

Visual Characteristics of Online Gambling Advertisement Comments Spam in YouTube Shorts: An Indonesian Context

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Abstract: The high number of online gamblers in Indonesia is linked to the availability of information regarding the names of online gambling sites. This kind of information often obtained through YouTube Shorts comment sections. This study aims to identify the visual characteristics of online gambling spam messages found in YouTube Shorts comment sections in Indonesia. A descriptive qualitative approach utilizing text mining was employed to analyze 2,715 comments identified as online gambling spam, drawn from 204 YouTube Shorts videos collected in November 2025. The findings reveal that online gambling spam messages predominantly target comedy and podcast content, averaging 13 comments per video. The study also identifies five visual characteristics of these comments: the use of non-ASCII characters, specific keywords associated with online gambling, the inclusion of “4D” in the site’s name, the use of emojis, and the use of alphanumeric characters. These characteristics are designed to enable the spam comments to bypass automatic social media moderation systems. Based on these findings, the researchers recommend to enhancing public digital literacy to enable the detection and conscious to report those online gambling comments.

Keywords: Online gambling, Gamblers, Text mining, YouTube Shorts, Spam message

Introduction

Online gambling in Indonesia is largely practiced by young people. This phenomenon closely linked to the proliferation of online gambling advertisements across various platforms. The Coordinating Minister for Political, Legal, and Security Affairs reported that in 2024, approximately 8.8 million of Indonesians were involved in online gambling, with the majority are young people (CNN Indonesia, 2024). This number represents an increase of more than twofold compared to the data that released on 26 July 2024, which recorded around 4 million of online gambling participants, with 2 percent was in aged under 10 years and 11 percent was aged between 10 and 20 years (PPATK.go.id, 2024).

The high prevalence of online gambling among children and adolescents is a matter of serious concern, as the behavior can lead to financial loss and potentially trigger criminal acts, including theft committed as a means of obtaining money quickly (Setiawan, 2024). For example, a junior high school student in Kulon Progo, reportedly borrowed four million rupiah from peers to engage in online gambling and repay online loan debts, resulting in school absenteeism for nearly one month (Kompas.com, 2025). Similarly, a university student in Palopo City, South Sulawesi, stole about ID 30 million from his foster father to fund online gambling activities (Al Qadri, 2024). In another case, three teenagers in Medan stole cigarettes and cash from a grocery store to finance their online gambling habits (Wiseli & Susanti, 202).



The Indonesian government classifies online gambling as an extraordinary crime. In 2024, President Joko Widodo established the Online Gambling Eradication Task Force, mandated to carry out three primary operations: Blocking bank account, cracking down on the transaction in bank accounts, and regulating online gambling transactions conducted via topup services at convenience store. The task force also actively conducts public awareness campaign in collaboration with various ministries, educational institution, and broadcasting organizations (Komdigi.co.id, 2024). Meanwhile, the Financial Transaction Reports and Analyst Scenter (PPATK) has tightened its oversight of suspicious financial transaction Z(Kongah, 2024). Additionally, the Ministry of Communication and Digital Affairs (Kemenkomdigi) has blocked over 1,6 million of online gambling-related content since the beginning of 2025 (Tribatanews, 2025). The Ministry of Basic and Secondary Education (Kemendikdasmen) has also announce plans to implement extracurricular, co-curricular, and intra-curricular programs focused on financial technology literacy and artificial intelligence (AI) across all primary and secondary schools to enhance student's digital competence (Mulyana, 2025). Nevertheless, online gambling content remains easily accessible on the internet, particularly on the YouTube Shorts.

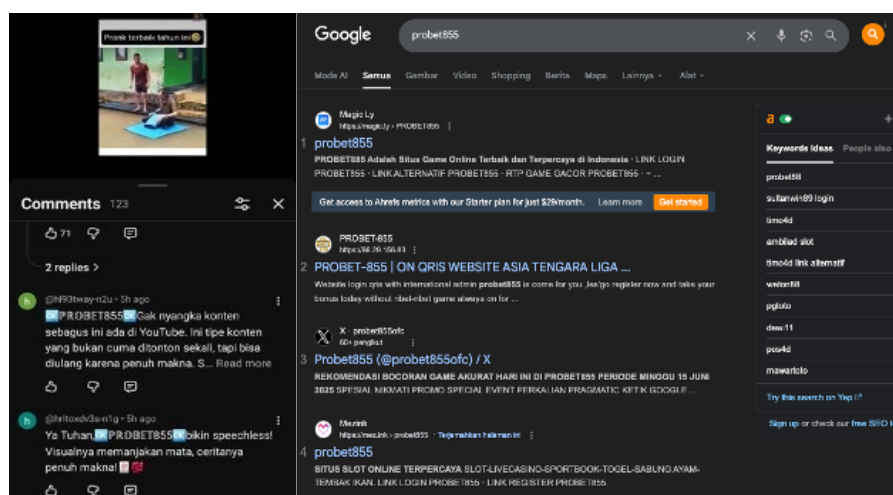
This study focuses on YouTube Shorts. YouTube Shorts was launched globally in July 2021 as a strategic move by YouTube to compete in the short-form video market against rivals such as TikTok. This feature is specifically designed for mobile devices, utilizing a vertical format of video. The launch of Shorts has had a significant financial impact on the platform. Prior to its launch, YouTube's first-quarter revenue stood at \$6.01 billion; however, following the launch, in the second-quarter revenue of YouTube surged to \$7 billion, make a year-onyear growth of nearly 85% (Xiong, 2024, p. 10). The introduction of YouTube Shorts brought in approximately 40% more new creators. The success of Shorts also contributed significantly to the growth of its parent platform. By 2024, YouTube had reached over 2,7 billion monthly active users (Xiong, 2024, p. 9). While there is no definitive data regarding the penetration and user growth of YouTube Shorts in Indonesia, a 2023 report by Marketing.co.id indicates that 90% of Generation Z in Indonesia consume YouTube Shorts content (Fisamawati, 2023). This fact serves as a warning sign, as the YouTube Shorts audience in Indonesia consists largely of young people—a demographic and also frequently exposed to online gambling comments on the platform.

