



DOI: <https://doi.org/10.31599/jmu.v8i1>

Received: March 1st, 2026 Revised: April 4th, 2026 Publish: April 27th, 2026

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Comparative Analysis of E-Commerce Platform Popularity in Indonesia Using Google Trends Data

Murniyati^{1*}, Ida Hendarsih², Siti Maburr Rachmah³, Resti Yulistria⁴

^{1,2,3,4} Universitas Bina Sarana Informatika, Jakarta, Indonesia, murni.mni@bsi.ac.id, ida.idh@bsi.ac.id, siti.smc@bsi.ac.id, resti.res@bsi.ac.id

*Corresponding Author: murni.mni@bsi.ac.id

Abstract:

This study aims to examine differences in the popularity of major e-commerce platforms in Indonesia using Google Trends search interest data. The research is motivated by increasing competition in the digital marketplace and the need to understand consumer attention across platforms.

This study employs a quantitative approach using secondary time-series data from Google Trends (2021–2026). Descriptive analysis, trend analysis, and the Kruskal–Wallis test are used to identify differences in search interest, followed by post-hoc pairwise comparisons using the Mann–Whitney test with Bonferroni adjustment.

The results reveal significant differences in search interest among platforms. Shopee consistently dominates search interest, followed by Tokopedia and Lazada, while Bukalapak and Blibli show substantially lower levels. Statistical testing confirms that all platforms differ significantly from one another.

This study relies solely on Google Trends data, which reflects relative search interest rather than actual transaction volume. Future research may integrate financial or behavioral data for more comprehensive analysis.

The findings highlight the importance of digital visibility, marketing intensity, and consumer engagement strategies in shaping platform popularity. Managers can utilize search data as an early indicator for strategic decision-making.

This study contributes by utilizing Google Trends as an alternative data source to assess e-commerce competitiveness, offering real-time insights into consumer attention in the Indonesian digital market.

Keywords: *Google Trends, e-commerce popularity, search interest, consumer behavior, digital marketing.*

INTRODUCTION

The rapid development of digital technology has significantly transformed the landscape of global commerce, particularly in the context of electronic commerce (e-commerce). The increasing penetration of the internet and mobile devices has changed how consumers search for information, compare products, and make purchasing decisions. As a result, online search behavior has become an important indicator of consumer interest and market dynamics in the digital economy. Understanding consumer search patterns is therefore essential for businesses seeking to analyze market competition and predict consumer demand in online marketplaces.

In recent years, researchers have increasingly utilized big data sources to analyze consumer behavior in digital environments. One of the most widely used tools is Google Trends, which provides real-time data on search interest and has been recognized as a valuable source for understanding consumer attention and market dynamics. Several studies demonstrate that Google Trends data can capture public interest and provide useful insights for forecasting demand and identifying emerging market trends (Schmidt & Vosen, 2009; Silva et al., 2019). Recent studies also highlight the growing importance of search data as a form of digital market intelligence. For example, Malyy et al. (2021) emphasized that Google Trends has become an important big data source for analyzing consumer behavior and marketing trends, while Malyy et al. (2021) showed that search data can serve as a reliable indicator for understanding consumer demand dynamics. Similarly, Siliverstovs and Bakirtas & Gulpinar Demirci (2022) argued that online search behavior reflects collective consumer attention in digital markets and can provide valuable insights into market competition. Previous studies have explored the usefulness of Google Trends data in various fields, including finance, tourism, and marketing. For instance, Haykir & Yagli (2022) found that Google search intensity can be used to predict cryptocurrency market dynamics. Similarly, Wołk (2020) highlighted that search engine data may serve as an effective predictor of financial market movements. In tourism research, Google Trends has been widely used to analyze tourist demand and travel interest (Wołk, 2020). These studies indicate that online search data can provide valuable insights into consumer intentions and behavioral patterns before actual market transactions occur.

