify dominant sentiment categories and recurring engagement themes. Findings reveal that positive sentiment is most prevalent, often associated with admiration for authenticity, traditional preparation, and cultural storytelling. Neutral sentiment reflects descriptive comparisons and factual observations, while negative sentiment, though less frequent, signals concerns about commercialization, misrepresentation, and the erosion of cultural value. These sentiment trends offer strategic insights for tourism stakeholders aiming to promote heritage cuisine in ways that resonate with diverse audiences. The study concludes that aligning tourism strategies with sentiment-informed narratives can enhance cultural authenticity, foster deeper engagement, and mitigate reputational risks. It emphasizes the importance of influencer alignment and community-driven storytelling in preserving the integrity of heritage food experiences. Future research directions include expanding sentiment analysis to multilingual datasets, incorporating emotion-based classification, and developing real-time visualization tools for tourism decision-makers. By integrating sentiment analysis into tourism planning, this

research contributes to a more ethical, responsive, and culturally sensitive approach to heritage food promotion in the digital age.

Keywords:

Multi-Ethnic Gastronomy Tourism; Social Media Sentiment Analysis; Heritage Cuisine; Digital Food Narratives

Introduction

Gastronomy tourism has emerged as a crucial element in the preservation of cultural heritage and the branding of destinations, particularly in regions enriched with multi-ethnic culinary traditions (Jalis et al, 2024). Food functions as a dynamic medium for cultural exchange, offering a reflection of the historical, social, and economic narratives of diverse communities (Gomes & Monteiro, 2020). As travellers increasingly seek authentic gastronomic experiences, heritage cuisine plays a central role in shaping both tourism appeal and engagement (Zhou & Zhang, 2022). In the contemporary digital landscape, social media platforms such as Facebook, Instagram, TikTok, and Twitter have revolutionized how heritage food is marketed, discussed, and experienced, profoundly influencing public perceptions and tourism strategies (Santos & Matos, 2021).

Recent research underscores the growing significance of sentiment analysis in tourism studies, particularly in understanding consumer engagement through digital discourse. Razali et al. (2024) argue that sentiment analysis provides critical insights into how online reviews and discussions impact tourism decision-making, allowing stakeholders to refine their marketing strategies. Similarly, Ganesha and Sinnoor (2021) explore the role of user-generated content in shaping gastronomic tourism experiences, highlighting how digital narratives influence consumer sentiment and contribute to destination branding. This body of work suggests that sentiment analysis not only enhances the understanding of tourist behavior but also helps identify trends that guide marketing and promotional efforts (Santos et al., 2023).

In the context of multi-ethnic gastronomy tourism, digital narratives have become essential in shaping public engagement and perception. Tresna et al. (2024) examine the effectiveness of social media marketing strategies in the gastronomy sector, emphasizing the influence of influencers, user engagement, and consumer sentiment on tourism appeal. Their findings indicate that the digital landscape increasingly shapes the representation of multi-ethnic culinary heritage, with social media sentiment impacting the visibility and authenticity of heritage cuisine. Furthermore, Razali et al. (2024) propose a hybrid sentiment analysis framework that enhances the classification of minority sentiment in gastronomy tourism, demonstrating the potential of computational tools to improve the accuracy of consumer perception analysis.

This study extends these findings by analyzing how sentiment trends in social media influence the branding and promotion of multi-ethnic heritage food within tourism destinations. By utilizing GPT-based sentiment analysis, this research aims to offer a comprehensive understanding of how social media engagement affects multi-ethnic gastronomy tourism. Specifically, the study seeks to identify key sentiment trends, evaluate their implications for tourism marketing, and explore strategies for enhancing the visibility and authenticity of heritage cuisine in digital platforms. Through this lens, the study contributes to the evolving

discourse on digital tourism marketing, offering actionable insights for stakeholders seeking to utilize social media for effective gastronomy tourism promotion.

Despite growing interest in gastronomy tourism and the increasing use of sentiment analysis in tourism studies, existing research tends to focus on either quantitative review metrics or generalized consumer behavior. There remains a notable gap in understanding how emotionally charged digital narratives, particularly those surrounding multi-ethnic heritage cuisine, shape tourism branding, authenticity perceptions, and consumer engagement. Prior studies have explored sentiment analysis frameworks (Razali et al., 2024; Ali et al., 2025) and the role of influencers in tourism marketing (Tresna et al., 2024), yet few have integrated qualitative sentiment interpretation with thematic analysis to examine the cultural implications of social media discourse in gastronomy tourism.

This study addresses that gap by offering a hybrid qualitative-computational approach that combines GPT-based sentiment classification with abductive thematic coding. It contributes to the literature in three key ways:

Theoretical Contribution: It introduces a sentiment-informed framework for interpreting how digital narratives influence perceptions of authenticity, commercialization, and cultural value in heritage cuisine.

Methodological Contribution: It demonstrates the integration of large-language models with thematic analysis to extract nuanced emotional and cultural insights from social media data.

