

Comparative Sentiment Analysis of Shopee and Tokopedia in Indonesia: Insights from Twitter Data

Dian Kurnianingrum¹, Isma Addi Jumbri^{2*}, Iston Dwija Utama¹

¹Entrepreneurship Department, Bina Nusantara University, 11480 Jakarta, Indonesia

²Faculty of Technology Management and Technopreneurship, Universiti Teknikal Malaysia Melaka, 76100 Durian Tunggal, Melaka, Malaysia

*Corresponding author : isma@utem.edu.my

ABSTRACT

Understanding user sentiment is essential for strengthening platform competitiveness in Southeast Asia's rapidly evolving e-commerce landscape. This study presents a comparative sentiment analysis of Indonesia's two leading e-commerce platforms, Shopee and Tokopedia, based on 6,336 tweets collected from Twitter (X) between 10 and 17 January 2024. A lexicon-based sentiment analysis, complemented by keyword analysis, was employed to classify user sentiments using a five-star scale, thereby capturing nuanced emotional expressions. The results indicate that 47% of Shopee-related tweets conveyed positive sentiment, whereas only 15.6% of Tokopedia-related tweets were positive. In contrast, Tokopedia demonstrated a significantly higher proportion of negative sentiment at 64.3%, indicating notable user dissatisfaction. Keyword analysis revealed that Shopee users focused on affordability, promotions, and product discovery, while Tokopedia discussions emphasized transactional reliability, peer-to-peer selling, and financial services. These findings suggest that Shopee should continue leveraging promotional strategies while addressing technical reliability to maintain user trust and loyalty. Meanwhile, Tokopedia must enhance logistical performance, strengthen seller accountability, and improve financial services governance to rebuild user confidence. This study contributes to the e-commerce and social media analytics literature by integrating sentiment intensity and thematic keyword analysis, offering actionable recommendations for enhancing user engagement in Indonesia's competitive digital marketplace. Future research should consider more extended observation periods and cross-platform analyses to capture evolving sentiment trends and inform strategic decision-making.

KEYWORDS: Sentiment analysis, E-commerce, Twitter data, User satisfaction, Social media analytics.

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1. INTRODUCTION

E-commerce has fundamentally reshaped the retail landscape in Asia, particularly in rapidly growing economies such as Indonesia. The proliferation of digital technologies, combined with increasing internet penetration, has fueled the expansion of online marketplaces, enabling greater convenience and accessibility for consumers. In Indonesia, two major platforms, Shopee and Tokopedia, dominate the e-commerce sector and have become essential in facilitating daily transactions and lifestyle consumption (Mardiani et al., 2023; Rosa et al., 2024).

Despite growing academic interest, limited comparative studies have examined Indonesian e-commerce platforms using real-time social media data to analyze sentiment differences. Previous research has often focused on single platforms or generalized

attitudes without addressing cross-platform dynamics (Kurnianingrum et al., 2023).

As of September 2023, Shopee led the market with approximately 237 million visits, marking a 38% growth from early 2023. In contrast, Tokopedia recorded 88.9 million visits, representing a 31% decline compared to the previous year (Susanto & Indrawati, 2024; Erliana & Nurani, 2025). To strengthen its market position, Tokopedia formed a strategic partnership with TikTok Shop in late 2023, signalling an effort to regain user engagement and address competitive pressures (Sukmaningrum & Parmitasari, 2024). Despite these strategic moves, sustaining user loyalty and trust remains a critical challenge for both platforms.

User sentiment has emerged as a pivotal determinant of platform success in the digital marketplace environment. Positive sentiment enhances brand reputation, drives

user engagement, and fosters repeat transactions, while negative sentiment can quickly erode trust and redirect customers to competing platforms (Gulfranz et al., 2022). Social media platforms, particularly Twitter (now X), serve as real-time public forums where users express satisfaction, frustrations, and preferences regarding their online shopping experiences. Consequently, analyzing sentiment data from social media offers valuable insights into consumer perceptions and can inform strategic improvements in service delivery and marketing.

While previous studies have explored consumer sentiment in various business contexts, few have focused on a comparative analysis of leading Indonesian e-commerce platforms using social media data. Most existing research evaluates single platforms or examines general consumer attitudes without capturing detailed inter-platform dynamics. Additionally, limited attention has been given to integrating sentiment intensity and keyword analysis to provide a comprehensive view of user experience.

To address these gaps, the specific objectives of this study are:

- I. To analyze and compare user sentiment toward Shopee and Tokopedia using Twitter data.
- II. To identify key thematic areas discussed by users on each platform.
- III. To provide strategic recommendations for platform improvement based on sentiment insights.

The objective is to provide empirical evidence to inform strategic improvements for Indonesian e-commerce platforms.

2. LITERATURE REVIEW

In contemporary business environments, understanding user sentiment has become essential in shaping development and marketing strategies (Bharadwaj, 2023; Zuo, 2024). This literature review examines the concept of sentiment analysis and its implications for business dynamics.

2.1 Sentiment Analysis and Its Role in Business

Sentiment analysis is the systematic process of identifying, extracting, and quantifying opinions, emotions, and attitudes individuals or groups convey toward specific topics, products, or services (Wardhana et al., 2022). It has emerged as a critical analytical tool for organizations seeking to understand stakeholder perspectives holistically. In the business context, the primary objective of sentiment analysis is to capture and evaluate consumer responses, enabling firms to align their strategies with market expectations and preferences.

Recent advances in Natural Language Processing (NLP), machine learning, and artificial intelligence have greatly facilitated the development and implementation of sentiment analysis techniques. These sophisticated technologies enable organizations to process vast amounts of unstructured textual data efficiently, including online reviews, social media discussions, and other user-generated content (Baier et al., 2025). By transforming qualitative expressions into quantifiable insights, sentiment analysis provides a structured framework to interpret otherwise ambiguous or subjective data.

One significant advantage of sentiment analysis is its ability to reveal deep insights into consumer preferences, expectations, and pain points. Such knowledge is crucial for organizations aiming to develop products and services that resonate strongly with their target audiences. By systematically analyzing customer sentiments, companies can detect emerging trends, identify critical areas for improvement, and innovate proactively to maintain market relevance.