Recent developments in digital marketing research also suggest that search behavior can be used as a proxy for measuring brand awareness and consumer engagement in online markets. When consumers search for a particular platform or brand, they demonstrate a level of curiosity, information-seeking behavior, and potential purchase intention. Therefore, analyzing search query data allows

researchers to observe patterns of consumer attention and evaluate competitive dynamics among digital platforms.

Within the context of marketing and business analytics, web search data has also been employed to measure brand awareness and consumer engagement. Guitart & Stremersch (2021) demonstrated that online search volume can reflect consumer responses to advertising campaigns, while Ines & Tolentino (2024) emphasized the importance of digital information signals in shaping market perception. Furthermore, Bakirtas & Gulpinar Demirci (2022) found that search engine queries can be utilized to detect shifts in consumer interest toward specific products or brands. These findings suggest that search-based indicators can serve as a proxy for measuring digital popularity and market attention.

Despite the growing body of literature on Google Trends and digital search analytics, most previous studies have focused on forecasting economic indicators, tourism demand, or financial market behavior (Jain & Chhabra, 2022; Jassim et al., 2023). Only limited research has examined how search data can be used to analyze the relative popularity and competitive positioning of e-commerce platforms, particularly in emerging digital markets. In addition, existing studies often focus on a single brand or industry, rather than conducting a comparative analysis of multiple competing platforms within the same market.

From a marketing perspective, analyzing search interest among e-commerce platforms can provide important insights into consumer awareness, brand competition, and digital market dynamics. Search intensity reflects consumers' curiosity and information-seeking behavior prior to purchasing decisions, making it a valuable indicator of online market competition. However, empirical studies examining the comparative popularity of major e-commerce platforms using Google Trends data remain relatively limited.

Therefore, this study aims to analyze the comparative popularity of major e-commerce platforms in Indonesia using Google Trends data. By examining the search interest associated with leading e-commerce platforms, this research seeks to provide insights into digital consumer attention and competitive dynamics in the Indonesian e-commerce market. The findings are expected to contribute to the literature on digital marketing analytics and provide practical implications for businesses seeking to understand consumer search behavior in online marketplaces.

Based on the research background described above, the research question addressed in this study is:

“How does the popularity of major e-commerce platforms in Indonesia differ based on Google Trends search interest data?”

LITERATURE REVIEW

Google Trends in Marketing and Consumer Behavior Research

The increasing availability of digital data has created new opportunities for researchers to analyze consumer behavior in order to provide information on the relative frequency of search queries over time. This platform allows researchers to observe changes in public interest toward particular topics, brands, or products. Because online searches often precede purchasing decisions, search query data can serve as an important indicator of consumer intentions and market demand.

Recent studies further highlight the growing role of search data in marketing analytics. Chinnici et al. (2025) noted that Google Trends has increasingly been used as a big data tool to analyze consumer behavior and marketing dynamics over time. Similarly, Bakirtas & Gulpinar Demirci (2022) emphasized that search engine data can capture collective consumer attention and serve as an indicator of brand visibility in digital markets. In addition, Du & Hsieh (2023) demonstrated that search query data can provide meaningful insights into consumer demand patterns, particularly in highly competitive digital markets where online visibility plays a crucial role.

Several studies have demonstrated the usefulness of Google Trends as a tool for analyzing consumer behavior and market dynamics. Chinnici et al. (2025) argued that search engine data reflects collective consumer attention and can be used to predict market behavior in various sectors. Similarly, Rui & Li (2024) emphasized that online search queries contain valuable information regarding public expectations and information demand. Their findings suggest that digital search behavior can provide early signals of changes in consumer preferences.

In the context of digital marketing, search volume data has been widely applied to evaluate the effectiveness of marketing strategies and brand popularity. Pashiera & Sardjono (2024) found that increases in search intensity often correspond with higher levels of brand awareness and consumer engagement. Likewise, Bakirtas & Gulpinar Demirci (2022) showed that online search behavior reflects consumer interest in specific products or services, making it a useful indicator for marketing analytics.

Application of Google Trends in Market Analysis

Beyond consumer behavior analysis, Google Trends has also been widely used in forecasting and market prediction studies. Google search intensity can help predict financial market movements by capturing investor attention and sentiment. Similarly, online search activity can provide early signals of fluctuations in cryptocurrency markets. These studies highlight the predictive power of online search data in understanding market trends.