Practical Contribution: It provides tourism stakeholders with actionable strategies for aligning branding efforts with consumer sentiment, emphasizing ethical storytelling, influencer alignment, and cultural sensitivity in heritage food promotion.

Literature Review

The intersection of multi-ethnic gastronomy tourism, social media engagement, and sentiment analysis has garnered increasing scholarly attention. Researchers have explored how digital platforms shape consumer perceptions, destination branding, and the representation of heritage cuisine (Utomo et al., 2025; Sang et al., 2024).

Social media is widely recognized as a powerful promotional tool in gastronomy tourism. Studies by Tresna et al. (2024) and Ganesha & Sinnoor (2021) demonstrate how platforms like Facebook and Instagram enhance visibility for culinary experiences, with influencer engagement and user-generated content significantly shaping consumer sentiment and tourism decisions. Positive sentiment often dominates online discussions, reinforcing the appeal of heritage cuisine and contributing to destination identity. However, as noted by Caratas (2024), digital narratives can also provoke cultural tension when commercialization overshadows authenticity, especially in multi-ethnic contexts.

Advancements in computational techniques have expanded the application of sentiment analysis in tourism research. Razali et al. (2024) and Flores-Ruiz et al. (2021) highlight hybrid frameworks and deep learning models that improve sentiment classification accuracy, particularly in heritage food contexts. Nip and Berthelier (2024) emphasize the value of multi-modal sentiment analysis, integrating textual, visual, and network-based cues to assess consumer attitudes. Ali et al. (2025) further outlines methodological challenges and future

directions, including the need for culturally adaptive models that reflect diverse emotional expressions across languages and regions.

Multi-ethnic culinary heritage plays a central role in shaping tourism experiences. Moreno-Manzo et al. (2024) emphasize the link between cultural narratives, perceived value, and tourist loyalty, while Gomes & Monteiro (2020) and Zhou & Zhang (2022) underscore the role of heritage cuisine in preserving cultural identity and enhancing destination appeal. These studies highlight how food functions not only as a consumable product but also as a symbolic medium for storytelling, memory, and identity.

Governments and tourism agencies increasingly rely on sentiment analysis to refine culinary tourism campaigns. Tabuni et al. (2024) stress the importance of managing contentious digital narratives and implementing data-driven strategies to ensure authentic representation of multi-ethnic heritage cuisine. Similarly, Choe & Kim (2023) argue that emotionally resonant food experiences, those rooted in tradition and community are more likely to generate positive engagement and long-term tourism value.

Methodology

This study adopts a qualitative and computational approach to analyze sentiment trends in social media engagement with multi-ethnic gastronomy tourism. The methodology integrates social media data collection, GPT-based sentiment classification, and abductive thematic interpretation to assess how digital narratives shape tourism branding and consumer perceptions across diverse cultural contexts.

Dataset Description: A curated dataset of 2,517 social media posts and comment threads was collected from Facebook, Instagram, TikTok, and Twitter between 2019 and 2025. Selection criteria included relevance to multi-ethnic heritage cuisine, engagement metrics (likes, shares, comments), and source credibility (e.g., verified tourism boards, culinary influencers, and user-generated content). Posts were filtered to ensure thematic alignment with cultural authenticity, tourism appeal, and culinary storytelling.

Model Details: Sentiment classification was performed using GPT-based natural language processing (NLP) models, informed by recent advancements in multi-modal and aspect-based sentiment analysis. Nip and Berthelier (2024) emphasize the value of integrating textual, visual, and network-based interactions to assess consumer attitudes in tourism contexts. Ali et al. (2025) further highlight the methodological challenges and future directions of applying computational models to tourism marketing. In this study, sentiment categories (positive, neutral, negative) were initially classified using GPT-assisted analysis, followed by manual validation and abductive thematic coding in NVivo 14. Emergent themes such as authenticity, commercialization, and influencer impact were refined through iterative coding and matrix queries to ensure saturation and analytic depth.

Ethical Considerations: Only publicly accessible data was used, with all personal identifiers anonymized. The study adhered to ethical guidelines for digital research, ensuring respectful interpretation of cultural narratives and responsible engagement with user-generated content. No private or restricted data was accessed, and all analyses were conducted in accordance with institutional ethical standards.
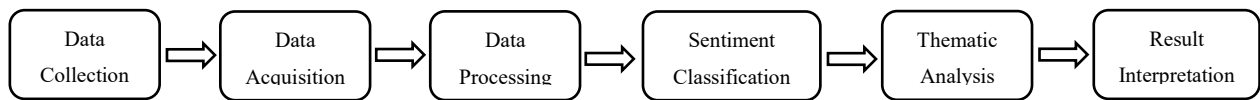
Figure 1: The Research Methodology