Moreover, sentiment analysis is valuable for enhancing customer satisfaction and loyalty. When businesses understand the emotional drivers behind consumer behaviors, they are better positioned to tailor their offerings and communication strategies. This personalization fosters stronger emotional connections with consumers, increasing brand loyalty and long-term customer relationships.

Recent studies also highlight the importance of immediate customer support and interactive tools in shaping consumer sentiment. For example, Vebrianti et al. (2025) demonstrate that AI-powered chatbots significantly enhance user engagement and satisfaction on e-commerce platforms, emphasizing the critical role of real-time responsiveness in influencing user perceptions and loyalty.

In addition to strategic benefits, sentiment analysis provides organizations with real-time, data-driven insights that support agile decision-making. In highly dynamic markets, timely responses to consumer sentiment can differentiate successful companies from their competitors. By continuously monitoring and analyzing sentiments, firms can quickly adapt their marketing campaigns, adjust product features, and address emerging issues before they escalate (Wardhana et al., 2022).

Finally, integrating sentiment analysis into business intelligence systems represents a significant advancement in evidence-based management. Rather than relying solely on intuition or retrospective survey data, organizations can leverage continuous sentiment tracking to guide strategic and operational decisions.

As such, sentiment analysis enhances organizational responsiveness and strengthens the foundation for sustainable competitive advantage in an increasingly customer-centric marketplace.

2.2 Empirical Studies on Sentiment Analysis in Business

A growing corpus of empirical research has highlighted the transformative role of sentiment analysis in informing strategic decision-making, refining customer engagement, and fostering innovation across diverse business sectors. This methodological approach enables businesses to capture nuanced consumer emotions and perceptions that often escape traditional data collection methods such as surveys and interviews.

In the financial services sector, sentiment analysis has proven invaluable for monitoring customer satisfaction and enhancing service quality. For instance, Peranginangin et al. (2023) employed Naïve Bayes and lexicon-based approaches to analyze customer sentiments regarding GoTo Financial services using data derived from Twitter (X) and Google Play Store reviews. Their study revealed that sentiment analysis offers real-time, granular insights into user experiences, allowing companies to identify operational inefficiencies and develop targeted improvement strategies. Such dynamic feedback mechanisms surpass the temporal limitations of conventional surveys, enabling continuous monitoring and agile responses to emerging issues.

Similarly, adopting sentiment analysis within digital banking services has provided critical insights into user experience. Karmagatri et al. (2023) investigated Indonesian digital banking users, uncovering that sentiments predominantly revolved around usability and system stability. Researchers identified specific pain points by integrating the Naïve Bayes algorithm and word cloud visualizations, such as frequent application errors and transaction delays. These insights were used to recommend practical enhancements to interface design and backend infrastructure, ultimately supporting higher customer satisfaction and fostering greater adoption rates.

The strategic significance of social media platforms has also been extensively examined through sentiment analysis. A bibliometric study by Kurnianingrum et al. (2023) analyzed Twitter discourse to understand its role in influencing business and economic narratives. Their findings emphasized that sentiment analysis not only aids in capturing real-time public opinion but also highlights research gaps, such as the under-exploration of sector-specific consumer attitudes and the interplay between sentiment trends and macroeconomic factors. This underscores the importance of integrating social media analytics into comprehensive business intelligence systems to enhance predictive capabilities and strategic foresight.

In the creative industries, sentiment analysis has supported the shift towards consumer-centric innovation. Syachputri et al. (2023) combined NLP techniques with Design Thinking methodologies to examine social media feedback in the batik industry. The study provided actionable insights for product design and marketing strategies that aim to resonate more deeply with target audiences by uncovering underlying emotional drivers, such as cultural pride and identity expression. This integration demonstrates the potential for sentiment analysis to bridge emotional intelligence and business strategy, creating more authentic brand experiences.

The tourism and hospitality industries have also harnessed sentiment analysis to decode evolving consumer behaviors and preferences. Luo et al. (2024) analyzed reviews from travel platforms, particularly those involving cryptocurrency-based transactions, and identified 17 key themes influencing customer evaluations and purchase decisions. These themes, from perceived security to eco-friendly accommodations, provide invaluable guidance for service design, personalized marketing, and competitive positioning.

The influence of sentiment trends on social responsibility and brand loyalty has been substantiated by Jaiswal et al. (2024), who examined tweets related to social welfare. Their findings indicated that positive social engagement significantly enhances brand reputation and fosters deeper customer loyalty. This study highlights how businesses can leverage sentiment analysis to align corporate social responsibility initiatives with consumer values, ultimately reinforcing brand equity.

In consumer electronics, sentiment analysis has been pivotal in optimizing product offerings and marketing strategies. Archana and Velmurugan (2024) conducted comparative studies of various machine learning models for classifying sentiments in product reviews. Their findings identified optimal algorithms that could distinguish nuanced consumer feedback, enabling firms to refine their messaging and improve product development cycles.

A methodological advancement was introduced by Wu et al. (2024) in the restaurant industry, where they integrated Bidirectional Encoder Representations from Transformers (BERT) with the McKinsey Matrix to assess competitive positioning through customer reviews. This hybrid approach revealed shifting consumer preferences, such as increased demand for health-conscious menus and personalized dining experiences and offered evidence-based recommendations for strategic repositioning.

Sentiment analysis has also contributed significantly to advancing sustainability initiatives within the hospitality sector. Gupta and Jaiswal (2024) utilized sentiment

analysis with topic modelling to extract sustainability-related themes from hotel reviews. Their results demonstrated that customers value practices aligned with the Sustainable Development Goals (SDGs), such as waste reduction and renewable energy, which can inform corporate sustainability strategies and enhance brand differentiation. Additionally, Cho et al. (2024) confirmed that sentiment embedded in online hotel reviews significantly influences booking behaviors, underscoring the importance of proactive digital reputation management.

In the wearable technology sector, sentiment analysis has emerged as a vital tool for decoding consumer preferences and informing product innovation. Xu et al. (2024) analyzed Twitter discourse surrounding smartwatches, uncovering design preferences, health-monitoring capabilities, and price sensitivity insights. These findings empower manufacturers to tailor product features and communication strategies, strengthening competitive advantage and fostering consumer loyalty.

