

Mapping Tourist Sentiments Through Lexicon-Based Analysis of Social Media Reviews: The Case of Salak Sibatana Agritourism

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Abstract—Salak Sibatana, Bali's emblematic snake fruit cultivated in Sibatana Village, Karangasem, has gained increasing digital visibility through user-generated content across social media platforms. This study applies a bilingual lexicon-based sentiment analysis framework integrating Indonesian and English sentiment lexicons, explicit negation handling, domain-specific agritourism vocabulary, and a mean-based sentiment scoring function to classify 500 online reviews collected from Facebook, Instagram, Shopee, TikTok, and Twitter/X. The methodology adapts Indonesian and English lexicons with negation handling, domain-specific refinement for agritourism terminology, and mean-based scoring to improve neutrality discrimination. Results indicate an overall sentiment distribution of 40% positive, 40% neutral, and 20% negative. Positive reviews emphasize taste quality (*manis legit, renyah*, fresh) and cultural authenticity, while negative feedback highlights packaging issues, inconsistent quality, and pricing concerns. Image-centric platforms (Instagram and TikTok) exhibit higher proportions of positive sentiment emphasizing taste quality and authenticity, whereas transaction-oriented platforms (Shopee and Twitter/X) show more neutral and negative expressions related to logistics, packaging, and pricing. Beyond sentiment measurement, the study demonstrates how lexicon-based methods can capture platform-specific evaluative behavior within heritage agritourism contexts, offering methodological insights for multilingual sentiment analysis in low-resource domains and strategic implications for sustainable destination communication aligned with Sibatana's FAO GIAHS recognition.

Keywords—Sentiment analysis; lexicon-based methods; Salak Sibatana; agritourism; GIAHS; social media analytics

I. INTRODUCTION

Tourism is one of the most rapidly expanding sectors in Indonesia, contributing approximately 4.3% to the national GDP in 2022 [1]. Within this national context, Bali remains Indonesia's premier tourism destination, where agritourism has emerged as an important mechanism for rural economic development and cultural preservation. Among Bali's distinctive agricultural heritage areas, Sibatana Village in Karangasem Regency is widely recognized for the cultivation of Salak Sibatana (*Salacca zalacca* var. *amboinensis*), a snake fruit variety valued for its unique sweetness, texture, and cultural significance [2].

The growing influence of digital platforms such as Instagram, Facebook, TikTok, and e-commerce marketplaces like Shopee has fundamentally transformed how agritourism destinations and agricultural products are evaluated and promoted. User-Generated Content (UGC), including online reviews and social media posts, functions as electronic word-of-mouth that shapes visitor expectations, purchasing decisions, and destination image. In 2024, the Food and Agriculture Organization (FAO) designated the Salak Sibatana production system as a Globally Important Agricultural Heritage System (GIAHS), reinforcing its ecological and cultural value and strengthening its potential positioning as a heritage-based agritourism destination [3].

Sentiment analysis has been widely adopted in tourism and hospitality research to interpret large volumes of UGC and extract insights into visitor satisfaction, destination image, and service quality. Prior studies have applied sentiment analysis to hotels, urban destinations, and mass tourism attractions using both machine learning and lexicon-based approaches. However, important limitations remain in existing literature. First, agritourism, particularly heritage-based agricultural systems in Indonesia, has received far less analytical attention than urban or conventional tourism destinations. Second, many existing studies focus on monolingual datasets, despite the prevalence of bilingual and code-mixed Indonesian-English content on social media platforms. Third, cross-platform sentiment analyses are often presented descriptively, without sufficient consideration of how platform characteristics shape sentiment expression. This study addresses these gaps by applying a bilingual, domain-adapted lexicon-based sentiment framework across multiple social media and e-commerce platforms to examine how perceptions of Salak Sibatana agritourism differ by platform context.

This study seeks to explore how Salak Sibatana agritourism is perceived across multiple social media platforms by examining the dominant positive, neutral, and negative sentiments expressed in visitor and consumer narratives. It aims to: 1) apply a lexicon-based sentiment analysis approach to bilingual (Indonesian-English) reviews, 2) identify key sentiment patterns and recurring themes across platforms, 3) analyze platform-specific differences in sentiment expression, and 4) translate these insights into practical

recommendations for improving product quality, service delivery, and digital communication strategies.

