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Patterns of Tobacco Marketing and User Engagement on Social Media in Indonesia: Challenges for Digital Public Health

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Patterns of Tobacco Marketing and User Engagement on Social Media in Indonesia: Challenges for Digital Public Health

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Abstract

Large-scale tobacco marketing on social media has resulted in widespread population-level exposure, particularly in Indonesia, which faces growing challenges in digital public health. This study aimed to assess the associations between platform type and marketing tactics and identify correlations of user engagement. An analytical cross-sectional study was conducted using secondary data from the Tobacco Enforcement and Reporting Movement (TERM), collected from January 2022 to August 2023. A total of 21,255 tobacco marketing posts from social media were analyzed. Platform-tactic associations were examined using Chi-square tests, and multivariable Poisson regression was used to identify factors associated with user engagement. The findings indicated that Instagram (66.8%) and Facebook (24.0%) accounted for the majority of tobacco marketing content. Community-based marketing was the most prevalent tactic (64.7%), followed by direct advertising (20.1%). Bivariate analysis demonstrated a significant association between social media platforms and marketing tactics (p -value < 0.001). The Poisson regression model was statistically significant (p -value < 0.001). Engagement varied substantially by platform. Compared to YouTube, TikTok demonstrated markedly higher engagement (OR = 35.8), followed by Instagram (OR = 1.88). Corporate social responsibility (OR = 2.39) and community-based marketing (OR = 1.70) were associated with higher engagement. Tobacco promotion on Indonesian social media employs platform-specific strategies to increase exposure and normalize consumption narratives. These patterns underscore substantial digital public health concerns and suggest that enforcement of digital TAPS remains inadequate. Therefore, relevant ministries should strengthen TAPS enforcement and expand targeted digital health education initiatives.

Keywords: engagement, marketing, public health, social media, tobacco

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Introduction

Tobacco advertising, promotion, and sponsorship (TAPS) remains a major concern in global tobacco control, particularly within rapidly evolving digital environments. According to the World Health Organization (WHO), tobacco causes more than 8.7 million deaths annually worldwide, including approximately 1.3 million deaths attributable to secondhand smoke exposure among non-smokers.¹ Although many countries have prohibited traditional forms of tobacco marketing, the growing popularity and widespread use of social media have raised concerns regarding new mechanisms through which exposure to tobacco advertising may extend beyond existing regulatory frameworks. These platforms facilitate interactive, targeted, and culturally tailored marketing strategies, resulting in increased visibility of tobacco imagery and more

favorable promotional narratives directed at adolescents and young adults.²

Indonesia represents a critical context for examining digital tobacco marketing because of its high smoking prevalence. According to the Global Adult Tobacco Survey Indonesia Report 2021, 34.5% of Indonesian adults (70.2 million individuals) currently use tobacco products, with a substantially higher prevalence among men (65.5%) than among women (3.3%).³ Adolescent tobacco use also remains a significant public health concern. The Global Youth Tobacco Survey Indonesia 2019 reported that 19.2% of youth aged 13–15 years were current tobacco users, and 40.6% had experimented with smoking, indicating early initiation and sustained exposure during a particularly vulnerable developmental period.⁴

This pattern corresponds with increasing internet penetration and the rapid

expansion of social media use in Indonesia. Influencer marketing, portrayals within the entertainment industry, and user-generated content in digital media increasingly favorably present tobacco products to young audiences. Evidence from an international study indicates that exposure to online tobacco promotions is associated with increased susceptibility to smoking, experimentation, and initiation among young people.⁵ In addition, engagement features on social media platforms (e.g., likes, shares, and comments) facilitate the rapid dissemination of promotional content and may transform individual-level exposure into broader population-level normalization of tobacco use.⁶

Despite global commitments under the WHO Framework Convention on Tobacco Control (FCTC), which calls for comprehensive bans on TAPS, including in digital media,⁷ tobacco industry marketing expenditures remain substantial. In 2019, tobacco companies in the United States spent more than USD 8 billion on advertising and promotional activities, underscoring the scale and persistence of industry marketing efforts.⁸ In Indonesia, tobacco advertising is partially regulated under Government Regulation No. 109 of 2012, yet enforcement in online and social media contexts remains limited.⁹ More recent regulatory developments, such as Government Regulation No. 28 of 2024, reflect increased policy attention to digital tobacco control; however, implementation challenges persist.¹⁰