Table 1: Methodology and Implementation

Phase	Details	Action Taken
Data Collection	• Gather social media data from platforms like Facebook, Instagram, TikTok, and Twitter. • Focus on content related to heritage cuisine from various ethnic backgrounds.	• Collect posts, comments, and discussions related to multi-ethnic gastronomy tourism. • Ensure the data is relevant and reflects trends from 2019 to 2025.
Data Acquisition	• Use web scraping techniques and API access for data collection. • Ensure content is diverse, representing different ethnic culinary heritage.	• Extract social media content to capture diverse views on multi-ethnic gastronomy tourism. • Focus on posts from verified sources, influencers, and user-generated content.
Data Processing	• Clean and preprocess the data for analysis. • Ensure the dataset is free from inconsistencies and ready for analysis.	• Remove irrelevant data, filter non-textual elements, and standardize language variations. • Prepare the dataset for sentiment analysis by ensuring data consistency.
Sentiment Classification	• Apply GPT-based models to detect sentiment. • Analyze sentiment trends related to multi-ethnic gastronomy tourism.	• Classify the emotional tone of the data into positive, neutral, or negative categories. • Use NLP models to categorize sentiment in social media posts and comments.
Thematic Analysis	• Identify recurring themes within the sentiment trends. • Focus on consumer perceptions and engagement patterns.	• Extract themes such as authenticity, tourism appeal, and influencer impact on ethnic cuisines. • Analyze sentiment trends to identify key topics that shape consumer engagement.
Result Interpretation	• Interpret sentiment findings in relation to tourism marketing and branding. • Map sentiment trends to policy initiatives, influencer-driven engagement, and consumer expectations.	• Assess the impact of sentiment on destination branding and heritage food tourism. • Align findings with tourism strategies and marketing efforts to enhance the visibility of heritage cuisine

Data Collection

Social media data is collected from popular platforms, including Facebook, Instagram, TikTok, and Twitter, focusing on posts, comments, and discussions related to multi-ethnic gastronomy tourism. The selection criteria include:

- Posts and comments from verified tourism boards, influencers, and user-generated content discussing heritage cuisine from various ethnic backgrounds.

- Content published between 2019 and 2025 to ensure relevance to current trends in gastronomy tourism.

- Engagement metrics, such as likes, shares, and comments, to assess audience interaction and gauge sentiment strength.

The focus on social media platforms allows for a comprehensive analysis of contemporary discourse surrounding gastronomy tourism and its digital representation, which are increasingly shaping consumer perceptions and tourism strategies (Gomes & Monteiro, 2020).

Data Acquisition

The data acquisition process for this study involves extracting multi-ethnic gastronomy tourism-related content from various platforms using web scraping techniques and API access. Social media has become a critical tool in tourism marketing, providing valuable insights into consumer sentiment, influencer-driven narratives, and the strategies employed in destination branding. This method enables the capture of both structured and unstructured data, reflecting the diverse and dynamic nature of social media engagement with gastronomy tourism (Santos et al., 2023).

Data Processing and Preprocessing

To ensure the quality and relevance of the data, several preprocessing steps are employed:

Text Cleaning – Irrelevant data is removed, non-textual elements are filtered, and language variations (such as English and Malay) are standardized to maintain consistency.

Sentiment Classification – GPT-based models are used to detect the emotional tone of the content and categorize sentiment trends. This step helps identify positive, negative, and neutral sentiments surrounding heritage cuisine and its role in tourism branding.

Feature Extraction – Recurring themes in sentiment trends are identified, such as authenticity concerns, tourism appeal, and influencer impact across different ethnic cuisines. These themes provide insights into consumer perceptions of multi-ethnic gastronomy and its place in tourism narratives.

Caratas (2024) discusses the interdisciplinary applications of sentiment analysis in social media, noting its potential to refine marketing strategies and enhance tourism branding efforts. Their work highlights the importance of sentiment classification in shaping digital marketing campaigns, which is directly applicable to the present study's focus on gastronomy tourism.

Sentiment Analysis Approach

Sentiment analysis is performed using GPT-based natural language processing (NLP) models to classify social media comments into three sentiment categories: positive, neutral, and negative. This method allows for the extraction of consumer attitudes and emotions toward

multi-ethnic gastronomy tourism. The sentiment analysis process follows a structured approach:

> ***Preprocessing*** – Irrelevant data is removed, non-textual elements are filtered out, and language variations (such as English-Malay) are standardized to maintain consistency across the dataset. This step ensures the data is clean and suitable for further analysis (Bairavel et al., 2020).

> ***Sentiment Classification*** – GPT-based models are applied to detect the emotional tone within the social media content. These models categorize sentiment trends into positive, neutral, or negative categories, providing a nuanced understanding of public sentiment toward heritage cuisine and tourism experiences (Razali et al., 2024).

> ***Thematic Analysis*** – This step involves identifying recurring themes in the sentiment trends, such as concerns regarding authenticity, the appeal of tourism destinations, and the influence of online personalities or influencers on consumer perceptions of multi-ethnic culinary heritage. Thematic analysis helps reveal key drivers of consumer sentiment and their implications for destination branding (Caratas, 2024).