In addition to financial markets, Google Trends has also been applied in tourism and economic research. Li et al. (2020) utilized search query data to analyze tourism demand patterns, while Feng (2025) examined how online search interest reflects travel intentions. Karim et al. (2023) further suggested that digital search data can serve as a complementary indicator for traditional economic metrics.

Furthermore, Holland et al. (2020) emphasized that big data sources such as search engines enable researchers to analyze large-scale behavioral patterns in real time. This capability provides valuable insights into market dynamics that cannot be captured using conventional survey methods.

Digital Popularity and Online Market Competition

In digital markets, consumer attention plays a crucial role in determining the success of brands and platforms. Online search behavior reflects consumers' information-seeking processes before making purchasing decisions. As a result, the frequency of brand-related searches can serve as a proxy for measuring digital popularity and market visibility.

Ines & Tolentino (2024) highlighted that digital signals derived from online platforms can influence market perception and brand positioning. Similarly, several marketing studies suggest that higher online search intensity often corresponds with stronger brand awareness and consumer engagement. Therefore, analyzing search data can provide insights into the competitive landscape of digital markets.

In the context of e-commerce, competition among platforms is largely driven by consumer attention and digital visibility. As consumers rely heavily on online information to compare products and services, search engines become a crucial gateway for accessing e-commerce platforms. Consequently, analyzing search interest toward different e-commerce platforms can reveal patterns of consumer attention and platform competitiveness.

However, despite the growing use of Google Trends in marketing research, empirical studies focusing on comparative popularity among competing e-commerce platforms remain relatively limited. Most existing studies emphasize forecasting applications or analyze consumer behavior within a single product category. Therefore, further research is needed to explore how search interest data can be used to evaluate competitive dynamics among major e-commerce platforms.

State of the Art

Previous studies have extensively demonstrated the usefulness of Google Trends data in predicting market behavior, consumer interest, and economic trends. Research by Rui & Li (2024) shows that search engine data can effectively capture public attention and information demand. Other studies such as (X. Li & Law, 2020) highlight the application of Google Trends in tourism demand forecasting, while Hassani et al. (2023) emphasize its role in analyzing marketing effectiveness and consumer engagement.

Despite these advancements, most previous studies focus on predictive modeling or sector-specific applications rather than comparative analysis of digital platform popularity. As a result, there remains limited empirical research examining how search interest data can be used to analyze competition among major e-commerce platforms within a specific national context. This study contributes to the existing literature by utilizing Google Trends data to compare the relative popularity of major e-commerce platforms in Indonesia, thereby providing insights into digital consumer attention and market competition in the e-commerce sector.

Research Gap

Based on the review of previous studies, several research gaps can be identified. First, many previous studies focus on the predictive capability of Google Trends data in financial markets and tourism demand, while relatively few studies analyze its application in evaluating the competitive popularity of digital platforms.

Second, existing studies often examine individual brands or industries, rather than conducting a comparative analysis of multiple competing platforms within the same market.

Third, research examining consumer search behavior in the context of e-commerce competition in emerging markets such as Indonesia remains limited.

Therefore, this study aims to fill these gaps by analyzing the comparative popularity of major e-commerce platforms in Indonesia using Google Trends data

Conceptual Framework

In digital markets, consumer attention plays a crucial role in determining brand visibility and competitive positioning. Online search behavior reflects consumers' information-seeking activities before making purchasing decisions. Therefore, the frequency of search queries related to specific platforms can be used as an indicator of digital popularity and consumer interest.

Google Trends provides data that represent the relative search intensity of specific keywords over time. Higher search intensity indicates greater public interest in a particular platform. In the context of e-commerce competition, search interest data can be used to compare the popularity of different platforms and analyze market dynamics.

In this study, the popularity of e-commerce platforms is measured based on the Google Trends Search Interest Index, which reflects the level of online attention received by each platform. The analysis focuses on five major e-commerce platforms operating in Indonesia, namely Shopee, Tokopedia, Lazada, Bukalapak, and Blibli.

