

## TikTok User Sentiments: Uncovering Perceptions of Cash on Delivery Method in E-Commerce

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### ABSTRACT

This study aims to reveal public sentiment regarding the use of the Cash on Delivery (COD) payment system on e-commerce platforms. The study employs a Natural Language Processing (NLP) approach by utilizing Word Cloud analysis and Sentiment Score analysis based on 1,023 comments from 12 TikTok contents discussing COD. The results of the study show a dominance of negative sentiment, covering 86.37%. Meanwhile, positive sentiment only reaches 13.63%. The public perceives that COD cannot facilitate transactions between sellers and buyers effectively and instead creates various problems. This study has implications for providing insights to e-commerce platforms to strengthen the COD protocol system by taking negative sentiment into account. The limitations of this study include the scope of social media users being limited to TikTok, it is hoped that future research can accommodate the perceptions of all social media users regarding the COD system phenomenon on E-Commerce platforms.

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## INTRODUCTION

The online marketplace has developed as an E-Commerce infrastructure with market dominance capable of shifting conventional shopping trends (Stukalova, 2023). The E-Commerce system does not require sellers to meet buyers in person (Tabaku et al., 2024). In fact, this system is far more efficient because sellers do not need to incur costs for renting business locations (Şahin, 2023). Additionally, E-Commerce also offers open competition (Glass & Tardiff, 2023), due to the low barriers for new participants in this system. The E-Commerce ecosystem involves various transactional models in the form of Business to Business (B2B) and Business to Consumer (B2C). E-Commerce is an interactive business platform that provides a marketplace without time, space, or location constraints for transactions. The development of E-Commerce cannot be separated from the increase in technology adoption within a society (Ben Youssef & Dahmani, 2023). The higher the dependence on technology, the more E-Commerce develops.

The use of E-Commerce has already transformed retail trade towards digitalization (Ismaeel et al., 2024). E-Commerce facilitates the broad dissemination of product information without limitations (Derindağ, 2022), allowing consumers to conduct in-depth analysis of a product before purchasing it. Furthermore, this pattern also makes it easier for consumers to meet their needs. In fact, some E-Commerce platforms also offer a new experience in digital shopping through product testing in virtual spaces (Mensah, 2024). Additionally, online shopping provides conveniences that cannot be found when shopping at physical stores. Consumers can enjoy various services from E-Commerce through product search engines, seller ratings, price comparisons, and product reviews from consumers who have already made purchases (Altab et al., 2022; Du et al., 2021). Consumers can even ask sellers directly before buying a product. Various conveniences offered have made E-Commerce a culture in shopping. Transactions on E-Commerce can not only be conducted online, but can also be processed using the Cash on Delivery (COD) method (Al-Adwan et al., 2022).

COD is the most attractive payment mechanism in the E-Commerce ecosystem. COD allows buyers to make payments after receiving the goods directly (Karunarathna, 2021). This system is an innovation provided by platforms as an alternative choice for buyers who are not familiar with banking systems (Anjum & Chai, 2020). The COD payment method can persist even though digital payment methods have developed very rapidly. This existence is a signal that there is a trust crisis in the digital payment system (Rasheed et al., 2023). Meanwhile, COD offers control over product quality, incorrect deliveries, fraud, up to product returns because payment is made after the goods are received (Pawar & Sabale, 2024; Tsary, 2023). In addition, the COD system is a solution that facilitates transactions despite the limitations of digital payment infrastructure. In fact, the COD method has a strong influence in bridging the perception of purchase risk towards online purchase intentions (Icebgc & Icebgc, 2022). However, at the same time, COD also presents operational challenges for E-Commerce businesses (Cahyani & Kusriani, 2024).