These empirical studies demonstrate that sentiment analysis is not merely a technical tool but a strategic asset. By enabling businesses to access real-time, emotion-rich data, sentiment analysis supports more informed decision-making, accelerates innovation, and enhances competitive agility. Future research could explore integrating sentiment analysis with emerging technologies, such as generative AI and advanced behavioral analytics, to deepen insights and foster more adaptive business ecosystems.

Based on the reviewed literature and identified research gaps, this study presents a proposed conceptual framework (see **Figure 1**) designed to systematically compare user perceptions of Shopee and Tokopedia. The framework integrates sentiment and keyword analysis as core analytical approaches, enabling a comprehensive examination of social media data (Twitter) to uncover sentiment distribution, thematic focal points, and critical operational insights. Twitter data is the primary input, providing rich, real-time insights into user experiences and perceptions. The processing stage incorporates advanced natural language processing techniques, including data preprocessing, sentiment classification (utilizing both lexicon-based and model-based approaches), and keyword analysis to capture emotional intensity and thematic context. The outputs include detailed sentiment distributions and thematic mappings, which are then translated into evidence-based managerial recommendations and theoretical contributions to e-commerce and social media analytics literature. By connecting these analytical outputs to strategic and theoretical implications, this framework highlights the dynamic interplay between social media discourse and platform development, ultimately providing a

structured, evidence-based pathway for informing targeted platform improvements and advancing the scholarly understanding of e-commerce user behaviour.

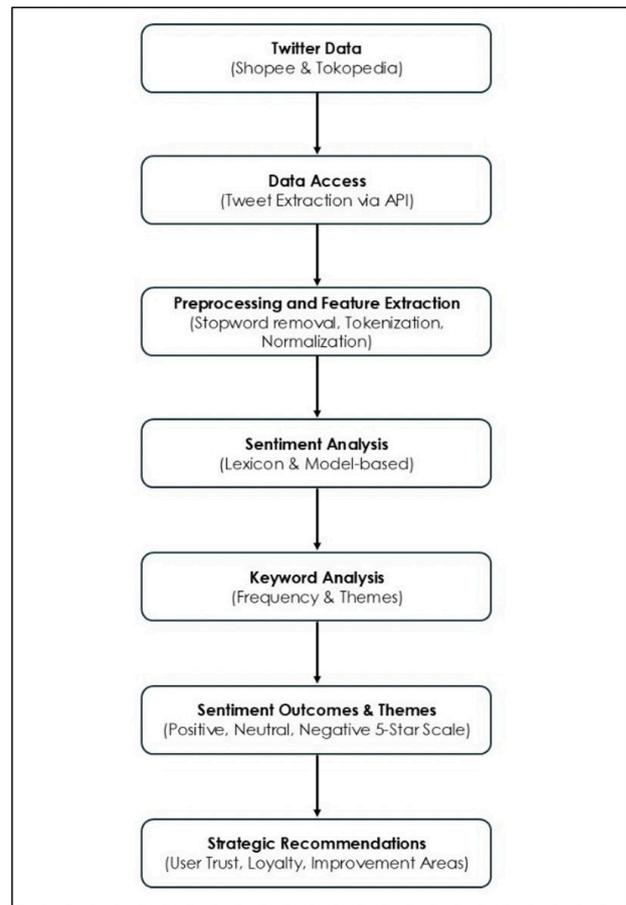


Figure 1: Proposed framework for comparative sentiment analysis of e-commerce platforms

3. METHODOLOGY

This study adopts a quantitative content analysis approach, utilizing sentiment analysis to compare public perceptions of Indonesia's two leading e-commerce platforms: Shopee and Tokopedia. Twitter was selected as the primary data source due to its dynamic, real-time nature and the rich volume of user-generated content, which makes it ideal for capturing authentic public sentiment. The decision to focus on Shopee and Tokopedia was guided by their prominence in the Indonesian market and supported by previous studies summarized in **Table 1**, highlighting the relevance of sentiment analysis in evaluating digital platforms and consumer perceptions.

Table 1: Previous research (2023 - 2024)

No.	Authors	Research Topic	Year
1	Peranginangin et al.	Sentiment analysis of GoTo Financial users.	2023
2	Karmagatri et al.	Sentiment analysis of digital bank users.	2023
3	Kurnianingrum et al.	Overview of Twitter-based research in business fields.	2023
4	Syachputri et al.	Sentiment analysis in the batik industry.	2023
5	Karmagatri et al.	Sentiment analysis of Mixue customers in Indonesia.	2023
6	Luo et al.	Sentiment analysis of travel sites accepting cryptocurrency payments.	2024
7	Jaiswal et al.	Sentiment analysis of Social Welfare Tweets from 18 companies.	2024
8	Archana & Velmurugan	Investor sentiment analysis from electronic product reviews.	2024
9	Wu et al.	Sentiment analysis to assess restaurant competitiveness.	2024
10	Gupta & Jaiswal	Sentiment analysis of hotel businesses in support of SDGs.	2024
11	Cho et al.	Sentiment analysis of hotel businesses and their link to sales.	2024
12	Xu et al.	Sentiment analysis of smartwatch products.	2024

Data was collected from January 10 to 17, 2024, using the Tweet-Harvest tool (version 2.6.0). This tool was executed via npx, a Node.js package runner, within a Python environment to facilitate authenticated data extraction using a Twitter Application Programming Interface (API) token. Two keywords were employed: "Shopee," representing Shopee's complete brand mention, and "Tokped," the colloquial abbreviation used by Indonesian users to refer to Tokopedia. The one-week collection window was chosen to capture a snapshot of sentiment during a high-engagement period; however, future studies could expand the time frame to observe longitudinal trends. These keywords were intentionally selected to align with natural, user-generated language on social media. Tweet-Harvest was configured to extract recent tweets from the "Latest" tab, and the data were saved in structured file formats for further processing. The collected data were imported into Python and managed using the pandas library to ensure a robust and organized analytical pipeline.

Before analysis, the textual data underwent comprehensive preprocessing using several NLP techniques. Tokenization was performed using the nltk. The tokenize module was used, while stopword removal and stemming were conducted with the Sastrawi library, which is optimized for Indonesian-language processing. Emoji filtering was performed using the emoji library to remove non-textual elements that could interfere with sentiment interpretation. Additionally, text normalization was performed using regular expressions to standardize variations in spelling and formatting, thereby enhancing analytical accuracy and consistency.