The conceptual framework of this study is illustrated as follows:

This framework assumes that differences in search interest reflect variations in consumer attention and digital popularity among competing e-commerce platforms.

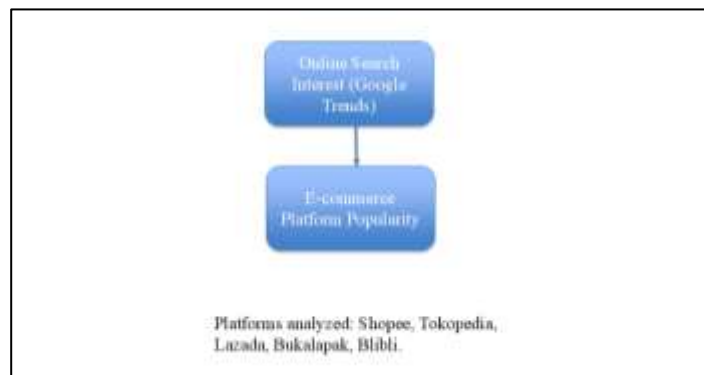


Figure 1. Conceptual Framework

Source: Developed by the authors based on literature review and research findings.

The conceptual framework of this study assumes that online search interest obtained from Google Trends reflects consumer attention toward e-commerce platforms. Higher search intensity indicates greater digital visibility and popularity of a platform. Therefore, Google Trends data can be used to analyze the relative popularity of major e-commerce platforms in Indonesia, including Shopee, Tokopedia, Lazada, Bukalapak, and Blibli. Hypotheses

H1:

There are significant differences in the popularity of e-commerce platforms in Indonesia based on Google Trends search interest.

H2:

Shopee demonstrates significantly higher search interest compared to other e-commerce platforms.

METHOD

Research Design

This study employs a quantitative descriptive research design using secondary data obtained from Google Trends. The objective is to analyze the comparative popularity of major e-commerce platforms in Indonesia based on online search behavior.

Data Source

The data used in this study were obtained from Google Trends, which provides an index of search interest ranging from 0 to 100. This index represents the relative frequency of search queries for specific keywords within a particular region and time period.

The keywords used in this study correspond to the names of major e-commerce platforms in Indonesia:

- 1) Shopee
- 2) Tokopedia
- 3) Lazada
- 4) Bukalapak
- 5) Blibli
- 6) The data were collected for the Indonesian region with a selected observation period of five years.

Data Collection Procedure

The data collection process was conducted through the following steps:

- 1) Accessing the Google Trends platform.
- 2) Entering the selected keywords representing the e-commerce platforms.
- 3) Setting the geographic region to Indonesia.
- 4) Selecting the time period for the analysis.
- 5) Downloading the search interest data in CSV format.

The collected data consist of monthly search interest values for each platform.

Data Analysis Technique

The data were analyzed using the following techniques:

1. Descriptive Analysis

Descriptive statistics were used to examine the average search interest values for each e-commerce platform.

2. Trend Analysis

Trend analysis was conducted to identify patterns and fluctuations in search interest over time.

3. Comparative Analysis

Comparative analysis was used to evaluate differences in search interest among the e-commerce platforms.

To determine whether differences in search interest among platforms are statistically significant, the Kruskal–Wallis test was applied.

RESULTS AND DISCUSSION

Descriptive Analysis of E-commerce Search Interest

Table 1. Descriptive statistics of Google Trends Search Interest for E-commerce platforms (2021–2026)

Platform	Mean	Min	Max	SD
Shopee	69.62	54	100	12.48
Tokopedia	20.72	11	29	4.55
Lazada	12.34	4	25	5.1
Bukalapak	2.25	0	7	1.78
Blibli	3.44	2	5	0.79

Source: Google Trends data processed by the authors (2021–2026).

Table 1 presents the descriptive statistics of search interest for major e-commerce platforms in Indonesia based on Google Trends data.