Extensive tobacco marketing on social media, and most platforms' policies prohibit paid tobacco advertising; however, few have addressed more novel strategies, such as sponsored/influencer content and age-gating to deny youth access.¹¹ Platform features and marketing strategies may differentially affect user engagement; a more comprehensive understanding of user interaction dynamics on these platforms is needed to address emerging challenges in digital public health. Therefore, this study aimed to describe the distribution of tobacco marketing tactics across popular social media platforms in Indonesia, assess the associations between platform type and marketing tactics, and identify correlates of user engagement using multivariable Poisson regression. Taken together, this study seeks to contribute evidence to support platform-sensitive public health programs and promote digital health education in Indonesia.

Method

This study employed an analytical cross-sectional content analysis using secondary data obtained from the Indonesian Tobacco Enforcement and Reporting

Movement (TERM) surveillance system. TERM is a digital media monitoring system that records instances of online tobacco marketing across social media platforms and online news sites. It was designed and implemented by Vital Strategies, with technical input from tobacco control experts.¹²

The data analyzed in this study covered the period from January 2022 to August 2023, and consisted of tobacco marketing content disseminated on social media platforms (Facebook, Instagram, TikTok, Twitter [X], and YouTube) and online news portals in Indonesia. No private user content was accessed, as all data was publicly available. Purposive sampling was applied to capture a comprehensive range of tobacco marketing activities across platforms. Because this study involved a secondary analysis of surveillance data, no prespecified sample size calculation was conducted. Instead, all eligible public tobacco marketing posts identified by the TERM system during the study period were included, resulting in a complete sample (N = 21,255).

User engagement was the dependent variable in this study and was defined according to the TERM codebook (2023) as total engagement, calculated as the sum of user interactions with a post. This measure referred to engagement with a published post or video, including actions such as liking or reacting to content, commenting or replying, and sharing the content with others. The independent variables consisted of social media platform type and tobacco marketing tactics, both defined and categorized according to standardized criteria in the TERM codebook (2023). Social media platforms included Facebook, Instagram, TikTok, Twitter, YouTube, and online news websites, as classified within the TERM framework. Marketing tactics were categorized as brand extension, community-based marketing, corporate social responsibility (CSR), direct advertising, events, occasions, and sponsorships, price promotion, and surrogate marketing.

Community-based marketing was defined as a brand's strategic engagement with a specific community or interest group. By using digital platforms to communicate, exchange values, and construct shared meaning, the product or company sought to remain salient in consumers' awareness. Brands may establish communities or networks and disseminate product-related information or other content relevant to the group. Direct advertising was defined as promotional content that explicitly encouraged the sale or use of tobacco products. Events, occasions, and sponsorship were defined as any contribution to an event, contest, or organization with the intent or likely effect of promoting

a tobacco product, including the provision of financial support, regardless of whether publicity was provided in return. Brand extension was defined as the marketing of non-tobacco products under a distinct brand name by tobacco companies or conglomerates. These products may incorporate the trademark or name of the parent tobacco company. Corporate social responsibility was defined as tobacco companies' efforts to present themselves as responsible corporate entities through contributions to social causes or by promoting ostensibly responsible aspects of their business practices. Price promotion was defined as strategies intended to encourage the purchase or use of tobacco products through discounts or other price reductions, including product bundling. Surrogate marketing was defined as the promotion of regulated products, such as cigarettes or alcohol, under a brand name, often with minor variation, that also appears on unregulated products.

Descriptive statistics were used to present the distribution of tobacco marketing posts across social media platforms and marketing tactics, providing aggregated numerical data on digital tobacco marketing in Indonesia (percentages).¹³ Bivariate associations between social media platforms and marketing tactics were examined using chi-square (χ^2) tests.¹⁴ Statistical significance was defined as p-value <0.05. To identify factors independently associated with user engagement, a Poisson regression analysis was conducted, with engagement as the dependent variable and social media

platform type and marketing tactic as independent variables. For these analyses, YouTube served as the reference platform, and surrogate marketing served as the reference marketing tactic. Model results were reported as regression coefficients (B), standard errors (SE), odds ratios (OR), 95% confidence intervals (CI), and p-values, using a two-tailed significance level (p-value <0.05).¹⁵

Results

A total of 21,255 tobacco marketing posts were identified across social media platforms and online news websites. Tobacco marketing messages were most frequently disseminated on Instagram (66.8%; n = 14,206) and Facebook (24.0%; n = 5,092). Twitter content accounted for 7.0% of all posts (n = 1,482), with substantially lower proportions observed on YouTube (1.3%; n = 278), TikTok (0.6%; n = 132), and online news sites (0.3%; n = 66).