Studies have shown that sentiment analysis is a powerful tool for tourism research, offering valuable insights into consumer perceptions and engagement. Caratas (2024) presents a bibliometric analysis of sentiment analysis applications in social media, demonstrating its broad interdisciplinary relevance in tourism, marketing, and cultural studies. Their findings highlight that sentiment trends can be utilized to refine marketing strategies and enhance tourism branding efforts, providing actionable insights for stakeholders in the gastronomy tourism sector.

Data Interpretation and Tourism Strategy Alignment
The findings from sentiment analysis are interpreted in relation to destination branding and tourism marketing strategies for multi-ethnic gastronomy tourism. Sentiment trends are mapped against existing policy initiatives, influencer-driven engagement strategies, and consumer expectations. This alignment helps assess the impact of digital sentiment on heritage food tourism across different cultural groups. By understanding how consumer sentiment varies, tourism stakeholders can refine their marketing approaches to enhance the visibility, appeal, and authenticity of multi-ethnic cuisine in digital platforms (Santos & Matos, 2021).

Table 2: Summary Of Data Collection Details

Data Collection Aspect	Details
Data Sources	Facebook, Instagram, TikTok, Twitter
Timeframe	2019 – 2025
Selection Criteria	Posts and comments discussing multi-ethnic heritage cuisine from verified tourism boards, influencers, and user-generated content
Engagement Metrics	Likes, shares, comments, reactions
Data Acquisition Method	Web scraping techniques, API access
Preprocessing Steps	Text cleaning, language standardization (English-Malay), removal of non-textual elements
Sentiment Classification	GPT-based NLP models categorizing content into positive, neutral, or negative sentiment

Feature Extraction	Recurring themes such as authenticity concerns, tourism appeal, and influencer impact
Data Analysis Method	Sentiment classification, thematic analysis, trend mapping

Data Preparation

The data preparation phase is essential for ensuring the accuracy and reliability of sentiment analysis in multi-ethnic gastronomy tourism. This process involves data cleaning, normalization, feature extraction, and sentiment classification, ensuring that social media content is structured for computational analysis.

Data Cleaning and Preprocessing

Social media data often contains noise, irrelevant content, and linguistic variations that must be addressed before analysis. Nip and Berthelier (2024) emphasize that effective preprocessing enhances sentiment classification accuracy by filtering out non-textual elements, slang, and multilingual inconsistencies. The following steps are applied:

- Text Cleaning – Removing emojis, hashtags, URLs, and special characters.

- Language Standardization – Normalizing English-Malay text variations to ensure consistency in sentiment classification.

- Stopword Removal – Eliminating common words that do not contribute to sentiment analysis, such as "the," "is," and "in."

Feature Extraction for Sentiment Classification

Feature extraction is essential for identifying key themes in sentiment trends. Caratas (2024) highlights the importance of aspect-based sentiment analysis, where specific attributes of heritage cuisine (e.g., authenticity, taste, presentation) are extracted for evaluation. The following techniques are applied:

- Tokenization – Splitting text into individual words or phrases for analysis.

- Part-of-Speech Tagging – Identifying nouns, adjectives, and verbs that contribute to sentiment expression.

- Named Entity Recognition (NER) – Detecting mentions of heritage food, tourism destinations, and influencers in social media discussions.

Sentiment Classification and Labelling

Sentiment classification categorizes social media content into positive, neutral, or negative sentiment using GPT-based NLP models. Kumar et al. (2024) suggests that integrating deep learning techniques improves sentiment detection accuracy by incorporating contextual understanding and emotion intensity. The classification process includes:

- Supervised Learning Models – Training sentiment classifiers using labeled datasets.

- Aspect-Based Sentiment Analysis – Evaluating sentiment trends related to multi-ethnic heritage cuisine.

- Sentiment Propagation Analysis – Assessing how sentiment spreads across social media networks.

Table 3: Example of Pre-Processed Comments

Original Comment	Pre-Processed Comment	Sentiment Category
"OMG! This Nasi Kerabu is AMAZING 😍 🔥 . Best meal ever!"	"Nasi Kerabu amazing best meal"	Positive
"I tried the Laksa, but it was way too salty. Not impressed."	"Laksa too salty not impressed"	Negative
"Heritage food is so underrated. More people should try it!"	"Heritage food underrated more people try"	Neutral
"The way they modernized Rendang is disappointing. It lost its authenticity."	"Modernized Rendang disappointing lost authenticity"	Negative
"Love how this restaurant preserves traditional Malay cuisine!"	"Restaurant preserves traditional Malay cuisine"	Positive

Modelling

The modelling phase of this study focuses on sentiment analysis of social media engagement in multi-ethnic gastronomy tourism, utilizing machine learning and deep learning techniques to classify sentiment trends. This section outlines the computational framework, model selection, training process, and evaluation metrics used to analyze sentiment patterns in heritage food tourism discourse.