The sentiment analysis itself relied primarily on a lexicon-based classification approach. Sentiments were categorized into a five-star rating system, where one star represented strongly negative sentiment and five stars indicated strongly positive sentiment. This refined categorization allowed for a more granular understanding of sentiment intensity and user emotion. A sentiment dictionary specifically adapted to the Indonesian language context was utilized to ensure linguistic and cultural relevance.

This study chose a 5-star sentiment scale instead of a simpler positive/neutral/negative classification to capture more nuanced variations in user emotions and satisfaction levels. While traditional three-way sentiment classifications provide a basic overview, they often fail to reflect the intensity or gradation of user feelings, which are crucial for understanding platform performance and user loyalty (Archana & Velmurugan, 2024; Wu et al., 2024). The 5-star scale is widely recognized in e-commerce, as it mirrors standard consumer rating systems used on most online marketplaces and review platforms (e.g., Shopee, Tokopedia, Amazon). This approach aligns with real-world user behaviour, where consumers are accustomed to expressing detailed satisfaction levels on a spectrum rather than in binary terms. By adopting this scale, the analysis can better differentiate between strong dissatisfaction (1-star), mild dissatisfaction (2-star), moderate or mixed feelings (3-star), general satisfaction (4-star), and high satisfaction or delight (5-star). This granularity enables more precise managerial insights and facilitates targeted strategic recommendations for improving specific aspects of the user experience.

In addition to the lexicon-based analysis, a supplementary model-based validation was conducted using the Transformers library. The transformer-based model validation involved comparing predicted sentiment labels with lexicon-based outputs on a 10% random dataset sample. The observed agreement rate was 86%, providing further confidence in the classification's robustness. This cross-verification approach enhanced the credibility and robustness of the findings by comparing results from two complementary analytical frameworks. While the lexicon-based method was the primary analytical tool due to its interpretability and domain alignment, the model-based analysis provided further confidence in the sentiment classification outcomes.

Finally, data visualization was conducted to illustrate the distribution of sentiments and keyword frequencies, employing the matplotlib library. This visual representation facilitated a more precise comparison between Shopee

and Tokopedia, providing deeper insights into user experience, brand perception, and overall consumer sentiment during the observation period. By integrating insights from previous studies (as summarized in **Table 1**) and employing a comprehensive analytical pipeline, this methodology provides a rigorous foundation for understanding public sentiment toward major e-commerce platforms in Indonesia. Although lexicon-based approaches offer interpretability, they may struggle with sarcasm, slang, or mixed sentiments common on social media. Future studies should address this limitation by incorporating more advanced contextual models.

4. RESULTS

This study systematically analyzed user-generated posts on the microblogging platform Twitter (currently rebranded as X), focusing on public discourse surrounding two leading Indonesian e-commerce marketplaces: Tokopedia and Shopee. Data were meticulously collected over a defined period from January 10 to January 17, 2024. Although the data collection window was relatively brief, the study compiled a substantial dataset comprising 6,336 tweets. This volume of data is considered robust and sufficiently representative of public sentiment within the specified temporal context, thereby enabling a reliable examination of consumer perceptions and experiences.

Of the total tweets collected, 3,394 explicitly mentioned "Shopee," reflecting significant user engagement and active discussion regarding this platform. Meanwhile, 2,942 tweets included the keyword "Tokped," a popular abbreviation for Tokopedia among Indonesian users. The many mentions for both platforms underscore their dominant positions within the Indonesian e-commerce ecosystem. It highlights the relevance of social media as a barometer for measuring real-time public sentiment and brand perception.

4.1 Sentiment Analysis of Shopee Users

The sentiment analysis on Shopee-related tweets unveiled a diverse and multifaceted spectrum of user opinions toward the platform. From the 3,388 tweets further refined and analyzed for sentiment, user feedback ranged from highly positive to strongly negative, as depicted in **Figure 2**. The analysis revealed that a substantial proportion of users expressed a favorable view of Shopee, evidenced by the fact that 5-star sentiments constituted the largest share, with 1,238 reviews representing 36.5% of the total. This predominance of positive feedback suggests a generally high level of customer satisfaction, indicating that Shopee has successfully met or exceeded the expectations of a large segment of its user base.

Nevertheless, the analysis also identified a noteworthy

presence of negative sentiments. Specifically, 1-star reviews accounted for 929 tweets, equivalent to 27.4% of the total analyzed dataset. This substantial proportion signals that despite the platform's overall success, a significant cohort of users encountered negative experiences, potentially related to service quality, delivery reliability, or product authenticity. Such negative feedback is a critical source of insights for identifying areas where the platform could implement strategic improvements to enhance overall user satisfaction.

The remaining distribution of sentiments further illustrates the complex and nuanced nature of user experiences on Shopee. The data revealed 810 tweets (23.9%) corresponding to 3-star reviews, indicating moderately satisfied users whose experiences fell between wholly positive and entirely negative. These middle-ground sentiments often highlight mixed experiences, where users might appreciate certain features while being dissatisfied with others. Additionally, 354 tweets (10.4%) reflected 4-star reviews, suggesting largely positive experiences with minor reservations. Finally, 57 tweets (1.7%) were classified as 2-star reviews, representing users with a predominantly negative experience, but did not rate the platform at the lowest possible level.

This nuanced sentiment distribution underscores the importance of Shopee continuously monitoring and addressing user feedback to maintain its competitive edge and strengthen customer loyalty. The presence of both delighted and highly dissatisfied users highlights the polarized nature of customer experiences. While many users benefit from efficient service and attractive pricing, others may face challenges impacting their long-term engagement with the platform. By systematically analyzing these sentiments, Shopee can gain actionable insights to inform strategic decisions, improve service quality, and design more user-centric solutions that cater to diverse customer needs and expectations.

The top word analysis (**Table 2**) reveals that Shopee users frequently discuss topics related to product search and pricing. Common words include "shopee" (3,403), "get" (1,825), "price" (1,577), "check" (1,312), "women" (422), and "link" (396), highlighting users' engagement in exploring and evaluating products. In positive reviews (4-star and 5-star), terms such as "shopee" (1,597), "get" (1,139), and "price" (976) underscore the importance of affordability and successful transactions. The frequent mention of "shopeeid" (147) suggests active use of affiliate links and promotional posts, reflecting trust and enthusiasm among satisfied users.