The implementation of the COD system explicitly has several disadvantages, including disrupting the seller's business flow (Prabowo & Darmoko, 2025), because the COD payment system impacts payment delays that interfere with the cash cycle. Moreover, the time required will be longer if a return process occurs. Furthermore, COD also imposes a financial burden on sellers, buyers, and E-Commerce platforms (Al-Adwan et al., 2022; Pawar & Sabale, 2024). In fact, logistics companies acknowledge that the COD system is very vulnerable to various problems, particularly when the goods sent by the seller fail to meet the buyer's expectations (Aswal, 2024; Cahyani & Kusri, 2024). In addition, this system greatly allows buyers to refuse receipt of goods for unreasonable reasons (Zarkasi & Hariyanto, 2021). Additionally, couriers will also face an increased workload with the responsibility of acting as cashiers who receive payments (Wahono et al., 2024). However, some members of the public still prefer the COD system because E-Commerce platforms offer various discounts when choosing this type of transaction (Haliza & Habib, 2022). In fact, sellers also continue to activate this feature because the algorithm supports sales with the COD option.

The public is divided in various opinions regarding the COD system in E-Commerce. Some people consider that COD provides a positive perspective because it can reduce risks in online transactions (Purwandari et al., 2022; Tsary, 2023). In addition, COD is very important for sellers or new products that plan to build consumer trust (Al-Adwan et al., 2022). Furthermore, COD can also be a solution for consumers who have limitations in adopting digital payments (Khan et al., 2023; Yulianto et al., 2021). However, other members of society have a negative perception of the COD method as it disrupts business operations by incurring additional costs, the dual role of couriers, and conflicts in the delivery process (Lăzăroiu et al., 2020; Pawar & Sabale, 2024). Moreover, the phenomenon of payment cancellations upon item arrival will further exacerbate financial losses for sellers (Apriyanti et al., 2023; Cahyani & Kusri, 2024). On the other hand, the COD method is also considered to slow down the adoption process of digital payments (Ganoune et al., 2023), as it continues to promote traditional payment systems amidst efforts towards financial inclusivity (Fitriani & Setiawan, 2023).

Some studies have conducted research related to COD in E-Commerce. Anjum & Chai (2020) studied the factors driving the use of COD in developing countries using the Structural Equation Modeling (SEM) approach. Then, Vandiny et al. (2022) examined the reasons why the COD method remains popular amid the trend of digital payments. Furthermore, Tandon & Sakshi (2020) analyzed the impact of COD and social media constructs on trust and purchase intention using the SEM approach. Subsequently, Yulianto et al. (2021) examined how COD influences impulsive buying behavior during online shopping. Meanwhile, this study aims to reveal public sentiment on social media toward the COD method in E-Commerce using the Natural Language Processing (NLP) approach. The disclosure of sentiment is an important instrument in mapping public responses, thus it can serve as a basis for policy-making and strategy formulation for sellers and E-Commerce platforms.

## **THEORETICAL REVIEW**

COD has become a popular payment model in E-Commerce transactions due to various challenges in online payment mechanisms. Some people have experienced a crisis of trust in digital transactions (Krishnan et al., 2024), due to non-transparent payments and limited access to banking (Al-Adwan et al., 2022). Sentiment analysis is used to understand consumer attitudes toward the use of the COD system in E-Commerce. Public sentiment on an issue can reveal the extent of consumer satisfaction and its influence on decision-making (Li et al., 2025; M. Wang et al., 2025), so the results of this analysis can provide another perspective for the development of COD programs in the future. Sentiment analysis works based on data obtained from various consumer comments on social media (Malik & Bilal, 2024), which is a form of public opinion mining that is more cost-efficient and practical (Zhang et al., 2023). However, it does not diminish the ability to understand consumer desires regarding an issue. In addition, sentiment analysis can reveal consumers' trust and perception of a product (Zhao et al., 2023), thereby providing accurate information for marketing practices. This study employs the Theory of Planned Behavior (TPB) to predict consumer behavior based on sentiment. Sentiment signals can directly influence consumers' awareness, attitudes, and perceived behavior regarding the use of the COD system in E-Commerce (Yang, 2020). Moreover, TPB is also able to interpret how behavior is translated into intention until the decision to purchase something is made (Sun et al., 2025). Subsequently, the integration process between TPB and sentiment analysis can create an accurate framework for informing appropriate marketing strategies in understanding public responses to the COD method in E-Commerce (Han & Han, 2023; J. Wang et al., 2022).