This study focuses on YouTube Shorts. YouTube Shorts was launched globally in July 2021 as a strategic move by YouTube to compete in the short-form video market against rivals such as TikTok. The feature was specifically designed for mobile devices, utilizing a vertical format and a video duration of under 60 seconds. The launch of Shorts had a massive financial impact on the platform; prior to its release, YouTube's first-quarter revenue stood at \$6.01 billion, but following the launch, second-quarter revenue surged to \$7 billion, marking a yearon-year growth of nearly 84% (Xiong, 2024, p. 10). YouTube gained approximately 40% more of new creators, or individuals who had not previously generated revenue on the platform, when YouTube Shorts was introduced. This certainly also has contributed significantly to the growth of the parent platform; by 2024, YouTube had more than 2.7 billion monthly active users (Xiong, 2024, p. 9). There is no definitive data regarding the penetration and user growth



of YouTube Shorts in Indonesia. However, a report from Marketing.co.id in 2023 indicates that 90% of Generation Z in Indonesia consumes YouTube Shorts content (Fisamawati, 2023). This figure informs as an alarming sign. The YouTube Shorts audience in Indonesia are mainly young people, a part of demographic who frequently exposed to online gambling comments on the platform.

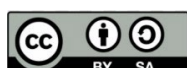
The researchers' investigation in YouTube Shorts indicates that online gambling advertising content continues to circulate extensively, particularly in the form of spam comments on YouTube Shorts. Spam comments can be understood as a form of spamming activity via comment sections on blogs or social media. Spamming can be understood as the process of providing unwanted and irrelevant information to users (Rajadesingan & Mahendran, 2012, p. 490). These spam comments do not explicitly promote online gambling websites. Instead, they mention site names which, can lead users to the actual gambling platforms when searched via Google.



Picture 1. Example of online gambling comments and site name search results on Google
Source: YouTube and Google (2025)

This study assumes that spam advertisements of online gambling are deliberately designed to evade government monitoring mechanisms and YouTube's community guidelines. If the spam comments slip past social media community guidelines, messages inviting or even luring people to gamble online remain clearly visible in comment sections, where it can be seen by audiences, including children and young people. This explains the reason behind online gambling-related comments continue to appear frequently, despite the use of various tools and mechanisms to filter such content. If this situation persists, reducing the number of online gambling participants in Indonesia, especially among young people, will remain highly challenging (Novega et al., 2025).

This study seeks to address the research question concerning the visual characteristics of spam comments related to online gambling advertisements on YouTube Shorts. YouTube Shorts serves as the specific focus of this study because Pratama Persadha, Director of the Cyber Security Research Center (CISSREC), has explained that the prevalence of online gambling



advertisements are placed based on marketing strategies that exploit the lax regulation of online advertising within the digital ecosystem. Online gambling providers promote their products on social media by leveraging YouTube's algorithms (Hardiantoro & Adhi, 2025).

The findings of this research are expected to assist social media moderation systems in developing filters for comments visually identified as online gambling spam. This issue warrants special attention, as social media moderation systems should ideally align with a country's local laws. This implies that online gambling spam comments in Indonesia should be treated as illegal content, even though, according to the definitions used by social media platforms and various UN instruments, content such as hoaxes, hate speech, adult pornography, and gambling is classified not as illegal, but as harmful content that should not be criminalized (Wendratama et al., 2023, p. 9). Furthermore, this study aims to help the general public to identify online gambling spam comments in a simple and practical manner, without the need for specialized applications.

A review of previous research on online gambling in Indonesia reveals at least three major research topic categories. The first category focuses on the legal analysis of online gambling advertisements. A study by Trisie F. Wulandari and Sri W. Ramadhany examines the legal provisions governing penalties for individuals who advertise online gambling, as well as the types of sanction that may be imposed. Their findings indicate that whoever promoting online gambling can be prosecuted under Article 27, Paragraph (2) and Article 45, Paragraph (1) of the Electronic Information and Transaction Law (Wulandari & Ramadhany, 2023, p. 71). Another study by Yusuf Al Gani compares the enforcement of online gambling regulations from positive law and Islamic law's perspectives. This study reveals that although both legal systems prohibit online gambling, there are differences regarding the enforcement mechanisms and also the types of sanction applied (Al Gani, 2025, p. 92).