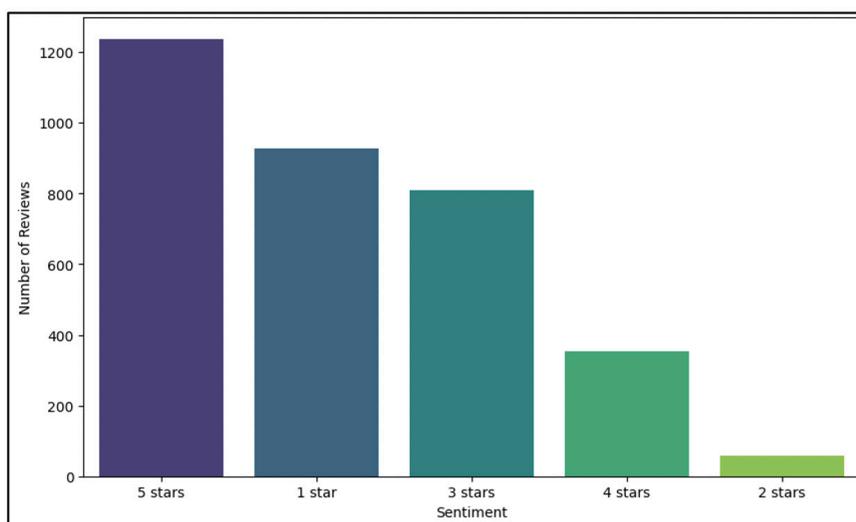


Figure 2: The distribution of sentiment labels in Shopee

Table 2: Top words in Shopee reviews by sentiment category

Rank	Overall Sentiment			Positive Sentiment		
	Word (Indonesian)	Word (English)	Frequency	Word (Indonesian)	Word (English)	Frequency
1	shopee	shopee	3403	shopee	shopee	1597
2	dapat	get	1825	dapat	get	1139
3	harga	price	1577	harga	price	976
4	cek	check	1312	cek	check	809
5	wanita	women	422	wanita	women	189
6	link	link	396	shopeeid	shopeeid	147
Rank	Neutral Sentiment			Negative Sentiment		
	Word (Indonesian)	Word (English)	Frequency	Word (Indonesian)	Word (English)	Frequency
1	shopee	shopee	810	shopee	shopee	996
2	dapat	get	456	dapat	get	230
3	harga	price	377	harga	price	224
4	cek	check	334	cek	check	169
5	wanita	women	176	link	link	146
6	celana	pants	114	video	video	130

In neutral reviews (3-star), the main terms remain similar but appear less frequently, indicating a moderate experience that falls short of intense satisfaction or dissatisfaction. The presence of terms like "pants" and "women" suggests a focus on fashion-related products, particularly women's apparel.

In negative reviews (1-star and 2-star), words such as "shopee" (996), "get" (230), "price" (224), and "link" (146) suggest dissatisfaction with product value and technical aspects, including links or preview videos that did not meet expectations.

The average review length was 165 words, with a maximum of 326 words and a minimum of 16 words. This suggests that Shopee users provide detailed feedback, which can be valuable for identifying both platform strengths and areas that need improvement.

4.2 Sentiment Analysis of Tokopedia Users

Analysing Tokopedia-related tweets provides a

comprehensive and detailed understanding of user perceptions, revealing significant dissatisfaction and highlighting critical areas that require strategic improvement. Out of a total of 2,941 tweets that were thoroughly examined, the sentiment distribution demonstrated a strong inclination toward negative experiences, as illustrated in **Figure 3**. One-star reviews emerged as the most prevalent sentiment category, comprising 1,890 tweets, which accounted for 64.3% of the total dataset. This exceptionally high proportion of negative sentiment suggests that a considerable segment of Tokopedia's user base has encountered persistent challenges. These challenges may include inadequate customer service, delivery delays, substandard product quality, or issues related to platform reliability.

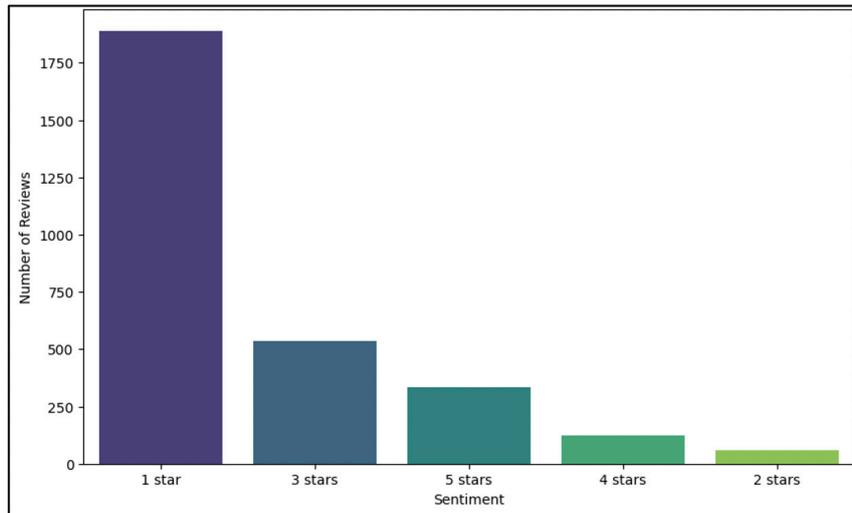


Figure 3: Distribution of sentiment labels for Tokopedia

In contrast, expressions of highly positive sentiment were relatively scarce. Only 336 tweets, representing approximately 11.4 per cent of the analysed data, were classified as five-star reviews. This low percentage of positive feedback indicates that, although a group of users is satisfied with Tokopedia's services, they are substantially outnumbered by those expressing dissatisfaction. This imbalance highlights potential vulnerabilities in Tokopedia's value proposition, suggesting that such shortcomings may negatively impact its competitive positioning and overall brand reputation within Indonesia's rapidly evolving e-commerce market.