Regarding marketing tactics, community-based marketing was the most prevalent strategy (64.7% of posts; n = 13,760). Direct advertising represented 20.1% (n = 4,272), followed by events, occasions, and sponsorships at 11.3% (n = 2,392). Less frequently applied tactics included brand extension (2.0%; n = 419), corporate social responsibility (1.2%; n = 263), and price promotion (0.7%; n = 144). Surrogate marketing was rarely observed (<0.1%; n = 5).

Table 1. Distribution of Tobacco Marketing Posts Across Social Media Platforms and Marketing Tactics (n = 21,255 posts)

Variables			Variables		
Tobacco Marketing Posts	n	%	Tobacco Marketing Tactics	n	%
Instagram	14,206	66.8	Community-based marketing	13,760	64.7
Facebook	5,092	24.0	Direct advertising	4,272	20.1
Online news	66	0.3	Events, occasions, and sponsorships	2,392	11.3
TikTok	132	0.6	Brand extension	419	2.0
Twitter	1,482	7.0	Corporate social responsibility	263	1.2
YouTube	278	1.3	Price promotion	144	0.7
			Surrogate marketing	5	0.0
Total	21,255	100	Total	21,255	100

Table 2. Distribution of Tobacco Marketing Tactics Across Social Media Platforms (n = 21,255 posts)

Tobacco Marketing Tactics	Social Media Platforms							p-value
	Facebook n (%)	Instagram n (%)	Online news n (%)	TikTok n (%)	Twitter n (%)	YouTube n (%)	Total n (%)	
Direct advertising	1,322 (30.9%)	2,875 (67.3%)	6 (0.1%)	34 (0.8%)	10 (0.2%)	25 (0.6%)	4,272 (100%)	<0.001
Price promotion	43 (29.9%)	98 (68.1%)	3 (2.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	144 (100%)	
Events, occasions, and sponsorships	1,512 (63.2%)	264 (11.0%)	21 (0.9%)	9 (0.4%)	494 (20.7%)	92 (3.8%)	2,392 (100%)	
Surrogate marketing	1 (20.0%)	2 (40.0%)	2 (40.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	5 (100%)	
Corporate social responsibility	0 (0.0%)	221 (84.0%)	34 (12.9%)	0 (0.0%)	8 (3.0%)	0 (0.0%)	263 (100%)	
Community-based marketing	2,214 (16.1%)	10,330 (75.1%)	0 (0.0%)	87 (0.6%)	970 (7.0%)	159 (1.2%)	13,760 (100%)	
Brand extension	0 (0.0%)	416 (99.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	3 (0.7%)	419 (100%)	
Total	5,092 (24.0%)	14,206 (66.8%)	66 (0.3%)	130 (0.6%)	1,482 (7.0%)	279 (1.3%)	21,255 (100%)	

The distribution of tobacco marketing tactics across social media platforms is presented in Table 2. Statistical analysis indicated that marketing tactics varied significantly across platforms (p-value <0.001). Instagram accounted for the largest proportion of direct advertising posts (67.3%), followed by Facebook (30.9%). Only a minimal proportion of direct advertising was observed on TikTok, Twitter, YouTube, and online news platforms, with each contributing less than 1% of total direct advertising. Price promotion posts were similarly concentrated on Instagram (68.1%) and Facebook (29.9%), with limited representation in online news platforms and no posts identified on TikTok, Twitter, or YouTube. For events, occasions, and sponsorships, Facebook accounted for the highest proportion (63.2%), followed by Twitter (20.7%) and YouTube (3.8%). Community-based marketing was the predominant tactic overall and was primarily concentrated on Instagram, which hosted 75.1% of such posts. Facebook accounted for 16.1%, while Twitter and

YouTube accounted for smaller proportions. These findings underscored Instagram’s central role in facilitating community-based tobacco marketing practices. CSR content was communicated predominantly through Instagram (84.0%) and online news platforms (12.9%), with minimal representation on other platforms. Similarly, brand extension tactics were almost exclusively concentrated on Instagram (99.3%). Surrogate marketing appeared infrequently across all platforms, with a total of five posts distributed across Facebook, Instagram, and online news. Overall, these results suggest that tobacco marketing strategies are highly platform-specific, with visually oriented platforms, particularly Instagram, serving as the primary conduit for community-based, brand-related, and indirect promotional activities, whereas Facebook, Twitter, and YouTube were more frequently used for event- and sponsorship-related marketing.