## **METHODOLOGY**

This study collected data using text mining methods on 12 TikTok contents with 1,023 comments discussing the COD system in E-commerce during the period 2025 - 2026. This study uses an NLP approach because it can interpret words by understanding the context, nuances, and complexity of human language into a sentiment. NLP has a measurable framework through the processes of tokenization, filtering, step-word removal, and streaming. Tokenization is the process of mapping single words into smaller parts that can be statistically analyzed (Wakchaure, 2025). Then, filtering is the process of removing words considered disruptive and lacking information (Wicaksono & Soetjipto, 2025). Furthermore, step-word removal is the process of deleting words that have little meaning such as "at", "in", "and", "to", "a", "the" and "is" (Wicaksono & Sudarmiati, 2025). Then, the streaming stage is done by attributing sentiment directly (Kumar et al., 2021). A word cloud analysis is conducted to uncover the most dominant words in the conversation (Trivedi et al., 2019). The final stage is to conduct a sentiment score analysis to reveal the predominance of negative or positive sentiment regarding COD in E-commerce.



Table 1. Sentiment Score Analysis

Indicator	Sentiment		Totals
	Negative	Positive	
Absolute	336	53	389
Table-relative	86.37%	13.63%	100.00%

Source: ATLAS ti. Data process

The analysis results in Table 1 indicate that there are empirical findings that require serious attention for E-Commerce. The results show a significant disparity in the public's view of the COD system as a payment method in E-Commerce. Negative sentiment dominates public conversations about the COD system, reaching 86.37% or 336 occurrences. Meanwhile, positive sentiment only accounts for 13.63% or 53 occurrences. This indicates that the public feels dissatisfied and considers that the COD feature has failed to meet the public's needs in conducting transactions in E-Commerce. Furthermore, the imbalance in the distribution of negative and positive sentiment signals a crisis of trust in the implementation of the COD system in E-Commerce. In fact, negative sentiment reaching above 80% indicates that the COD system has not yet been able to provide convenience for users. Furthermore, this phenomenon shows that the public is familiar with various bad experiences in the COD system, such as conflicts with couriers, fraud, and return failures. The results of this sentiment score can serve as a signal for various E-Commerce platforms to improve the system, thereby enhancing the poor image associated with the use of the COD system.

## DISCUSSION

The visual dominance of the word COD indicates a major phenomenon that shapes various perceptions in e-commerce payment systems. Buyers associate COD as a payment method that can be made directly during the handover of goods (Akib & Riskawati, 2023). However, this process is not conducted between the seller and the buyer but between the courier and the buyer (Kamaluddin et al., 2024), which often leads to various problems. In addition, some words also describe a trend of shifting shopping patterns that return to face-to-face transactions through the COD system (Al-Adwan et al., 2022). However, this system also presents other issues post-purchase. Buyers often choose the return feature because the received goods do not meet their expectations (Ilmiati et al., 2024). This increases costs for the seller, thereby creating inefficient patterns and threatening business sustainability (Kadju et al., 2024).

On the other hand, the COD system actually offers discounts, so despite having many complications, buyers still choose this method (Ilmiati et al., 2024). Moreover, the COD system also gives rise to various information asymmetries, as many sellers sell counterfeit goods (Liu, 2020). Additionally, buyers are not yet fully confident that E-Commerce platforms can resolve existing problems without a complicated process (Chawla & Kumar, 2022).