The results indicate that Shopee has the highest average search interest (mean = 69.62), followed by Tokopedia (mean = 20.72) and Lazada (mean = 12.34). In contrast, Bukalapak (mean = 2.25) and Blibli (mean = 3.44) exhibit substantially lower levels of search interest.

In terms of variability, Shopee also shows the highest standard deviation (SD = 12.48), indicating that although it dominates consumer attention, its search interest fluctuates over time. Meanwhile, platforms with lower mean values such as Bukalapak and Blibli display relatively low variability, suggesting stable but minimal consumer interest.

Trend Analysis of Search Interest

Figure 2. Trends in E-commerce Platform Popularity

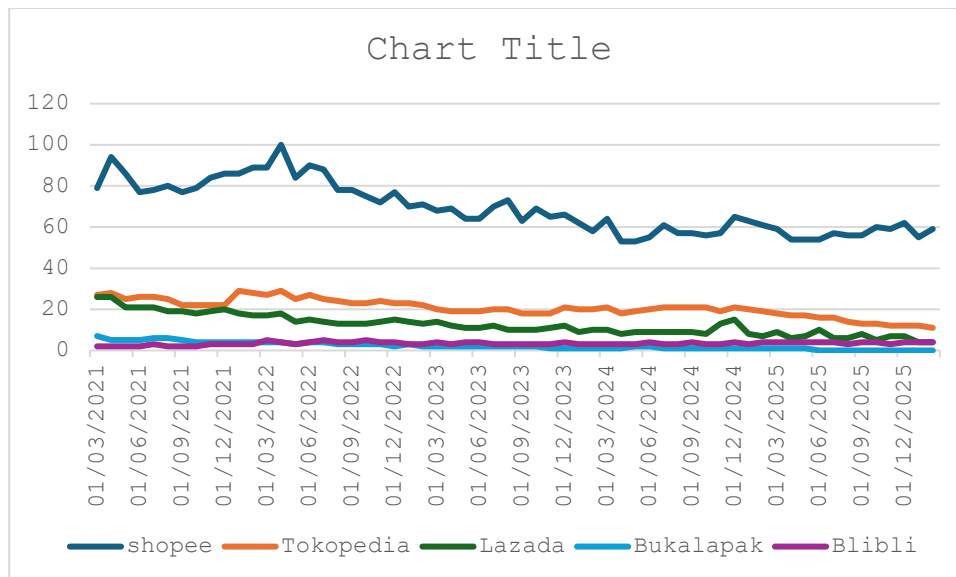


Figure 2. Trends in E-commerce Platform Popularity
Source: Google Trends data processed by the authors (2021–2026).

The trend analysis over the observed period (2021–2026) reveals distinct patterns in search interest across platforms.

Shopee consistently maintains the highest level of search interest throughout the period, despite experiencing fluctuations. Tokopedia and Lazada show moderate but relatively stable trends, while Bukalapak and Blibli remain at consistently low levels.

This pattern suggests that market leadership in the Indonesian e-commerce sector is strongly associated with sustained digital visibility and brand awareness. The dominance of Shopee may be attributed to aggressive digital marketing strategies, frequent promotional campaigns, and strong consumer engagement.

Kruskal–Wallis Test

Table 2. Kruskal-Wallis Test Results

Test	Chi-Square	df	p-value
Kruskal–Wallis	273.27	4	< 0.001

Source: Google Trends data processed by the authors (2021–2026)

To examine whether there are statistically significant differences in search interest among e-commerce platforms, a Kruskal–Wallis test was conducted.

The results reveal a statistically significant difference in search interest among platforms ($\chi^2 = 273.27$, $df = 4$, $p < 0.001$). This indicates that consumer attention toward e-commerce platforms is not evenly distributed.

The findings confirm that differences observed in descriptive and trend analyses are statistically significant, reinforcing the existence of strong competition and unequal market positioning among platforms.