The sentiment distribution beyond these extreme categories offers additional insights into more moderate user experiences. Specifically, 534 tweets, or 18.1 per cent of the total, were classified as three-star reviews, reflecting a neutral or ambivalent perspective. These reviews likely represent users who found their experiences adequate but unremarkable, indicating opportunities to convert these neutral experiences into more positive ones through targeted improvements. Furthermore, 123 tweets, equivalent to 4.2 per cent of the total, were categorised as four-star reviews, suggesting that these users were generally satisfied but still encountered minor issues that prevented an entirely positive evaluation. Finally, 58 tweets, representing 2.0% of the dataset, were classified as two-star reviews. These reviews capture sentiments of dissatisfaction that are significant but less severe than those expressed in one-star feedback.

This comprehensive sentiment landscape highlights essential opportunities for Tokopedia to address user

concerns through focused service enhancements, improved customer support systems, and continuous refinement of platform quality. By systematically analysing and actively responding to these sentiments, Tokopedia can formulate more effective strategies to rebuild user trust, strengthen customer loyalty, and enhance its competitive advantage within the Indonesian e-commerce sector. The predominance of negative feedback should be interpreted not only as a critical warning but also as a valuable source of actionable insights to drive data-informed innovation and service excellence.

Table 3 presents the most frequently mentioned terms within Tokopedia-related tweets, highlighting user discussion's primary themes and focal points. The most prevalent keywords include "tokped" (2,480), "via" (493), "shopee" (399), "beli" (367), "wts" (357), and "aja" (278). The prominence of these terms suggests that user discourse predominantly revolves around transactional activities and the mechanics of purchasing processes. The term "via" implies a firm reliance on specific channels or intermediaries for transactions, reflecting users' emphasis on platform-mediated purchasing experiences. The frequent appearance of the term "Shopee" within Tokopedia discussions indicates that users actively compare Tokopedia's performance and services with its primary competitor, thereby underscoring the competitive dynamics within Indonesia's e-commerce sector. Furthermore, the term "wts," which stands for "want to sell," emphasises Tokopedia's role as a versatile marketplace that accommodates informal, peer-to-peer selling activities and formal commercial transactions.

Table 3: Top words in Shopee reviews by sentiment category

Rank	Overall Sentiment			Positive Sentiment		
	Words (Indonesian)	Words (English)	Frequency	Words (Indonesian)	Words (English)	Frequency
1	tokped	tokped	2480	tokped	tokped	298
2	via	via	493	via	via	111
3	shopee	shopee	399	shopee	shopee	64
4	beli	buy	367	wts	wts	53
5	wts	wts	357	ready	ready	45
6	aja	Just/ only	278	beli	buy	44
Rank	Neutral Sentiment			Negative Sentiment		
	Words (Indonesian)	Words (English)	Frequency	Words (Indonesian)	Words (English)	Frequency
1	tokped	tokped	399	tokped	tokped	1783
2	shopee	shopee	76	via	via	307
3	via	via	75	shopee	shopee	259
4	beli	buy	65	beli	buy	258
5	zonauang	money zone	51	wts	wts	255
6	wts	wts	49	aja	Just/ only	223

In tweets expressing positive sentiment, terms such as "tokped" (298), "via" (111), "wts" (53), and "ready" (45) suggest a general sense of satisfaction with reliable transaction processes and the availability of products. The presence of "ready" likely reflects positive experiences related to stock readiness and prompt fulfilment, critical factors influencing customer satisfaction. Interestingly, including "Shopee" in some positive contexts may indicate that users perceive Tokopedia favorably even when comparing it directly to alternative platforms, thus suggesting relative brand loyalty or satisfaction.

In tweets with neutral sentiment, keywords such as "zonauang" emerge prominently. This term often relates to Tokopedia's financial services and is sometimes associated with unconventional practices, including converting credit facilities into cash. Such discussions imply a degree of ambivalence among users, reflecting both the perceived utility and potential risks or dissatisfaction related to these financial services. These findings indicate that financial features may represent a double-edged sword for Tokopedia, offering opportunities for engagement while simultaneously introducing complexities that may undermine user confidence.

In tweets expressing negative sentiment, terms including "tokped" (1,783), "via" (307), and "aja" (223) were highly prevalent. The recurrence of "tokped" in these contexts suggests that users explicitly attribute their frustrations directly to the platform, signifying a strong emotional response and dissatisfaction. The term "via" in negative posts may indicate challenges or failures encountered during the transaction process, such as delays or inefficiencies in delivery and payment fulfilment. The frequent appearance of "aja," an Indonesian word often used in an informal and dismissive tone, further underscores the depth of user frustration and indicates a tendency to discourage others from using the platform. Moreover, the consistent references to "Shopee" in

negative tweets highlight the potential threat of customer defection, as users may actively consider alternative platforms when faced with unsatisfactory experiences on Tokopedia.

Overall, the keyword analysis in **Table 3** offers critical insights into the underlying themes that shape user sentiment toward Tokopedia. It reveals a complex interplay between transactional efficiency, platform comparisons, financial service perceptions, and emotional responses. These findings underscore the importance of Tokopedia addressing operational weaknesses and enhancing service quality to mitigate negative perceptions and strengthen competitive positioning within the Indonesian e-commerce landscape.

4.3 Comparative Sentiment Analysis: Shopee vs. Tokopedia

A comparative analysis of user-generated reviews for Shopee and Tokopedia reveals substantial differences in sentiment distribution, thematic focus, and levels of user engagement, offering critical insights into the perceived strengths and weaknesses of these two major e-commerce platforms in Indonesia.

As presented in **Table 4**, Shopee received a considerably higher proportion of 5-star reviews (36.5%) compared to Tokopedia (11.4%). In contrast, Tokopedia exhibited a markedly higher prevalence of 1-star reviews, accounting for 64.3% of its total reviews, whereas Shopee recorded a lower proportion at 27.4%. When aggregating positive sentiments, 47% of Shopee reviews fell into the positive category, significantly surpassing Tokopedia's 15.6%.

These results indicate that Shopee has been more successful in meeting or exceeding user expectations, contributing to its stronger brand reputation and higher overall user satisfaction. Furthermore, when examining the ratio of positive to negative reviews,

Shopee recorded approximately 1.6 positive reviews for every negative review. In contrast, Tokopedia demonstrated only 0.24 positive reviews per negative review, underscoring potential deficiencies in service delivery, platform reliability, and customer support mechanisms. A chi-square test confirmed that the differences in sentiment distributions between Shopee and Tokopedia were statistically significant ($p < 0.001$).