The significance of this study is twofold. From an academic perspective, it extends sentiment analysis research to the underexplored domain of Indonesian heritage agritourism, demonstrating the suitability of lexicon-based methods for multilingual and low-resource contexts while highlighting the analytical significance of neutral sentiment. From a practical standpoint, the findings provide guidance for farmers, local communities, tourism authorities, and e-commerce sellers seeking to enhance visitor experiences, address quality concerns, and strengthen digital engagement for Salak Sibatana as a premium agritourism product.

II. LITERATURE REVIEW

A. Social Media and Agritourism

Social media has become a central arena for travelers and consumers to exchange real-time photos, narratives, and evaluations of agritourism products and experiences. This user-generated content drives electronic word-of-mouth, shaping information search, destination visibility, and purchasing intentions [4]. For agritourism settings such as Salak Sibatana, e-WOM not only communicates product attributes (taste, freshness, value) but also circulates stories about local culture and on-site experiences, thereby influencing perceptions of authenticity and community engagement. Positive reviews can strengthen brand salience and trust, whereas negative feedback may signal service gaps and operational risks for destination managers [5]. Fig. 1 shows the TikTok hashtag for Salak Sibatana.

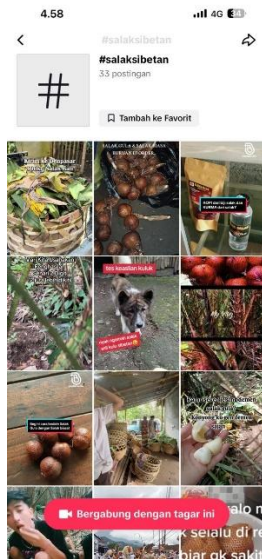


Fig. 1. TikTok Hashtag Salak Sibatana.

B. Sentiment Analysis for Tourism Analytics

Sentiment analysis provides a scalable means to interpret large volumes of UGC by classifying evaluative language into positive, neutral, or negative polarity. In tourism analytics, this approach has been widely used to extract strategic insights from large-scale UGC, enabling destination managers to understand collective visitor perceptions, as demonstrated in urban

destination studies such as Barcelona [6]. Previous tourism applications have focused on general destinations or hospitality services using various computational approaches [7]. Lexicon-based methods offer interpretability and low-resource advantages for multilingual contexts, making them suitable for Indonesian-English mixed content common in social media [8]. Studies have demonstrated that lexicon-based approaches with negation handling and domain-specific refinement can effectively capture sentiment in Indonesian tourism reviews [9].

Research on sentiment analysis for agricultural products and agritourism remains limited. Pratiwi et al. [10] conducted lexicon-based sentiment analysis of social media reviews for floating markets in South Kalimantan, demonstrating the applicability of such methods to Indonesian heritage tourism contexts. Their findings highlighted the importance of neutral reviews in providing factual information and the value of cross-platform analysis for understanding different audience segments. In parallel, recent tourism studies have employed machine learning-based sentiment analysis of TripAdvisor reviews to uncover experiential patterns and visitor preferences, underscoring the growing role of online review platforms in tourism intelligence [11]. Destination-focused sentiment analysis has also been conducted using TripAdvisor data to model visitor experiences and perceptions, as illustrated by studies of heritage destinations such as Dubrovnik [12].

C. Salak Sibatana as Competitive Agritourism

Salak Sibatana, cultivated in Sibatana Village, Karangasem, is among Indonesia's most distinctive agritourism commodities. Its competitive advantage arises from a blend of agro-biodiversity, cultural heritage, and growing digital visibility [2]. The village hosts numerous salak varieties (≥ 14), including premium cultivars such as gula pasir, celebrated for unique sweetness and texture. This varietal richness and a five-strata agroforestry system embedded in local customary rules and Tri Hita Karana philosophy underpin both ecological resilience and visitor appeal [3]. Recent advances in smart agritourism demonstrate how digital marketing and information systems help rural destinations amplify reach, structure content, and convert interest into visits. Empirical work shows that UGC and e-WOM significantly influence destination image and tourist visit intention, particularly on platforms like Instagram, Google Reviews, and TikTok [11]. In Sibatana, government and community profiles highlight orchard experiences, salak tasting, salak-derived products (coffee, syrup, wine), and eco-cultural treks as core narratives increasingly promoted via social channels.