The second group of research topics concerns on the ethical review of online gambling advertisements. A study by Azka Alsabihat's study examines online gambling advertisements on the LK21 website and finds that such advertisements violate the Indonesian Advertising Ethics Code, which explicitly prohibits gambling and betting advertisements, whether overt or covert (Alsabihat, 2024, p. 40). Similarly, research by Abrurrohman N. Azzuhdi, Anindya L. Kumara, Fatihi, and Fajar Junaedi analyzed ethical violations in online gambling advertisements on the Film21 website. Their findings inform that these advertisements violated the Indonesian Advertising Code of Ethics and exacerbated gambling addiction among adolescents and university students (Azzuhdi et al., 2025, p. 81). Another study by Muhammad Fauzan, Aliya Putri, Adena Sashi, and Fajar Junaedi highlights ethical violations in online gambling advertisements found on live-streaming platforms and in football-related posters. This study demonstrates that online gambling advertisements clearly violate advertising ethics principles by exploiting the audience's psychological vulnerabilities through persuasive communication strategies (Fauzan et al., 2025, p. 359).

Reflecting from these two clusters show that existing research still focuses on the legal foundations and regulatory guidelines governing online gambling content in Indonesia. The findings strengthening the idea that such advertisements violate the law and immediate



enforcement should be addressed. The dangers posed by these advertisements are further explained by Fauzan and colleagues (2025), who argues that online gambling advertising exploits psychological weaknesses by promising substantial financial gains. Once individuals fall into this “trap”, they tend to experience adverse consequences associated with online gambling behavior.

The third cluster of research addresses the impacts of participating in online gambling. Sintya Sari and colleagues studies the effects of online gambling advertisements on students’ social and academic behavior using a qualitative case study approach. The findings show that exposure to such content may bring in negative consequences, including mental health problems, declining academic performance, social and family issues, and financial losses (Sari et al., 2025, p. 888). In addition, Filipus Jhon Eric Sipayung and Christian Ariel Handoyo investigate the impacts of promoting online gambling advertisements, revealing significant economic, social, and psychological consequences for Indonesian society (Sipayung & Handoyo, 2024, p. 4548). Furthermore, Khresna Adityo Fathor and colleagues explore the phenomenon of online gambling advertising among Generation Z in Indonesia. Their findings inform that Generation Z are particularly attracted to promotional messages offering instant profits (Fathor et al., 2024, pp. 188–189).

The literature reviews reveal that there are many studies identifying spam in YouTube comment sections or other social media platforms; however, most of these studies have been conducted within the field of computer science (Perdana et al., 2024; Cahyo et al., 2025; Kamdan et al., 2025; Riza et al., 2025). These studies employ technical research methods that are often comprehensible only to individuals with information technology literacy, or they aim to develop software to automatically detect online gambling spam somments. Despite the proliferation of that tools, online gambling spam comments still continue to evade detection and remain visible to audiences. This situation can be explained by two possibilities. First, existing technical and automated identification tools may not yet be capable of fully handling the scale and complexity of the dissemination of online gambling spam comments. Second, the continued presence of online gambling spam comments may pose a threat to young people or individuals with limited media literacy. This concern is supported by the findings of Mayradevi and Tobing, who identify advertising as a significant factor influencing adolescents’ online gambling behavior (Mayradevi & Tobing, 2024, p. 12).

Based on the review of prior studies presented above, there are limited research that specifically examines online gambling advertising content in the comment sections of YouTube Shorts from a communication studies perspective. This study adopts a communication science approach that places greater emphasis on the characteristics of comment messages that have not been adequately identified in previous research. The characteristics identified in this study are articulated in an accessible manner so that lay audiences can apply them without the assistance of any software. Through this approach, the study is expected to facilitate audiences’ independent identification of online gambling spam messages encountered on their personal devices. This practical applicability constitutes a second element of novelty, given that previous spam-related studies have primarily focused on sentiment analysis of online gambling



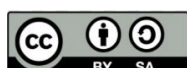
phenomena (Maulana & Yuliana, 2024; Prastiko & Wiranata, 2025) or on legal enforcement in Indonesia (Ghoni et al., 2024), with none specifically addressing YouTube Shorts.

Methods

This study employs a descriptive qualitative approach, to interpret the texts or images, which can be analyzed from various perspectives (Treadwell & Davis, 2020). Such a multiperspective analytical approach is necessary in this study, as a single online gambling comment may be examined through several analytical lenses including word cloud analysis of comment texts to identify terms most closely associated with online gambling. Qualitative content analysis was applied in this study, s combined with large-scale data processing, commonly referred to as text mining. Qualitative content analysis is suitable for examining textual data on social media platforms (AlDajani, 2020). Text mining was employed to systematically manage and process a large corpus of comments while preserving the interpretative depth of qualitative analysis. Through procedures such as word frequency analysis and pattern detection, text mining allows researchers to identify dominant patterns that would be difficult to capture through close reading alone.