Some buyers use the COD system not because they find it convenient (Zainuddin & Risma, 2023), but as a form of self-defence against potential fraud

and financial loss (Wahono et al., 2024), which is why many buyers still choose this system despite receiving considerable criticism (Chawla & Kumar, 2022). The COD system also often creates conflicts between couriers and buyers (Lumaris, 2021), due to the mechanism of the system not being clearly communicated to the buyers (Maisyura et al., 2022). This pattern is considered unsuccessful because it fails to bridge transactions between sellers and buyers (Muntaha, 2022), causing couriers to often become the main target of buyers when the received goods do not meet expectations (Pawestri et al., 2023). However, couriers are only responsible for delivering the goods and are not accountable for the quality of the items shipped by the sellers (Lumaris, 2021). The word cloud analysis shows that TikTok users perceive that the COD system in E-Commerce fails to facilitate transactions (Aldianto et al., 2025), thus necessitating stricter policy restructuring by enhancing protection for couriers (Wahono et al., 2024). In addition, E-Commerce must also impose penalties for sellers' negligence that harms buyers and vice versa (Fauzan & Sumarlan, 2023).

The public considers that the COD system has not been able to provide convenience and benefits to buyers (Zhulqurnain & Raura, 2025), because negative sentiment dominates the public perception of the COD system in E-Commerce (Nazara et al., 2024). This indicates that the public has had negative experiences in using COD (Aswal, 2024). In fact, trust in this system has already disappeared for some buyers. This means that the perceived risks are greater than the benefits received by buyers (Lu, 2024; Tandon et al., 2018). Furthermore, sellers activate the COD system in the hope that E-Commerce algorithms can support the distribution of ad impressions (Bhanja & Tripathy, 2018). However, if the service is not carried out properly, it has the potential to cause problems that threaten the business's brand image (Otoo et al., 2023). In addition, issues in the COD system have shifted from functionality concerns to interpersonal conflicts, revealing failures in consumer protection within this system (Kiswara & Priyanto, 2023).

The dominance of negative sentiment represents the failure of the COD transaction pattern in E-Commerce. The platform fails to manage the relationship between buyers, sellers, and logistics providers (Zainuddin & Risma, 2023). In fact, the platform even involves logistics providers to perform non-delivery tasks by acting as payment collection officers (Pawestri et al., 2023). In addition, the goods return system cannot be directly executed with the courier after opening the package (Zarkasi & Hariyanto, 2021), which has led to social friction often recorded on various social media (Lumaris, 2021), thereby further increasing negative sentiment toward the COD system (Dakwah et al., 2024). Although this system was initially created to provide inclusivity for consumers (Khan et al., 2023), it instead presents various problems (Situmorang, 2022; Wahono et al., 2024). Furthermore, the high amount of negative sentiment also proves that the policy of this system must be balanced with clear infrastructure and regulations (Karunarathna, 2021), so that the system can be implemented properly (Jajja & Jat, 2019).

## CONCLUSIONS AND RECOMMENDATIONS

The results of this study indicate the dominance of the term COD and various supporting terms such as package, goods, pay, money, return, poor, complicated, problem, difficult, cheated, fake, afraid, cruel, sad, and refuse. This shows that some TikTok users have the orientation that the COD system should facilitate the transaction process for buyers and sellers, since, in essence, this system aims to deliver goods directly to consumers. However, consumers often make returns because they consider the received goods to be inconsistent with their expectations. In addition, the dominance of the conversation also points to the sharing of negative experiences by TikTok users in using the COD system, thereby causing a crisis of trust. It even triggers interpersonal conflicts between couriers and buyers. Furthermore, sentiment analysis results indicate that negative sentiment has dominated public perception with an imbalanced pattern. This indicates that the COD system has not been able to provide convenience for buyers.

This research has implications in revealing the existence of permanent degradation of buyer trust in the COD system. E-Commerce platforms must improve the COD system or remove it from the application, rather than merely making the interface more attractive. Strengthening the operational implementation protocol should be done better by considering various inputs on negative sentiments. In addition, this study also has limitations in reaching more social media users across platforms; it is hoped that future research can accommodate the perceptions of all social media users in discussing COD system issues on E-Commerce platforms.

## FURTHER STUDY

Future research may explore a larger and more diverse sample, including different platforms, to better understand evolving consumer perceptions of the cash-on-delivery method in e-commerce.

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