D. Research Gap and Contribution

This study addresses several gaps in existing literature. First, it provides the first comprehensive sentiment analysis specifically focused on Salak Sibatana agritourism across multiple social media platforms. Second, it employs a bilingual lexicon-based approach with domain-specific refinement for agritourism terminology, including taste descriptions, Salak varieties, and quality indicators. Third, it examines cross-platform differences in sentiment expression, comparing image-heavy platforms (Instagram, TikTok) with e-commerce (Shopee) and microblogging (Twitter/X) platforms. Fourth, it highlights the role of neutral reviews in providing credibility-

enhancing information about product origin, logistics, and practical visitor guidance. While recent studies have introduced advanced approaches such as aspect-based sentiment analysis and zero-shot learning for hospitality service enhancement [13], these methods often require substantial computational resources and annotated data, making them less suitable for low-resource agritourism contexts.

III. RESEARCH METHODS

A. Research Design

This study employs a quantitative content analysis to examine user-generated content related to Salak Sibetan agritourism. The methodological workflow consists of five stages: data collection, preprocessing, sentiment classification, visualization, and validation. Each stage was designed to ensure analytical rigor, reproducibility, and alignment with established standards in computational tourism analytics [14].

B. Data Collection

The dataset comprised 500 online reviews collected from five widely used social media platforms: Facebook (106 reviews; 21.2%), Instagram (103; 20.6%), Shopee (100; 20.0%), TikTok (103; 20.6%), and Twitter/X (88; 17.6%). All reviews were written in Indonesian, reflecting feedback from local and domestic visitors and consumers. The average review length was 28.58 words. Fig. 2 shows an example review from a TikTok user.



Fig. 2. Example of TikTok User.

Reviews were included if they contained at least one coherent sentence describing Salak Sibetan products, experiences, or purchase interactions. Data were collected using keyword searches for "salak sibetan," "salak sibetan karangasem," and "salak bali" across platform search functions during October-December 2024.

C. Preprocessing

The preprocessing stage consisted of several steps designed to prepare the review text for analysis. The process began with text normalization, including converting all text to lowercase, applying Unicode standardization, and removing unwanted noise such as stray symbols or characters. After that, stop-word removal and selective slang expansion were performed using bilingual stop-word lists to ensure clearer semantic interpretation [15]. Stemming or lemmatization was applied, when necessary, particularly for generating keyword-based summaries. As a final step, manual checks were conducted to

confirm that the preprocessing workflow preserved the original meaning of the content.

D. Sentiment Classification

For sentiment analysis, a lexicon-based approach was applied to categorize reviews into positive, neutral, or negative sentiments. The study adapted two existing lexicons: InSet for Indonesian and NRC for English, with domain-specific refinement adding tourism and agritourism terminology such as taste descriptions (manis legit, renyah, sepet), salak varieties (gula pasir), quality indicators (fresh, lembek, memar), and logistics terms (packing, pengiriman). Each token was assigned a polarity score (+1, -1, or 0), with negation handling implemented for words preceded by terms such as tidak, bukan, or not. The review's overall sentiment was determined by the aggregate mean score of its tokens, with thresholds: >0.1 positive, < -0.1 negative, and between -0.1 and 0.1 neutral. Mean-based scoring was selected over summation to improve neutrality discrimination and reduce bias from review length [16].

$$S(r) = \frac{1}{n} \sum_{i=1}^n w_i \quad (1)$$

Variable Description:

- $S(r)$: The total sentiment score of review r .
- n : The total number of tokens (words) in the review that match entries in the sentiment lexicon.
- w_i : The polarity value of the i -th word, where +1 indicates positive sentiment, -1 indicates negative sentiment, and 0 indicates neutral sentiment.

E. Validation

To ensure the reliability of the sentiment classification, a manual validation procedure was conducted. A subset of 50 reviews (10% of dataset) was independently annotated by two human coders with expertise in tourism communication and text analysis. The degree of agreement between the coders was assessed using Cohen's Kappa, which yielded a coefficient of 0.82, indicating strong inter-rater reliability. This validation step confirmed that the lexicon-based model performed consistently with human judgment, thereby supporting the credibility of the analytical results.

F. Data Analysis

The classified sentiment outcomes were subsequently examined through descriptive and visual analytics. Bar charts and pie charts were produced to illustrate the distribution of sentiment categories. Platform-based differences were analyzed using comparative tables. Keyword frequency analysis identified recurring terms in each sentiment category, highlighting dominant themes and concerns.

IV. RESULTS AND DISCUSSION

A. Dataset Characteristics

The dataset comprised 500 online reviews distributed across five platforms, as shown in Table I. Facebook contributed the largest share (21.2%), followed by Instagram (20.6%), TikTok (20.6%), Shopee (20.0%), and Twitter/X (17.6%). Average review length was consistent across platforms, ranging from

27.10 words on Instagram to 30.30 words on Twitter/X, indicating similar levels of detail in user-generated content regardless of platform. Fig. 3 shows the sentiment distribution across five social media platforms.