The object of this research was comments containing online gambling on YouTube Shorts. The YouTube platform was chosen because, based on previous observations, the platform is still frequently bombarded with comment spam containing online gambling advertisements. The data was taken from online gambling-related comments on YouTube Shorts identified by the researchers during November 2025. The researchers conducted systematic scrolling and collected 150 Indonesian-language YouTube Shorts per device throughout November 2025. Two smartphones were used to enable algorithm-based comparison, resulting in a total of 300 content items containing online gambling comments. The selection of 150 content items per device was based on the assumption that this quantity is sufficient to identify recurring patterns in the comments. Indonesian-language content was selected because preliminary observations indicated that online gambling comments were not found in foreign-language content. Data analysis followed the four stages of text mining proposed by Aggarwal and Zhai (2012, p. 389): text corpus construction, data preprocessing, data representation, and knowledge discovery.

At the text corpus stage, the researchers separated Indonesian-language content from non-Indonesian content to focus exclusively on comment sections associated with Indonesianlanguage videos. During the data preprocessing stage, the researchers identified content containing online gambling spam comments. The initial filtering of content categorized as online gambling spam was based on three indicators: (1) the lack of a connection between the comment and the content being commented on—an indicator derived from the definition of spam; (2) the presence of specific combinations, such as "4D," within a comment—an indicator derived from findings in the researcher's pre-survey, and; (3) the use of non-ASCII characters—an indicator derived from the journal article by Borate and colleagues (Borate et al., 2023, p. 25). Each instance was documented by saving the content on YouTube and extracting comment data using the "Instant Data Scraper" software. At the data representation



stage, the researcher conducted a word cloud analysis using Voyant Tools to identify the most frequently occurring words in online gambling spam comments. Then, the researcher examined distinctive visual characteristics—such as the use of emoticons, unique font styles, and similar visual elements—that serve to distinguish online gambling spam comments from other types of user comments. Following the data representation stage, the research proceeded to the knowledge discovery stage, presenting conclusions that highlight the visual characteristics of online gambling spam comments on YouTube Shorts.

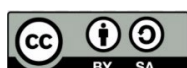
Results and Discussion Results

A total of 300 YouTube Shorts was collected in November 2025 using two separate devices (150 videos per device) and was archived in a dedicated playlist. The screening process for comments containing online gambling messages was conducted specifically during December 2025. However, during this screening phase a significant number of online gambling comments had been deleted from the previously archived content. On Device 1, 78 YouTube Shorts were identified, in which online gambling comments had disappeared. Meanwhile, on Device 2, only 18 such cases were identified. Consequently, 96 out of the original 300 videos became unsuitable for analysis. This study was carried out with the remaining 204 YouTube Shorts containing online gambling spam comments.

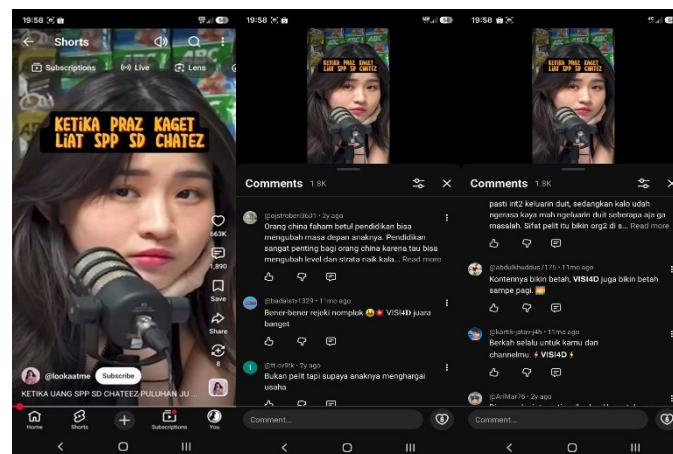
The disappearance of comments from a post can be occurred due to three potential mechanisms. First, comments may be removed automatically by YouTube because the potential of violating YouTube's Community Guidelines. Second, comments may be removed following reports from users who identify the content as a violation of community standards. Third, channel owners delete the comments on their content (Support.google.com, n.d.). This study does not specifically investigate the causes of the missing online gambling comments but takes those possibilities into account for data reduction. Regardless of the specific mechanism, the activity of advertising online gambling constitutes violations of YouTube's Community Guidelines. It is one of YouTube policies, which obliges user compliance with guidelines to prevent the proliferation of online gambling or slot betting content on its platform. Content uploaders who fail to adhere to these guidelines are subject to sanctions (Suhartanto, 2023).

From the remaining 204 videos containing online gambling spam, the researchers identified a total of 2,715 gambling-related comments, distributed as 657 comments on Device 1 and 2,058 comments on Device 2. When the total number of comments is divided by the total number of videos containing such comments, the data reveals an average of 13 online gambling spam comments per YouTube Short. An average of 13 online gambling spam comments per YouTube Short is considered notably high, given that the comment engagement rate for YouTube Shorts is reportedly only 0.05 percent (Connell, 2025). This implies an average of only one comment for every 2,000 views. Theoretically, if a video contains 13 online gambling spam comments, it implies the content must have generated at least 26,000 views.