Table 3. Omnibus Test and Tests of Model Effects

Effect	Likelihood Ratio/Wald χ^2	df	p-value
Omnibus test	7,605,092.873	11	<0.001
<i>Tests of Model Effects</i>			
Intercept	357,951.886	1	<0.001
Marketing tactic	689,923.886	6	<0.001
Social media platform	9,988,846.080	5	<0.001

Table 4. Factors Associated with User Engagement by Social Media Platform and Tobacco Marketing Tactic

Variable	Category	B (SE)	OR	95% CI	p-value
Social Media Platform	YouTube (Ref)	-	1.00	-	-
	Facebook	-0.653 (0.0041)	0.52	0.52–0.53	<0.001
	Instagram	0.631 (0.0040)	1.88	1.86–1.89	<0.001
	Online news	-3.216 (0.0366)	0.04	0.04–0.04	<0.001
	TikTok	3.578 (0.0040)	35.8	35.5–36.1	<0.001
	Twitter	-1.298 (0.0050)	0.27	0.27–0.28	<0.001
Marketing Tactic	Surrogate marketing (Ref)	-	1.00	-	-
	Brand extension	-1.132 (0.0379)	0.32	0.30–0.35	<0.001
	Community-based marketing	0.533 (0.0376)	1.70	1.58–1.83	<0.001
	Corporate social responsibility	0.872 (0.0376)	2.39	2.22–2.58	<0.001
	Direct advertising	-0.288 (0.0376)	0.75	0.70–0.81	<0.001
	Events, occasions, and sponsorships	0.222 (0.0376)	1.25	1.16–1.34	<0.001
	Price promotion	-0.536 (0.0382)	0.59	0.54–0.63	<0.001

Notes: B = regression coefficient, SE = standard error, OR = odds ratio, CI = confidence interval, Ref = reference category.

The reference categories were YouTube for social media platforms and surrogate marketing for marketing tactics.

As shown in Table 3, the tests of model effects indicated that social media platform type and marketing tactic were independently associated with user engagement (p-value <0.001). Table 4 presents differences in user engagement across social media platforms relative to the reference platform (YouTube). Tobacco promotional content on TikTok demonstrated the strongest positive association with engagement (OR = 35.8; 95% CI: 35.5–36.1), with engagement rates 35.8 times higher than those observed on YouTube. Instagram was also positively associated with engagement (OR =

1.88; 95% CI: 1.86–1.89), although the magnitude of association was substantially smaller than that observed for TikTok. In contrast, engagement on Facebook, Twitter, and particularly online news platforms was significantly lower than on YouTube (OR = 0.52, 0.27, and 0.04, respectively). Notably, engagement on online news platforms was approximately 96% lower than that on YouTube (OR = 0.04). With respect to marketing tactics, and using surrogate marketing as the reference category, CSR strategies were associated with the highest engagement (OR = 2.39; 95% CI: 2.22–2.58). Community-

based marketing was associated with a 70% increase in engagement (OR = 1.70), whereas events, occasions, and sponsorships demonstrated a more modest positive association (OR = 1.25). In contrast, brand extension, price promotion, and direct advertising were associated with significantly lower engagement than surrogate marketing.

Discussion

This study provided comprehensive evidence that tobacco marketing on social media in Indonesia is extensive, highly platform-specific, and strategically designed to maximize user engagement. Based on 21,255 marketing posts collected over 18 months, the findings indicated that Instagram was the primary platform for digital tobacco marketing, accounting for more than two-thirds of all identified tobacco-related content. This pattern is consistent with findings from Indonesia and other low- and middle-income countries, where visually oriented platforms have increasingly become preferred channels for tobacco promotion due to their high youth penetration and interactive features.^{12,16,17}