Table 4: Comparison between Shopee and Tokopedia

Sentiment	Shopee (Total: 3,388)	Tokopedia (Total: 2,941)
5 Stars	1,238 (36.5%)	336 (11.4%)
1 Star	929 (27.4%)	1,890 (64.3%)
3 Stars	810 (23.9%)	534 (18.1%)
4 Stars	354 (10.4%)	123 (4.2%)
2 Stars	57 (1.7%)	58 (2.0%)

4.4 Topic Comparison

The thematic focus of user discussions further underscores the divergent brand experiences between the two platforms. Shopee-related reviews prominently featured keywords such as "get," "price," and "check," indicating a strong emphasis on affordability, discount acquisition, and product discovery. These terms reflect Shopee's positioning as a platform that effectively engages users through value-driven marketing strategies and promotional activities. The frequent mention of product-specific keywords such as "women" and "pants" suggests a powerful appeal in fashion categories, particularly within women's apparel, reinforcing Shopee's targeted niche marketing success.

In contrast, Tokopedia reviews focused on transactional and operational themes, as reflected in commonly used terms such as "via," "beli" (meaning "buy"), and "wts" (meaning "want to sell"). This focus illustrates Tokopedia's dual role as a formal e-commerce marketplace and a facilitator of peer-to-peer transactions. Additionally, "zonauang," frequently appearing in neutral and negative discussions, highlights user engagement with Tokopedia's financial services. However, its association with non-standard practices, such as cash withdrawals from credit facilities, may pose reputational and compliance risks for the platform.

Notably, in negative Tokopedia reviews, the word "aja" (meaning "just" or "only") conveys a dismissive tone and indicates intense user frustration, often accompanied by recommendations to avoid the platform altogether. Conversely, Shopee's negative reviews frequently included "link" and "video," suggesting user dissatisfaction primarily related to technical or promotional content issues rather than systemic service failures.

4.5 Review Length Comparison

The data presented in **Table 5** reveals notable differences in the length and depth of user-generated

reviews between Shopee and Tokopedia. On average, Shopee users wrote longer reviews, with a mean length of 165 words, compared to 126 words for Tokopedia users. This finding suggests that Shopee users are more actively engaged in providing comprehensive feedback, offering richer insights into their experiences with the platform.

Table 5: Comparison of posting length

Category	Shopee	Tokopedia
Average text length	165 words	126 words
Maximum	326 words	553 words
Minimum	16 words	3 words

A key factor to this difference is Shopee's robust review reward system, which incentivises detailed feedback by awarding users coins, particularly for reviews that include multimedia elements such as photos or videos. This strategic approach encourages higher participation rates and fosters a culture of thorough and descriptive user reviews.

As a result, Shopee can collect more nuanced feedback informing prospective buyers and sellers, supporting continuous service and product improvements.

In contrast, Tokopedia's TokoPoints program is primarily designed to reward transactional activities, such as purchases, rather than the act of submitting detailed reviews. This focus may explain why Tokopedia users provide shorter and often less informative reviews. The absence of specific incentives for detailed feedback likely reduces users' motivation to share extensive reflections on their purchasing experiences, resulting in more concise and sometimes superficial comments.

Interestingly, despite having a shorter average review length, Tokopedia exhibits a higher maximum review length, reaching up to 553 words, compared to Shopee's maximum of 326 words. However, Tokopedia also recorded significantly shorter minimum review lengths, with some reviews comprising only three words, whereas the shortest Shopee review comprised 16 words. This wide range indicates greater variability in Tokopedia's user feedback, suggesting that while some users are willing to provide highly detailed narratives, others opt for very brief and minimal input.

A well-structured reward mechanism in Shopee enhances the quantity of detailed reviews and contributes to creating an informed community of buyers and sellers. Detailed, user-generated content offers prospective customers valuable insights that can inform purchasing decisions and enhance overall trust in the platform. For sellers, these reviews provide actionable information to refine product offerings and improve service quality, ultimately strengthening

customer loyalty and satisfaction.

In summary, the comparative analysis of review lengths underscores the importance of platform-specific engagement strategies and incentive structures in shaping the depth and quality of user feedback. Shopee's emphasis on rewarding comprehensive reviews is a practical approach in cultivating a more engaged and communicative user base, which, in turn, supports sustained competitive advantage in the dynamic e-commerce landscape.

5. DISCUSSION

A comprehensive comparative analysis of Shopee and Tokopedia, focusing on brand positioning, user strengths, operational challenges, and potential risk indicators derived from user-generated posts on X (formerly Twitter), is presented in **Table 6**. This comparative exploration provides a deeper understanding of each platform's divergent strategic approaches and user perceptions.

Shopee has established a strong brand identity centred on affordability, aggressive promotional activities, and a seamless online shopping experience. The high frequency of keywords such as "get," "price," and "check" across user discussions highlights Shopee's appeal as a price-competitive platform where customers actively seek discounts, evaluate pricing options, and research product details before making a purchase.

Furthermore, the repeated appearance of product-specific terms such as "women" and "pants" indicates Shopee's strong positioning within the fashion and lifestyle segments, underscoring its effectiveness in niche marketing and its ability to attract customers interested in apparel and related categories. Positive reviews often emphasise the platform's user-friendly interface, efficient search functionalities, and satisfaction with product quality and delivery speed. The term "shopeeid,"

which appears frequently in positive sentiment posts, suggests active engagement in social sharing and affiliate marketing, reflecting the integration of Shopee into users' online social behaviour and reinforcing trust through community-driven promotion.

Despite these strengths, Shopee faces distinct operational challenges. Negative reviews commonly contain terms such as "link" and "video," which suggest user frustration with technical issues, including non-functional product previews and broken hyperlinks. The reduced frequency of terms like "get" and "price" in negative reviews further indicates a disconnect between promotional promises and actual user experiences, potentially leading to perceived inconsistencies in value delivery. Moreover, the pervasive emphasis on aggressive promotions and high-volume advertising may contribute to an overwhelming user interface, diminishing some users' perceived simplicity and intuitiveness of the shopping experience.