ID	Keyword	Platform	Komentar	Sentimen	Count
1	salak sibe	TikTok	Saya lihat	Neutral	200
2	salak sibe	TikTok	Untuk ole	Positive	200
3	salak sibe	Instagram	Saya baru	Neutral	100
4	salak sibe	TikTok	Untuk ole	Positive	500
5	salak sibe	Shopee	Langganar	Positive	
6	salak sibe	Instagram	Saya lihat	Neutral	106
7	salak sibe	Instagram	Pengirimn	Neutral	103
8	salak sibe	TikTok	Asli Bali Ti	Positive	100
9	salak sibe	Twitter/X	Baru ci	Positive	103
10	salak sibe	Instagram	Beberapa	Negative	88
11	salak sibe	Facebook	Baru ci	Positive	500
12	salak sibe	TikTok	Salak Sibe	Positive	
13	salak sibe	Shopee	Rasanya ti	Negative	
14	salak sibe	Instagram	Asli Sibet	Positive	
15	salak sibe	Facebook	Saya lihat	Neutral	
16	salak sibe	Facebook	Saya baru	Neutral	
17	salak sibe	Twitter/X	Beberapa	Negative	
18	salak sibe	Instagram	Asli Bali Ti	Positive	
19	salak sibe	Instagram	Pengirimn	Neutral	
20	salak sibe	Shopee	Packine ki	Negative	

Fig. 3. Sentiment distribution across five social media platforms.

TABLE I. DATASET CHARACTERISTICS BY PLATFORM

Platform	Reviews	Percentage	Avg. Length (words)
Facebook	106	21.2%	29.40
Instagram	103	20.6%	27.10
Shopee	100	20.0%	28.20
TikTok	103	20.6%	27.90
Twitter/X	88	17.6%	30.30
Total	500	100%	28.58

B. Overall Sentiment Distribution

Sentiment classification divided the dataset into three categories: 200 reviews (40%) positive, 200 reviews (40%) neutral, and 100 reviews (20%) negative, as presented in Table II. The dominance of positive sentiment indicates that Salak Sibtetan is generally well-received by consumers across multiple platforms. At the same time, the equally high proportion of neutral reviews suggests that a substantial number of users provide objective or descriptive comments, focusing on factual product information rather than emotional expressions. The presence of 20% negative reviews highlights areas that may require managerial attention, as unfavorable consumer experiences shared online can significantly influence future purchasing behavior and digital engagement.

TABLE II. OVERALL SENTIMENT DISTRIBUTION

Sentiment	Frequency	Percentage
Positive	200	40%
Neutral	200	40%
Negative	100	20%
Total	500	100%

C. Sentiment by Platform

The sentiment analysis was disaggregated to compare results across the five platforms, revealing important differences in how consumers express their perceptions, shaped by the nature of each platform. Table III presents the sentiment distribution by platform.

TABLE III. SENTIMENT DISTRIBUTION BY PLATFORM

Platform	Positive	Neutral	Negative	Total
Facebook	42 (39.6%)	44 (41.5%)	20 (18.9%)	106
Instagram	47 (45.6%)	36 (35.0%)	20 (19.4%)	103
Shopee	38 (38.0%)	42 (42.0%)	20 (20.0%)	100
TikTok	44 (42.7%)	41 (39.8%)	18 (17.5%)	103
Twitter/X	29 (33.0%)	37 (42.0%)	22 (25.0%)	88
Total	200	200	100	500

Instagram shows the highest proportion of positive sentiment (45.6%), likely because visual platforms encourage sharing of aesthetically pleasing product photos and positive experiences. TikTok follows closely with 42.7% positive, reflecting the platform's trend-driven nature where users share recommendations and product highlights. Shopee exhibits balanced sentiment with 38% positive, 42% neutral, and 20% negative, characteristic of e-commerce platforms where consumers provide both praise and critical feedback about product quality and delivery.

Twitter/X shows the lowest positive sentiment (33.0%) and highest negative sentiment (25.0%), possibly due to the platform's use for expressing complaints and seeking resolution. The high neutral proportion on Twitter/X (42.0%) and Shopee (42.0%) indicates that users on these platforms frequently share factual information about product availability, pricing, and logistics.