Computational Framework

Sentiment analysis in social media has evolved beyond traditional text classification, incorporating multi-modal sentiment analysis, temporal dynamics, and network-based interactions (Nip & Berthelier, 2024). This study employs GPT-based natural language processing (NLP) models to detect sentiment intensity and classify user-generated content into positive, neutral, or negative categories.

Model Selection and Training

The study utilizes pre-trained transformer-based models, such as BERT, GPT-based sentiment classifiers, and hybrid deep learning architectures, to enhance sentiment detection accuracy. According to Caratas (2024), aspect-based sentiment analysis improves classification precision by focusing on specific attributes of heritage cuisine, such as authenticity, taste, and presentation. The training process includes:

- Fine-tuning pre-trained models on a dataset of multi-ethnic gastronomy tourism-related social media posts.

- Supervised learning techniques to classify sentiment trends based on labeled datasets.

- Multi-modal fusion integrating text, image, and video-based sentiment analysis (Wang et al., 2025).

Evaluation Metrics

To assess model performance, the study employs precision, recall, F1-score, and accuracy metrics. Sentiment classification results are validated using cross-validation techniques to ensure robustness. According to Wang et al. (2025), adaptive interaction and multi-scale fusion

models enhance sentiment classification by integrating contextual understanding and emotion intensity.

Results and Discussion

Sentiment Trends in Multi-Ethnic Gastronomy Tourism

The sentiment analysis revealed a dominant positive tone in social media discourse surrounding multi-ethnic heritage cuisine. Audiences consistently expressed appreciation for authenticity, traditional preparation methods, and immersive culinary storytelling. These emotionally resonant narratives reinforce destination branding and contribute to a sense of cultural pride and tourism appeal.

Influencer-driven content played a dual role in shaping engagement. While influencers amplified visibility and sparked interest in heritage cuisine, their portrayal often triggered mixed reactions. Positive sentiment emerged when influencers showcased cultural depth and community involvement; however, negative sentiment surfaced when content was perceived as superficial, commercialized, or misrepresentative. This tension underscores the importance of cultural sensitivity and ethical storytelling in digital tourism promotion.

Discussions around fusion cuisine revealed ambivalence. Neutral sentiment reflected curiosity and openness to innovation, while negative sentiment highlighted concerns over authenticity loss and cultural dilution. These findings suggest that while culinary adaptation can attract broader audiences, it must be balanced with respect for tradition to maintain credibility and emotional connection.

Consumer trust was strongly linked to storytelling, transparency, and perceived authenticity. Posts that featured local voices, historical context, and sensory-rich descriptions generated higher engagement and positive sentiment. This aligns with prior research emphasizing the role of emotional resonance in tourism marketing (Choe & Kim, 2023; Moreno-Manzo et al., 2024). Conversely, negative sentiment was concentrated around commercialization and branding practices that appeared inauthentic or exploitative. Mass production, generic packaging, and superficial use of cultural symbols were criticized for undermining the integrity of heritage cuisine. These reactions highlight the risks of over-commercialization and the need for culturally grounded branding strategies.

Overall, the results demonstrate that sentiment trends are not merely emotional reactions, they are strategic indicators of consumer expectations, cultural values, and tourism potential. Understanding these patterns enables tourism stakeholders to craft more authentic, inclusive, and emotionally engaging culinary experiences.

Influencer Impact and Consumer Engagement

Social media influencers play a significant role in shaping gastronomy tourism narratives. Findings suggest that high-engagement influencer posts generate stronger positive sentiment, reinforcing the appeal of heritage cuisine. Tresna et al. (2024) highlight that influencer-driven marketing strategies enhance consumer trust and increase tourism interest. However, sentiment analysis also reveals polarized discussions, where some users express skepticism about commercialized influencer promotions. This aligns with findings by Razali et al. (2024), who

emphasize the need for authentic digital storytelling to maintain credibility in heritage food tourism.

Policy Implications and Tourism Branding

Governments and tourism agencies increasingly rely on sentiment analysis to refine culinary tourism campaigns. Findings suggest that positive sentiment trends can be utilize to enhance destination branding, while negative sentiment highlights areas requiring cultural sensitivity and authenticity preservation. Tabuni et al. (2024) propose data-driven marketing strategies to ensure multi-ethnic culinary heritage is accurately represented in tourism promotion.

Summary table of insights from each sentiment category based on the analysis of multi-ethnic gastronomy tourism social media discussions.