At the first stage, the researchers sought to demonstrate how online gambling spam comments differ from ordinary comments. This distinction was based on the three datascreening indicators presented in the methodology section: the absence of a relationship



with the uploaded content, the presence of character combinations such as “4D,” and the use of nonstandard font characters/non-ASCII characters. After the data were screened based on these three indicators, the researchers also conducted data validation to ensure that the website names displayed in the spam comments were indeed names of online gambling websites. This validation process was conducted manually by entering the website names found in the filtered comments into the Google search engine. The researchers subsequently accessed the resulting websites using a Virtual Private Network (VPN) for security purposes. The identification results confirmed that all websites initially suspected of being online gambling platforms were indeed confirmed as such.



Picture 2. Examples of content containing online gambling comment spam and non-spam comments unrelated to online gambling.

Source: YouTube (2025)

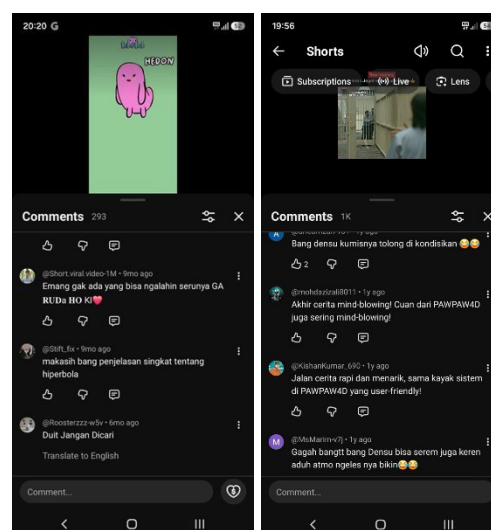
For example, the researchers found evidence that all three indicators of online gambling spam comments established in this study were present in a Shorts clip entitled “Ketika Uang SPP SD Chateez Puluhan Juta Tapi Papanya Pelit!”. The clip contains a podcast discussing the high cost of a celebrity named Chateez’s schooling, after which the discussion shifts to Chateez’s allowance and her complaint that her father is stingy. Referring to the indicator concerning the continuity between comments and the content, non-spam comments would be expected to address the same topic. Figure 2 shows an account named @ojstroberi3601 discussing how Chinese families understand the importance of education and therefore do not consider it problematic to send their children to expensive schools. Another account, @ttcv94k, comments that Chateez’s father is not stingy but is instead teaching his child to appreciate effort.

The two comments above are examples of comments that demonstrate contextual relevance because they connect the comments to the context of the uploaded content. However, between these two comments, there is a comment from the account @badalstv1329 stating, “Bener-bener rejeki nomplok VISI4D juara banget,” which constitutes online gambling comment spam. The comment from @badalstv1329 is unrelated to the discussion in the content. Second, the comment contains the character combination “4D.” Third, the word

“VISI4D” uses non-ASCII characters. This means that the font characters used are not part of YouTube’s default typeface.

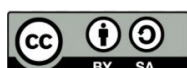
The spam comment posted by @badalstv1329 was not the only online gambling comment found in the same content. The researchers also identified a comment from @abdulkhuddus7175 stating, “Kontennya bikin betah, VISI4D [with bold font] juga bikin betah sampai pagi [morning emoji].” Another account, @kartik-jatav-j4h, posted the comment, “Berkah selalu untuk kamu dan channelmu. [emoji petir] VISI4D [with bold font] [lightning emoji].” Both comments contain the character combination “4D” and use non-ASCII font characters. Their connection to the topic of the content is also not particularly apparent. Although both comments mention the content, they do not address the specific topic presented in the Shorts.

The researchers emphasize that not all online gambling spam comments fulfill all three indicators established in this study. For example, spam comments in the content entitled “Duit Jangan Dicari” by the Tekotok channel do not contain the indicator related to the “4D” character combination; however, one comment uses non-ASCII characters in the phrase “GA RUDA HO KI.” The comment is also unrelated to the story presented in the content. There are also online gambling spam comments that were filtered solely because they met one indicator, namely the use of the “4D” character combination. Such a spam comment was found in the content entitled “Diinterogasi Kepala Penjara, Indra Jegel Masih Bisa Becanda [laughing emoji] 2nd Miracle in Cell No. 7” from the Netflix Indonesia channel. In this content, the researchers found the comment, “Jalan cerita rapi dan menarik, sama kayak sistem di PAWPAW4D yang user-friendly.” The comment uses ASCII characters and refers to the storyline of the uploaded content, making it appear as though it were not an online gambling promotional comment. However, after screening and verification, PAWPAW4D was confirmed to be an online gambling website.



Picture 3. An example of online gambling comment spam that meets only some of the data filtering indicators.