In contrast, Tokopedia's brand image is strongly oriented toward building trust, ensuring transactional security, and promoting flexibility in online commerce. The frequent use of keywords such as "tokped," "via," and "beli" underscores the importance users place on the platform as a reliable medium for purchasing and selling. The prevalence of "wts" (want to sell) across sentiment categories further highlights Tokopedia's unique positioning as a hybrid platform accommodating formal commercial sellers and casual, peer-to-peer transactions. Additionally, the use of the word "aja," meaning "just" or "only," in positive reviews reflects a sense of familiarity and ease, indicating that users perceive Tokopedia as a convenient and approachable option for various types of transactions. Terms such as "ready" often appear in positive reviews, emphasising satisfaction with product availability and the smoothness of transactional processes, reinforcing the perception of Tokopedia as a dependable marketplace.

Table 6: Comparative summary of Shopee and Tokopedia user posts

Aspect	Shopee	Tokopedia
Brand Focus	Promotions, affordability, and product discovery.	Trusted transactions, flexible peer-to-peer selling
User Strengths	Smooth navigation, diverse product selection, and strong appeal in fashion and lifestyle segments.	Emphasis on trust, transactional security, and community-driven selling
Challenges	Technical issues (e.g., broken links, video previews), perceived inconsistencies in promotions, and potential user overwhelm from excessive advertising.	Misuse of financial (zonauang), delivery and product discrepancies, and inconsistent seller performance
Risk Indicator	Possible erosion of trust due to technical and content-related frustrations	Regulatory and compliance risks from unofficial financial practices, reputational damage from poor service reliability

Nevertheless, Tokopedia encounters significant challenges that may undermine its brand reputation and operational sustainability. The appearance of the term "zonauang" in neutral reviews signals potential issues related to the misuse of financial services, such as converting credit or Paylater facilities into cash through unofficial channels. This behaviour poses operational and reputational risks and potential regulatory compliance concerns that threaten long-term platform stability. In negative reviews, frequent references to logistical and service failures, including delayed deliveries, incorrect or defective products, and unresponsive sellers, are prominent. The repeated mention of "Shopee" in these negative contexts suggests that dissatisfied Tokopedia users frequently compare their experiences to Shopee's perceived higher standards, exacerbating dissatisfaction and increasing the risk of customer migration.

Table 6 provides a synthesized overview of the key comparative dimensions between Shopee and Tokopedia. Shopee's strategy, built on promotions and strong price competitiveness, leverages a dynamic marketing-driven approach to user engagement. However, it must address technical shortcomings and ensure that promotional promises align with actual user experiences to preserve trust. Conversely, Tokopedia emphasizes transactional security and peer-to-peer selling, which offers strong differentiation. However, it must urgently address financial misuse risks, improve logistical reliability, and enhance seller accountability to maintain credibility and sustain customer loyalty.

The findings suggest that Shopee should maintain its incentive-based feedback system and enhance the reliability of its technical content to further strengthen user trust. Tokopedia, on the other hand, must prioritize logistical improvements and seller accountability and address informal financial service practices to reduce negative sentiment and mitigate user migration risk. These recommendations align closely with prior research. For instance, Hamonangan & Puspita (2025) argue that customer satisfaction is a crucial mediator between brand image and long-term loyalty. Their study reinforces our recommendation that Shopee and Tokopedia should prioritize improving user satisfaction through operational enhancements, as positive sentiment directly influences user retention and strengthens competitive positioning.

In summary, this comparative analysis highlights the strategic imperatives and operational vulnerabilities both Shopee and Tokopedia face in Indonesia's highly competitive e-commerce landscape. For Shopee, sustaining competitive advantage requires ongoing investment in technical infrastructure, refinement of promotional strategies, and a balanced user experience that prevents cognitive overload. For

Tokopedia, strengthening governance over financial services, improving logistical performance, and enforcing stricter seller accountability are critical for rebuilding user trust and safeguarding long-term growth. By leveraging insights from sentiment analysis, both platforms can implement evidence-based enhancements to better align with evolving consumer expectations, ultimately fostering stronger brand loyalty and market resilience. These results align with the expectation-confirmation theory by Oliver (1980), which suggests that satisfaction arises when user experiences meet or exceed expectations. Shopee's high proportion of positive sentiment implies successful fulfilment of expectations, while Tokopedia's negative skew suggests a gap between user expectations and actual experiences.

6. CONCLUSIONS

This study provides a comprehensive comparative analysis of user sentiment toward Shopee and Tokopedia by leveraging 6,336 user-generated tweets collected from Twitter (X) between 10 and 17 January 2024. The research uncovered significant differences in user perceptions and platform performance using lexicon-based sentiment analysis and keyword analysis.

The results demonstrate that Shopee enjoys a higher proportion of positive sentiment (47%) and a lower proportion of negative sentiment (27.4%), reflecting greater user satisfaction and stronger brand loyalty. In contrast, Tokopedia exhibits a markedly higher negative sentiment (64.3%), indicating challenges in maintaining user trust and satisfaction. The thematic keyword analysis further highlights Shopee's affordability, promotions, and product discovery strength. In contrast, Tokopedia's discussions emphasize transactional reliability and peer-to-peer selling but also reveal concerns about the misuse of financial services.

These insights offer valuable managerial implications. Shopee should continue to enhance its promotional strategies while addressing technical reliability to sustain user trust and engagement. Meanwhile, Tokopedia must prioritize improvements in logistics, seller accountability, and financial service governance to rebuild user confidence and reduce customer attrition.

Theoretically, this study contributes to social media analytics and e-commerce literature by integrating sentiment intensity and thematic keyword analysis, providing a nuanced understanding of consumer perceptions in Indonesia's digital marketplace.

Future research should consider a more extended observation period, additional social media platforms, and demographic segmentation to capture evolving user sentiments and inform targeted strategic decisions.

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AUTHOR CONTRIBUTIONS

Dian Kurnianingrum and Iston Dwija Utama designed the study, developed the methodology, and supervised the overall research project. Dian Kurnianingrum performed the experiments, collected the data, and contributed to data analysis. Dian Kurnianingrum and Isma Addi Jumbri analysed the results, prepared figures and tables, and wrote the initial draft of the manuscript. All authors reviewed and approved the final version of the manuscript.

DATA AVAILABILITY STATEMENT

The authors, Dian Kurnianingrum, Isma Addi Jumbri and Iston Dwija Utama demonstrate a commitment to date openness and transparency. To support further research, the data used in this study are made publicly available. The dataset can be accessed through the following link: DOI <https://zenodo.org/records/15845921>.

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