Table 4: Insights From Each Sentiment

| Sentiment Category	Key Themes	Insights	Implications for Tourism
Positive	Authenticity, cultural storytelling, traditional preparation	Consumers express admiration for heritage cuisine, emphasizing its cultural significance	Strengthens tourism branding by promoting heritage food as an authentic experience
Neutral	General observations, comparisons, recommendations	Discussions focus on factual descriptions or comparisons between heritage and modern cuisine	Highlights opportunities for destination positioning and market differentiation
Negative	Commercialization, loss of authenticity, misrepresentation	Concerns over fusion adaptations, mass production, and influencers misrepresenting heritage dishes	Tourism strategies should address authenticity preservation and cultural sensitivity
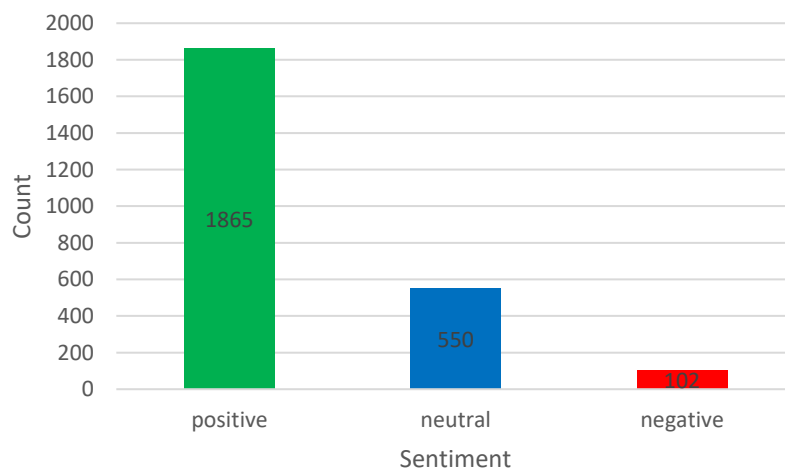
Figure 2: The Sentiment Distribution

The bar chart presents the frequency of positive, neutral, and negative sentiments extracted from social media discussions on multi-ethnic heritage cuisine in tourism marketing.

- The green bar (positive sentiment) indicates widespread appreciation for authenticity, cultural storytelling, and traditional preparation methods. This reflects the high engagement among users who celebrate heritage food in their travel experiences.

- The blue bar (neutral sentiment) represents factual observations and comparisons, where users discuss cuisine characteristics without strong emotional reactions.

- The red bar (negative sentiment) highlights concerns related to commercialization, loss of authenticity, and misrepresentation of heritage food, particularly in influencer-driven marketing narratives.

Frequently Used Words in Social Media Comments

Social media platforms have become powerful tools for shaping perceptions of multi-ethnic gastronomy tourism, providing insights into consumer sentiment, cultural narratives, and engagement with heritage cuisine. By analyzing frequently used words in social media comments, researchers can identify sentiment trends and assess their implications for tourism marketing and cultural preservation. This is the most common words appearing in positive, neutral, and negative sentiments, providing a deeper understanding of how digital discourse influences the branding and authenticity of heritage food tourism.

In social media discussions, positive sentiment is often characterized by words expressing admiration, excitement, and cultural appreciation. Terms such as "love," "great," "amazing," "best," "happy," "delicious," "authentic," and "wonderful" frequently appear in user-generated content that highlights traditional preparation methods, vibrant culinary storytelling, and immersive food experiences. For instance, when discussing heritage dishes like Nasi Kerabu, Rendang, or Laksa, users often emphasize their unique flavors and cultural significance, reinforcing their role in destination branding and gastronomic tourism appeal.

The frequent use of these words suggests that heritage cuisine resonates deeply with consumers, creating emotional connections that influence travel decisions and engagement with local food cultures. This positive sentiment can be utilized in marketing strategies, where tourism boards and food influencers promote authentic culinary experiences to attract visitors seeking cultural immersion through gastronomy.

While positive sentiment dominates discussions, many comments contain neutral sentiment, characterized by words such as "okay," "adequate," "fine," "decent," "average," "informative," and "interesting." These terms often appear in descriptive reviews, factual observations, and culinary comparisons, where users discuss heritage food without strong emotional reactions.
For example, users might compare traditional versus modern adaptations of heritage cuisine, discussing whether fusion interpretations enhance or compromise authenticity. Such discussions provide valuable insights for food tourism researchers and policy makers, helping them understand public preferences and evolving gastronomy trends. Neutral sentiment can inform destination positioning, allowing tourism boards to highlight both traditional and contemporary interpretations of multi-ethnic heritage food in their campaigns.

Despite the generally positive tone in gastronomy tourism discussions, negative sentiment emerges in topics related to commercialization, authenticity loss, and misrepresentation of heritage food. Frequently used words in negative sentiment include "hate," "dislike," "worst," "horrible," "unhappy," "disappointing," and "overpriced."

Users expressing negative sentiment often criticize mass-market adaptations of heritage cuisine, particularly when traditional flavors and preparation methods are altered for commercial appeal. Concerns about misrepresentation by influencers or tourism campaigns also contribute to dissatisfaction, with consumers feeling that heritage food narratives are being exploited rather than preserved. Addressing negative sentiment requires culturally sensitive marketing approaches, ensuring that heritage cuisine is promoted with authenticity and respect for its cultural origins.