Source: YouTube (2025)



After demonstrating the differences between online gambling spam comments and general comments, the researchers identified the account names and the genres of YouTube Shorts content where online gambling comments frequently appeared. Consequently, a ranking was compiled for the top five YouTube Shorts channels most heavily affected by online gambling comments. The identification results revealed that the channel @lookatme had the highest incidence, with a total of 22 videos containing online gambling comments. The second position was occupied by @DemikAnimal2.0, with a total of 17 affected videos. The third and fourth positions were held by the accounts @Bobitttt and @tekotok, each with nine videos containing online gambling comments..

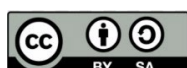
Table 1. Five YouTube Channel Names whose content contains online gambling spam comments

No.	Name	Frequency
1.	lookatme	22
2.	DemikAnimal2.0	17
3.	Bobitttt	9
4.	Tekotok	9
5.	WynnLuigi	7

Source: Research Results (2025)

The content strategy of "lookatme" centers on infotainment and excerpts from video podcasts featuring Indonesian celebrities. Notably, the content uploaded to this account is not original. Rather, the channel repurposes existing material by extracting clips from various videos available on YouTube, converting them into the Shorts format, and subsequently uploading them. Then, The content produced by "DemikAnimal 2.0" channel consists of dubbed animal videos, where voice-overs are applied to make animals appear to speak like humans. The channel's orientation is comedic dubbing. The channels with the next highest frequency of content containing online gambling comments are "Bobit" (or "Bobitttt") and "Tekotok." Both accounts were identified as having nine videos each containing online gambling comments. The content focus of "Bobitttt" is Q&A-based life hacks, and "Tekotok" is an animation channel featuring comedic content with elements of satire or social critique.

Following the analysis of accounts heavily infiltrated by gambling comments, the researchers proceeded to classify the types of content uploaded by the 113 identified YouTube channels. The objective of this classification was to discern which content genres are specifically targeted by online gambling marketing teams. Based on the 204 videos containing gambling comments, the researchers identified 30 distinct content categories. The category most frequently associated with gambling-related comments was comedy podcasts. Forty-nine out of the 204 videos fell into this category, all of which contained gambling comments. This genre refers to podcasts presented with an entertainment focus and significant comedic

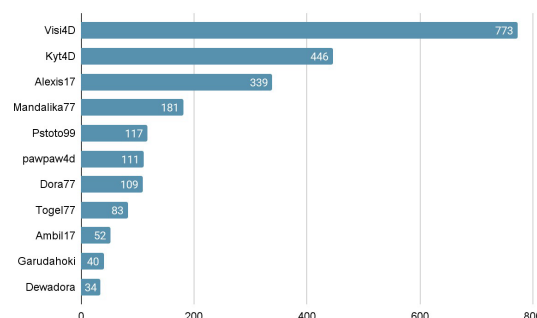


Category	Total Content
Comedy Podcasts	49
Sitcom Shows	31
Viral Content	31
Animal Dubbing Comedy	17
Q&A Content	11
Animated Comedy	10
General Podcasts	10
Reaction Content	9
Culinary Content	8
Prank Content	6

Next, the researchers conducted a word cloud analysis of the filtered online gambling spam comments. This word cloud analysis was intended to identify two aspects. First, it was used to identify the online gambling websites that were frequently promoted through the YouTube Shorts comment section. Second, it was used to identify the visual characteristics appearing in online gambling spam comments, including the use of non-ASCII characters, the use of the “4D” character combination, the use of particular emojis, the use of specific words, and other new findings that could be visually identified.



Through word cloud analysis conducted via Voyant Tools, the researcher identified that the most frequently appearing websites were Visi4D, Kyt4D, and Alexis17. The term "Visi4D" appeared 773 times, making it the most dominant keyword in the collected dataset. In the second position, "Kyt4D" appeared 446 times, followed by "Alexis17" in third place with 339 occurrences. Based on the word cloud analysis, the researcher also discovered that among the top 100 most frequent words, there were 11 distinct online gambling site names. This indicates that online gambling advertisers on YouTube Shorts comments are highly aggressive in embedding their platform names.

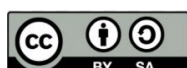


Picture 6. Eleven names of online gambling sites that appear most frequently
 Source: Research Results (2025)

After identifying the names of online gambling sites that frequently appeared in online gambling spam comments, word cloud analysis using Voyant Tools was also employed to identify the visual characteristics of online gambling spam comments. The first visual characteristic identified was the use of words commonly associated with online gambling activities. One word showing a high correlation with gambling-related comments is "main" (play/to play). This term appeared 330 times and was strongly correlated with the three highest frequency gambling site names: Visi4D, Kyt4D, and Alexis17. "Main" is a verb referring to activities performed by an individual seeking specific pleasure or satisfaction (Segara.id, 2016). In the context of online gambling, this term denotes the act of seeking entertainment and gratification through the gaming platforms provided by these sites. Table 2 below details the identified terms and their respective meanings, with definitions synthesized from various literary sources.