D. Keyword and Thematic Analysis

Keyword analysis identified recurring terms in each sentiment category, revealing dominant themes in consumer discourse about Salak Sibtetan. Positive reviews emphasized words such as manis legit (sweet), renyah (crispy), fresh, recommended, top, juara (champion), kriuk (crunchy), and padat (dense). Many highlighted the distinctive taste quality of Salak Sibtetan, particularly the gula pasir variety, and its suitability as a souvenir (oleh-oleh) from East Bali. Examples include: "Asli Bali Timur, salak Sibtetan ini top—tidak sepet, renyah" (Authentic East Bali, this Salak Sibtetan is top—not astringent, crispy) and "Untuk oleh-oleh Bali Timur, salak Sibtetan Karangasem ini juara sih" (For East Bali souvenirs, this Salak Sibtetan Karangasem is champion). Neutral reviews commonly contained words such as asal (origin), Desa Sibtetan, Karangasem, Bali Timur, pengiriman (delivery), jadwal (schedule), pertama kali (first time), and cari (search). These were descriptive and provided practical information about product origin, delivery experiences, and initial encounters. Examples include: "Salak Sibtetan itu berasal dari Desa Sibtetan" (Salak Sibtetan comes from Sibtetan Village) and "Saya baru pertama kali mencoba salak Sibtetan Karangasem" (I tried Salak Sibtetan Karangasem for the first time).

Negative reviews frequently included words like packing (packaging), lembek (soggy), memar (bruised), rusak (damaged), kurang manis (less sweet), sepet (astringent), and harga (price). These highlight operational problems such as inadequate packaging during shipping, inconsistent fruit quality, and pricing concerns. Examples include: "Packing kurang tebal, jadi ada buah yang rusak" (Packaging was not thick enough, so

some fruits were damaged) and "*Harga salak sibetan karangasem menurut saya agak mahal*" (In my opinion, the price of Salak Sibetan Karangasem is somewhat expensive).

E. Interpretation of Neutral Reviews

Neutral reviews, which accounted for 40% of the dataset, primarily contained factual and descriptive information rather than emotional expressions. Visitors and consumers often mentioned elements such as product origin, first-time experiences, delivery schedules, or general observations without attaching strong judgments. For instance, one reviewer wrote, "*Saya lihat banyak yang cari salak sibetan karangasem akhir-akhir ini*" (I see many people searching for Salak Sibetan Karangasem lately), while another stated, "*Pengiriman salak Sibetan Karangasem sampai sesuai jadwal*" (Delivery of Salak Sibetan Karangasem arrived on schedule). These examples show how neutral reviews serve as practical guides that help potential buyers understand product availability and logistics.

The relatively high proportion of neutral reviews contributes to the credibility and authenticity of online platforms. While positive and negative reviews reflect emotions, neutral reviews provide balance by offering straightforward accounts of products and experiences. Their stability across platforms indicates that they function as a baseline narrative, consistently delivering reliable context regardless of variations in sentiment trends. From a managerial perspective, these reviews highlight recurring topics about origin and logistics, signaling that clearer communication in promotional materials could enhance consumer understanding and trust.

F. Negative Sentiment and Service Gaps

Negative reviews, although representing only 20% of the dataset, carry significant weight in shaping overall perception of Salak Sibetan products. These reviews frequently pointed out recurring problems such as inadequate packaging leading to damaged fruit, inconsistent taste quality, and perceptions of high prices. For example, one consumer noted, "*Packing kurang rapi, jadi ada buah yang memar*" (Packaging was not neat, so some fruits were bruised), while another commented, "*Rasanya kurang istimewa, tidak sesuai yang saya bayangkan*" (The taste was less special, not as I imagined). Such feedback highlights those operational issues, particularly in e-commerce fulfillment, are the main drivers of dissatisfaction.

From a managerial perspective, these negative reviews reveal critical service gaps that demand immediate attention. Packaging quality must be prioritized to preserve product condition during shipping, while quality control measures should ensure consistent taste and freshness. Addressing concerns about pricing transparency is also essential, as perceptions of high prices without corresponding quality can damage trust and deter repeat purchases. If left unresolved, these issues risk eroding the long-term competitiveness of Salak Sibetan in both e-commerce and agritourism markets.

G. Social Media as Double-Edged Sword

Social media operates as a dual-impact mechanism in shaping the digital reputation of Salak Sibetan agritourism. On the positive side, large volumes of favorable and neutral user-generated content function as organic promotion. Reviews and images emphasizing taste quality, authenticity, and suitability as

souvenirs amplify product visibility across platforms such as Instagram, TikTok, Shopee, and Facebook. These narratives significantly influence consumer purchasing decisions and act as low-cost digital marketing channels [17].