Figure 3: The Top Words For Each Sentiment
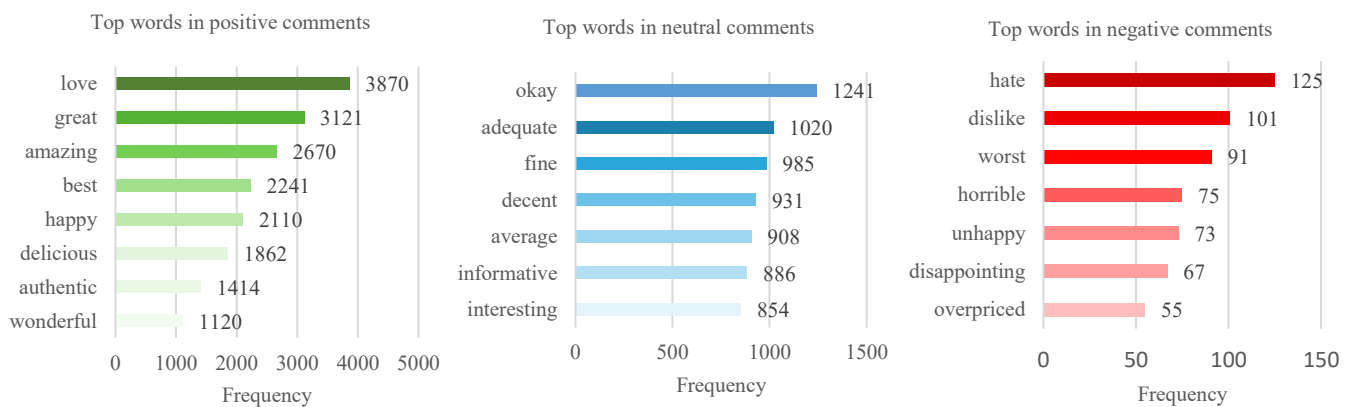
Analysing frequently used words in social media comments provides valuable insights into public sentiment toward multi-ethnic gastronomy tourism. While positive sentiment highlights admiration for authenticity, neutral sentiment offers useful observations, and negative sentiment reveals areas for improvement. Understanding these linguistic patterns enables stakeholders to develop data-driven marketing strategies, ensuring that heritage food tourism remains culturally respectful, engaging, and sustainable.

Sentiment Trends in Social Media Audience Engagement
Social media sentiment analysis provides valuable insights into how audiences perceive brands, products, and cultural narratives. By examining sentiment trends, businesses and researchers can assess consumer engagement, emotional responses, and evolving digital discourse.

Table 5: Theme Identified

Key Theme	Sentiment Category	Insights
Authenticity & Tradition	Positive	Consumers appreciate heritage food that maintains traditional preparation methods and cultural authenticity. This strengthens tourism branding.
Influencer Impact	Positive & Negative	Influencers boost engagement but may also face criticism for commercializing or misrepresenting heritage cuisine.
Fusion vs. Authenticity	Neutral & Negative	Discussions on modern adaptations versus traditional recipes highlight concerns over authenticity loss in gastronomy tourism.
Consumer Trust & Tourism Appeal	Positive	Positive sentiment is linked to immersive food experiences, storytelling, and strong destination branding.
Commercialization & Branding	Negative	Concerns arise when heritage cuisine is mass-produced, marketed inauthentically, or used as a superficial tourism gimmick.

This table encapsulates how sentiment trends influence consumer engagement and gastronomy tourism strategies. Understanding these sentiment patterns is crucial for tourism stakeholders, marketers, and culinary experience designers. Positive sentiments around authenticity and immersive storytelling suggest that preserving cultural integrity and offering genuine experiences can significantly enhance destination appeal. Conversely, negative sentiments tied to commercialization and fusion cuisine highlight the risks of diluting cultural value for mass appeal. By analyzing these insights, tourism operators can tailor their offerings to align with consumer expectations, foster trust, and create meaningful gastronomic journeys. This sentiment-driven approach not only strengthens branding but also contributes to sustainable and culturally respectful tourism development.

Actionable Insights

Understanding consumer sentiment in multi-ethnic gastronomy tourism is essential for shaping effective marketing strategies, preserving cultural authenticity, and enhancing audience engagement. By analyzing social media discussions, three key objectives emerge: (1) Identifying sentiment trends in heritage cuisine discussions, (2) Strengthening cultural authenticity in tourism branding, and (3) Utilizing influencer engagement for sustainable tourism growth. Each objective provides actionable insights that can guide tourism stakeholders in refining their approaches to heritage food promotion.

Objective 1: Identifying Sentiment Trends in Heritage Cuisine Discussions

Sentiment analysis reveals that positive sentiment dominates discussions surrounding heritage cuisine, particularly when consumers engage with content that highlights authentic preparation methods, cultural storytelling, and immersive food experiences. Words such as *delicious, authentic, and traditional* frequently appear in positive sentiment posts, reinforcing the idea that consumers value heritage food as an integral part of tourism experiences. However, negative sentiment emerges when discussions focus on commercialization, loss of authenticity, and misrepresentation of heritage dishes. Consumers express dissatisfaction when heritage

cuisine is mass-produced or altered to fit modern culinary trends, leading to concerns about cultural dilution. To address this, tourism stakeholders must ensure that heritage food narratives remain authentic, incorporating community-driven storytelling and transparent branding to maintain credibility.