Discussion

Based on the data findings, the researchers identified several general and visual characteristics of online gambling comment spam. The general characteristics include the posting of comments that are unrelated to the content of YouTube Shorts and the tendency of online gambling comments to target podcast and comedy content. Meanwhile, the visual characteristics identified in online gambling comment spam are: (1) the use of characters such as "4D" in the names of promoted gambling websites; (2) the use of distinctive words that are



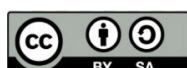
uncommon in other contexts, such as “maxwin,” “jepe,” and “togel”; (3) the use of font characters that differ from YouTube’s standard font; (4) the use of combinations of emojis and alphabets; and (5) the use of alphanumeric characters to promote the names of online gambling websites.

Furthermore, in this section, the researchers analyze each characteristic identified based on previous studies in order to develop a deeper theoretical understanding. The discussion begins with the first general characteristic, namely the lack of relevance between the spam comments that appear and the content of YouTube Shorts. This finding reinforces the definition of spam proposed by Rajadesingan and Mahendran (2012). According to them, spam is understood as unwanted and irrelevant information to users. The lack of relevance between spam comments and the content is caused by the fact that spam comments are written using an automated application called bots (Rajadesingan & Mahendran, 2012, p. 491). These automated applications do not read the core message of the uploaded content; therefore, the comments they generate are highly disconnected from the context of the content.

Rajadesingan and Mahendran also state that the comment features in blogs are exploited unethically by spammers who post advertisements, irrelevant links, and malware in the text area as spam comments. The messages are repetitively posted as irrelevant and often malicious content in the form of comments (Rajadesingan & Mahendran, 2012, p. 491). This statement confirms that the same pattern currently also occurs in comment sections on social media, not only on blogs. It also indicates that the problem of spam messages in comment sections has not been adequately resolved, even 14 years after the publication of Rajadesingan and Mahendran’s journal article. This analysis further emphasizes the urgency of this research, namely that the problem of spam comments needs to continue to be communicated so that further action can be taken to break the chain of this problem.

The second general characteristic of online gambling comment spam is the tendency for such comments to appear in podcast or comedy content. Based on the investigation, the researchers found that these two types of content are popular among audiences from certain age groups. Permata (2025) states that comedy content, which is categorized as entertainment content, is the type of content most favored by YouTube audiences from Generation Z, while podcast content is the type of content most favored by YouTube audiences from the Millennial generation (Permata, 2025). In addition, YouTube has also confirmed that podcast content is among its most popular content, with approximately 1 billion viewers accessing YouTube each month through podcast content (Zaki, 2025).

The data above indicate that creators of online gambling comment spam have a clear target in promoting their online gambling websites. Online gambling providers deliberately target content that is widely consumed on YouTube. Moreover, the targeted content is content favored by particular age groups, namely Generation Z and Millennials. In other words, it appears that online gambling providers target young people in delivering messages inviting them to engage in online gambling. The researchers assume that online gambling providers deliberately target Generation Z and Millennials because they constitute the productive



generations in Indonesia with the largest populations. This assumption is supported by data from the Directorate General of Population and Civil Registration of the Ministry of Home Affairs, which states that there are currently 290.1 million Indonesian residents of productive age, predominantly belonging to Generation Z and Millennials (Wicaksana, 2026).

After analyzing the general characteristics of online gambling comment spam, the researchers analyzed its visual characteristics. The first characteristic is the use of characters such as “4D” in the names of the online gambling websites being promoted. Based on the data findings, several online gambling website names were found to use the character “4D” in their names, such as VISI4D and KYT4D. The character “4D” itself is an acronym for “four digits.” 4D refers to a type of online gambling game that requires players to guess four numbers randomly. In Indonesia, this type of game is referred to as togel. Togel is an acronym for the words “totoan gelap” or dark betting, referring to the game of guessing numbers secretly (Rahmawati & Sudrajat, 2014, p. 3).

The second characteristic is the use of words that are closely associated with online gambling. Words such as jepe (jackpot), WD (withdraw), and maxwin are deliberately included in spam comments promoting online gambling. The intention behind incorporating such specific words is to provide a kind of code that enables YouTube audiences to conclude that the comments are promoting online gambling. However, the researchers assume that relatively few people understand terms such as jepe or WD; therefore, the use of such terms can be interpreted as a secret code intended to attract audiences who are already online gambling players to play on the websites being promoted. Thus, this second characteristic is employed by online gambling providers to attract existing online gambling players rather than new players.

The third through fifth characteristics are discussed together in this study because they are closely related to previous research conducted by Borate and colleagues. The third through fifth visual characteristics identified in this study are consistent with the findings of Vishal Borate, Kajal Ghadage, and Aditi Pawar (2018). Borate and colleagues state that spam comments can be characterized by an increased number of punctuation marks, white spaces, capital letters, non-ASCII characters, digits, and new lines (Borate et al., 2018, p. 25). Based on the explanation provided by Borate and colleagues, the findings of this study are not only consistent with the characteristic of non-ASCII characters but also with the use of numbers/digits, which was also identified as the fifth visual characteristic.