Conversely, negative reviews spread rapidly and can harm reputation if ignored. Complaints about packaging damage, inconsistent quality, and pricing easily circulate online, discouraging potential buyers. Continuous monitoring through automated sentiment analysis enables managers to balance positive promotion with early warnings, ensuring adaptive strategies and sustainable competitiveness in digital agritourism.

H. Managerial Implications

The findings of this study provide actionable insights for integrating sentiment analysis into agritourism and e-commerce management. First, the predominance of positive reviews about taste quality and authenticity suggests opportunities for leveraging data-driven promotional strategies. Destination managers and online sellers can amplify user-generated narratives across social media platforms, particularly emphasizing the GIAHS recognition and cultural heritage aspects that differentiate Salak Sibetan from ordinary snake fruit. Second, the recurrent negative sentiments regarding packaging, inconsistent quality, and pricing indicate specific service quality gaps that can be addressed using data-informed decision-making. Sellers should invest in better packaging materials, implement quality control procedures, and communicate transparently about seasonal price variations. Third, the high proportion of neutral reviews highlights the importance of providing clear factual information about product origin, delivery schedules, and harvesting seasons in promotional materials. Fourth, the adoption of sentiment monitoring tools would allow sellers and destination managers to detect emerging issues proactively and respond to customer concerns. This approach demonstrates how computational sentiment analysis can function as a decision-support mechanism, positioning heritage products like Salak Sibetan as benchmarks for quality in Indonesian agritourism.

I. Theoretical Implications

This study contributes theoretically by extending sentiment analysis to agritourism and heritage food products in Indonesia. Using lexicon-based methods, it demonstrates how computational models capture cultural, quality, and logistics dynamics in consumer discourse. Consistent with previous research on online destination image, positive and negative narratives shared through social media significantly influence tourist engagement and perception, reinforcing the strategic importance of monitoring UGC sentiment [18]. The significant share of neutral reviews reveals that e-WOM for agricultural products is both emotional and informational, with neutral content serving as a stabilizing factor for credibility. Additionally, differences identified across platforms underline the necessity of adopting cross-platform approaches in sentiment analysis. The contrast between visual platforms (Instagram, TikTok) showing higher positive sentiment and e-commerce platforms (Shopee) showing balanced expressions indicates that platform characteristics shape sentiment expression. These insights refine sentiment analysis theory by

emphasizing contextual and platform-specific factors in agritourism-focused applications

V. CONCLUSIONS AND FUTURE WORK

Rather than merely quantifying sentiment polarity, this study demonstrates how lexicon-based sentiment analysis can function as an interpretable analytical tool for heritage agritourism contexts characterized by multilingual, platform-diverse user-generated content. The findings illustrate that sentiment expression is not uniform across platforms but shaped by platform affordances and user intent, underscoring the importance of cross-platform designs in sentiment analysis research. Moreover, the substantial presence of neutral sentiment reveals the informational dimension of electronic word-of-mouth, which plays a critical yet often overlooked role in credibility building and destination understanding.

This study has several limitations that should be acknowledged. The dataset was restricted to Indonesian-language reviews, which may not represent perceptions of international visitors. The lexicon-based method, although transparent and suitable for multilingual data, may not fully capture nuanced expressions such as sarcasm or implicit sentiment. The analysis also relied solely on textual content, excluding visual cues that influence consumer evaluations on image-heavy platforms. Furthermore, the cross-sectional design does not capture temporal sentiment shifts across harvest seasons. Future research may extend this study by incorporating larger and more diverse datasets from additional platforms, such as Google Reviews and TripAdvisor, and by integrating advanced techniques, including aspect-based sentiment analysis or zero-shot sentiment models, to capture more nuanced experiential dimensions beyond the capabilities of lexicon-based approaches. Employing advanced machine learning methods, including transformer-based deep learning models such as IndoBERT, could improve classification accuracy and capture nuanced emotional expressions beyond lexicon constraints. Longitudinal analyses tracking sentiments across harvest seasons would enable more robust trend detection, while cross-cultural comparative studies could examine how international visitors perceive Salak Sibetan compared to domestic consumers. Finally, incorporating multimodal analysis including images and videos from platforms like Instagram and TikTok would provide a richer understanding of how visual content shapes product perceptions in agritourism.

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