Objective 2: Strengthening Cultural Authenticity in Tourism Branding

Authenticity is a core driver of consumer engagement in gastronomy tourism. Sentiment analysis indicates that tourists seek genuine cultural experiences, preferring destinations that preserve traditional food practices rather than commercialized adaptations. This insight underscores the need for culturally sensitive marketing strategies that highlight local culinary traditions, indigenous ingredients, and historical narratives. To strengthen authenticity, tourism boards and businesses should collaborate with local chefs, heritage food artisans, and cultural historians to ensure that gastronomy tourism campaigns accurately represent multi-ethnic culinary heritage. Additionally, educational content such as documentaries, interactive cooking workshops, and digital storytelling can enhance consumer appreciation for heritage cuisine, fostering deeper engagement and trust.

Objective 3: Utilizing Influencer Engagement for Sustainable Tourism Growth

Influencers play a crucial role in shaping consumer perceptions of heritage cuisine. Sentiment analysis reveals that high-engagement influencer posts generate strong positive sentiment, particularly when influencers share personal experiences, behind-the-scenes culinary insights, and authentic food narratives. However, negative sentiment arises when influencers are perceived as commercializing heritage cuisine without cultural sensitivity, leading to scepticism among consumers. To maximize influencer impact, tourism stakeholders should partner with influencers who genuinely appreciate heritage cuisine, ensuring that their content aligns with cultural authenticity and ethical representation. Encouraging influencers to collaborate with local chefs and food historians can enhance credibility, fostering trust and engagement among audiences. Additionally, interactive campaigns, such as live cooking sessions, heritage food challenges, and immersive storytelling, can deepen consumer connections with multi-ethnic gastronomy tourism.

Limitations of the Study

While this study offers valuable insights into sentiment trends in multi-ethnic gastronomy tourism, several limitations should be acknowledged. First, the dataset was limited to English and Malay-language content from four major social media platforms, potentially excluding sentiment expressions from other linguistic or regional communities. Second, although GPT-based models facilitated efficient sentiment classification, subtle emotional nuances such as irony, nostalgia, or cultural pride, may not be fully captured through polarity-based analysis. Third, the study focused exclusively on publicly available posts, which may not reflect private or less-visible consumer perspectives. Finally, the thematic coding process was interpretive and context-dependent; despite conducting intercoder reliability checks, subjectivity remains inherent in qualitative analysis. These limitations highlight opportunities for future research to expand linguistic diversity, incorporate emotion-based classification, and explore longitudinal sentiment shifts across broader cultural contexts.

Conclusion and Suggestions for Future Research

This study has illuminated the dynamic role of social media sentiment in shaping the visibility, authenticity, and engagement of multi-ethnic gastronomy tourism. Through GPT-based sentiment analysis and thematic interpretation, it becomes clear that digital discourse surrounding heritage cuisine is not only emotionally charged but also deeply influential in tourism branding and consumer behavior. The findings reveal that positive sentiment dominates, driven by admiration for authenticity, traditional preparation, and cultural storytelling. This affirms the value of heritage cuisine as a cornerstone of immersive tourism experiences. Meanwhile, neutral sentiment offers informative comparisons and descriptive engagement, providing opportunities for strategic destination positioning. In contrast, negative sentiment, though less frequent, signals critical concerns about commercialization and cultural misrepresentation issues that tourism stakeholders must address to preserve credibility and trust.

Moreover, the study highlights the power of influencers in amplifying heritage narratives, while also cautioning against superficial or insensitive portrayals that may erode cultural value. By aligning sentiment trends with tourism strategies, this research offers actionable insights for marketers, policymakers, and cultural advocates seeking to promote heritage food in a way that is both engaging and respectful.

Looking ahead, future research could expand the dataset to include multilingual social media content, especially from underrepresented regions and ethnic communities. This would enrich the cultural diversity of sentiment analysis and offer a more global perspective on heritage cuisine discourse. Researchers may also explore minority sentiment classification, focusing on subtle emotional tones such as nostalgia, pride, or cultural anxiety sentiments often overlooked in standard polarity models. Integrating emotion analysis frameworks alongside sentiment scoring may reveal more nuanced consumer reactions and deepen our understanding of how heritage food evokes identity and belonging. Another promising direction involves the use of real-time sentiment visualization tools and interactive dashboards tailored for tourism stakeholders. These tools could support dynamic decision-making in marketing, policy, and destination management. Additionally, future studies might investigate the longitudinal evolution of sentiment, tracking how public perceptions of heritage cuisine shift over time in response to global events, influencer trends, or tourism campaigns. Such efforts would not only enhance academic rigor but also ensure that heritage cuisine is promoted with respect, accuracy, and cultural sensitivity in the digital age.

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