The use of alphanumeric characters, or a combination of alphabetic letters and numbers, can be explained through the Gestalt principle. The human ability to interpret these combinations is explained by Gestalt Psychology, which explores how individuals organize and recognize patterns in visual information to derive meaning from a perceived whole. Among the six core principles of Gestalt—proximity, similarity, continuity, focus, symmetry, and closure—this phenomenon aligns with the Principle of Similarity. According to Mubarak (2023, p.157), individuals perceive elements with similar colors, shapes, sizes, or orientations, and will categorize them as related or as part of a unified group (Mubarak, 2023, p. 157).

These alphanumeric substitutions, similar to the use of non-ASCII characters, are intended to avoid YouTube’s automated moderation systems. The basic moderation tools often

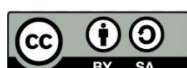


overlook “S3L0T G4C0R” and fails to recognise it as “Selot Gacor” because its lack of capacity for contextual processing. However, YouTube has currently integrated Artificial Intelligence (AI) into its moderation system to more efficiently scan and flag inappropriate content. These systems are trained on extensive datasets, including content previously reported by users and reviewed by human moderators (Ann, 2025). The application of this new system suggests that alphanumeric substitution is becoming less effective at evading detection, which explains the increased use of non-ASCII characters and atypical emoticons.

ASCII serves as a foundational character encoding standard designed to facilitate smooth data exchange across diverse hardware architectures while maintaining backward compatibility with legacy systems. As the first major standardized encoding protocol, ASCII creates a standard framework in which numerical values represent specific characters and text. This system enables the communication between human language and machine processing, providing what consider as a universal linguistic foundation for computing systems. Technically, ASCII functions as a translation layer that enables computers to interpret and display alphanumeric characters and symbols. Computers are inherently unable to process human languages directly because computational processing is restricted to binary logic (0 and 1). ASCII transforms each human-readable character to numerical value and makes it compatible with numerical data storage and machine execution. The architecture of the ASCII standard utilizes a seven-bit encoding scheme that provides a total of 128 unique numerical identifiers (Adobe.com, n.d.).

Drawing upon the definition in the previous paragraph, ASCII is established as a foundational character encoding standard specifically designed to facilitate data interoperability across disparate devices. Consequently, ASCII serves as the primary benchmark essential for ensuring that all computing systems can consistently decode data and produce uniform outputs. Therefore, it can be inferred that the utilization of non-ASCII characters by online gambling spammers is a deliberate strategy to ensure that their comments remain illegible to automated processing tools, specifically those designed to screen and filter content that violates community guidelines. It is evident that specific character sizes, formats, and typefaces are used, which remain undetectable by YouTube’s moderation systems because of technical constraints involving system encoding. Consequently, the findings suggest that a signature strategy of online gambling promotion on YouTube involves character manipulation to bypass automated detection. The researchers also observed that this practice is utilized to enhance the visibility of promotional gambling content.

The difference between the findings of this study and those of Borate and colleagues lies in the tendency to use emojis in spam comments. Borate and colleagues’ study did not discuss the tendency to use emojis in spam comments. Another study by Antonius Rachmat Chrismanto, Anny Kartika Sari, and Yohanes Suyanto (2017) shows that the majority of comments containing emojis are not spam messages. The findings of Chrismanto and colleagues reinforce their initial statement that emojis are more frequently used by social media users to emphasize their intentions when writing comments (Chrismanto et al., 2017). Meanwhile, this study identifies a different tendency, in which emojis are frequently used in



online gambling spam comments. Emojis in spam comments are used as separators between the names of the promoted online gambling websites and the rest of the message. Emojis are also used to disguise the names of online gambling websites so that they are not easily recognized by automated moderation systems. This finding represents a novelty that has emerged as moderation technology continues to develop, requiring spam message creators to continuously adapt so that their comments are not removed through moderation.

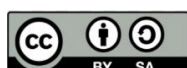
Conclusion

To conclude, online gambling advertisement comments on YouTube Shorts show distinct visual characteristics designed to deliberately exploit the technical limitations of YouTube's automated moderation systems. Two general characteristics and five visual characteristics associated with online gambling comment spam were identified. The two general characteristics are a lack of relevance to the video content and a tendency to target podcast and comedy content. Meanwhile, the five visual characteristics include the use of characters such as "4D" in the names of promoted gambling sites; specific terms like "jepe" and "WD" (associated with gambling); non-ASCII characters; emojis; and alphanumeric combinations. Several of these identified characteristics align with previous research; however, the use of emojis in spam comments is a characteristic newly identified in this study. This finding, however, contradicts earlier research suggesting that spam comments typically do not contain emojis.

Based on these findings, YouTube users, including parents, should strengthen their digital literacy by learning to recognize these specific visual "red flags," such as unconventional typefaces and contextually irrelevant emojis. By identifying these signs, audiences become the essential actors in maintaining platform safety by reporting suspicious comments. When audience report suspicious comments, it will also train and improve the platform's automated moderation system. Furthermore, YouTube content creators should increase their responsibility in protecting their viewers, particularly when their content targets younger demographics. Creators are urged to exercise greater oversight by manually screening and deleting any comments that match the visual profile of gambling spam identified in this study. This collaborative approach, combining increased user literacy with proactive creator intervention, is necessary to mitigate the "tsunami" of gambling spam and safeguard the digital environment from online gambling advertisements.

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