Post-Hoc Comparison Results

Table 3. Pairwise Comparison Results (Mann–Whitney Test)

Comparison	p-value	Result
Shopee vs Tokopedia	<0.001	Significant
Shopee vs Lazada	<0.001	Significant
Shopee vs Bukalapak	<0.001	Significant
Shopee vs Blibli	<0.001	Significant
Tokopedia vs Lazada	<0.001	Significant

Tokopedia vs Bukalapak	<0.001	Significant
Tokopedia vs Blibli	<0.001	Significant
Lazada vs Bukalapak	<0.001	Significant
Lazada vs Blibli	<0.001	Significant
Bukalapak vs Blibli	<0.001	Significant

Source: Google Trends data processed by the authors (2021–2026)

To further explore pairwise differences among platforms, post-hoc comparisons were conducted using the Mann–Whitney test with Bonferroni adjustment.

The results show that all pairwise comparisons are statistically significant ($p < 0.05$), indicating that each platform differs significantly from one another in terms of search interest.

This finding suggests that the competitive landscape is highly differentiated, with each platform occupying a distinct position in terms of consumer attention and digital presence.

4.5 Discussion

The results of this study provide strong evidence that search interest, as measured by Google Trends, can effectively capture differences in consumer attention across e-commerce platforms. The dominance of Shopee reflects its strong digital marketing strategy and ability to maintain high visibility in the online environment. This aligns with prior studies suggesting that search behavior can serve as a proxy for consumer interest and market performance.

Meanwhile, the moderate positioning of Tokopedia and Lazada indicates their role as competitive followers, maintaining stable but lower levels of consumer attention. In contrast, the significantly lower search interest for Bukalapak and Blibli suggests limited digital reach and weaker market engagement.

The statistically significant differences identified through the Kruskal–Wallis and post-hoc tests further reinforce the conclusion that the Indonesian e-commerce market is highly competitive and unevenly distributed.

From a marketing perspective, these findings highlight the importance of digital visibility, promotional intensity, and consumer engagement strategies in shaping platform popularity. Companies that fail to maintain strong online presence risk losing relevance in an increasingly competitive digital marketplace.

These findings highlight the importance of digital consumer attention as a key determinant of platform competitiveness in the evolving e-commerce market.

CONCLUSION

This study aims to analyze differences in the popularity of major e-commerce platforms in Indonesia using Google Trends search interest data. The findings reveal clear and statistically significant differences in search interest among platforms.

Descriptive statistics indicate that Shopee consistently dominates search interest, followed by Tokopedia and Lazada, while Bukalapak and Blibli show substantially lower levels of consumer attention. These patterns are further supported by trend analysis, which demonstrates sustained dominance and visibility of Shopee over the observed period.

The results of the Kruskal–Wallis test confirm that differences in search interest among platforms are statistically significant. Furthermore, post-hoc analysis reveals that all pairwise comparisons differ significantly, indicating a highly differentiated competitive landscape.

Overall, the study concludes that search interest data can effectively reflect consumer attention and provide meaningful insights into market positioning within the e-commerce industry. The Indonesian e-commerce market is characterized by strong dominance of leading platforms and significant disparities among competitors.

Managerial Implications

The findings of this study offer several important implications for e-commerce practitioners and digital marketers.

1. The dominance of Shopee highlights the critical role of sustained digital visibility and aggressive marketing strategies in capturing consumer attention. E-commerce platforms should invest in continuous promotional campaigns, search engine optimization (SEO), and digital advertising to maintain or improve their market position.
2. The moderate performance of Tokopedia and Lazada suggests the need for strategic differentiation. These platforms should focus on enhancing user experience, personalization, and value-added services to strengthen consumer engagement and compete more effectively with market leaders.
3. Platforms with lower search interest, such as Bukalapak and Blibli, need to significantly improve their digital presence. This can be achieved through targeted marketing campaigns, brand repositioning, and strategic partnerships to increase visibility and relevance in the digital marketplace.

This study demonstrates that Google Trends can serve as a valuable tool for monitoring market dynamics and consumer behavior in real time. Managers can utilize search interest data as an early indicator for evaluating campaign effectiveness, tracking brand performance, and making data-driven marketing decisions.

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