The increasing prevalence of tobacco marketing in Indonesia may be partly attributable to limited enforcement and implementation of policies banning TAPS. Strengthening and enforcing such bans may yield substantial public health benefits, as exposure to TAPS has been associated with smoking intentions among young non-smokers in Indonesia (2.27%).¹⁸ This interpretation aligns with another study conducted in Indonesia, which reported that 56.6% of participants were exposed to medium-sized cigarette advertising, with 11% indicating a short-term urge to smoke and 15.1% reporting a longer-term urge to smoke following exposure.¹⁹

This study revealed that Instagram and Facebook were the primary platforms for tobacco advertising in Indonesia. Both platforms maintain similar policies regarding tobacco marketing: they prohibit the sale of tobacco products through official commerce channels while permitting certain tobacco-related posts that include age-restriction warnings. In contrast, YouTube prohibits content that explicitly sells, links to, or facilitates access to tobacco products. However, evidence suggests that these restrictions may be circumvented in some contexts, such as through music videos and entertainment content featuring tobacco products, electronic cigarettes, or alcohol, as well as through indirect brand promotion.¹⁷

Tobacco marketing activities on online platforms are subject to age-restriction policies. Instagram and

Facebook restrict commercial posts from retailers that market tobacco products to minors. Instagram, Facebook, and YouTube also require age-restriction labeling for content promoting tobacco or nicotine-containing products, and violations may result in content removal. Despite formal prohibitions on paid tobacco advertising, social media platforms continue to host emerging marketing strategies, including influencer-sponsored and retailer-sponsored content.¹¹ Instagram's popularity has contributed to its prominence as a marketing platform. Interest in Instagram has increased due to its integrated photo, video, story, and long-form video features.²⁰ Furthermore, 84% of active branded posts on Instagram reportedly promote the use or sale of tobacco products. The most frequently identified strategies include community-based marketing, direct advertising, and events, occasions, and sponsorships.^{20,21}

In terms of marketing tactics, social media platforms appear to shape the promotional strategies tobacco companies use. Instagram was the primary platform for community-based marketing and CSR content. In contrast, Facebook, Twitter, and YouTube were predominantly used for events, occasions, and sponsorships. This platform-specific distribution is consistent with prior research demonstrating that long-form or broadcasting-oriented platforms are better suited to event-based promotion. In contrast, visually oriented platforms facilitate identity construction and community engagement. The strong concentration of brand extension and CSR content on Instagram may reflect a deliberate strategic repositioning of tobacco companies, from socially undesirable actors to ostensibly responsible corporate entities, through practices that have been widely recognized as exposure-sensitive surrogate marketing tactics contravening Article 13 of the WHO FCTC.²²

Beyond the platform-specific patterns observed, the multivariable model results further support the robustness of these associations. As shown in Table 3, the tests of model effects indicated that social media platform type and marketing tactic were independently associated with user engagement (all p-values <0.001), even after mutual adjustment. These findings suggested that differences in engagement cannot be attributed to a single factor but instead reflect the combined influence of platform characteristics and strategic marketing orientation. This interpretation was consistent with a previous study on social media engagement, which have proposed that user engagement is shaped by multiple interrelated factors, including platform characteristics, message features (e.g., framing), brand strategies (i.e.,

marketing tactics), demographic influences, and perceived value.²³

Overall, the multivariable Poisson regression model indicated that platform characteristics and marketing strategies had a substantial impact on user engagement. Tobacco-related content on TikTok was associated with engagement rates more than 35 times higher than comparable posts on YouTube, suggesting that short-form video platforms may markedly amplify the reach of tobacco marketing. Although TikTok accounted for a relatively small proportion of posts, the disproportionately high engagement observed highlights a potential regulatory gap, particularly given the platform's popularity among younger users.^{24,25} Instagram was also positively associated with higher engagement and was prominently featured in digital tobacco promotion.²⁶

In contrast, Facebook, Twitter, and online news platforms exhibited odds ratios below one, indicating a lower likelihood of user engagement relative to YouTube. These findings suggested that structural and user-interface characteristics of these platforms may reduce the appeal of tobacco-related content. Recent literature has documented generational differences in social media preferences, indicating that Generation Z is more likely to engage with fast-paced, short-form video platforms, whereas Generation X and baby boomers are more likely to use Facebook.²⁷⁻³⁰ From a digital public health perspective, these findings imply that online platforms differ in their capacity to attract engagement with tobacco marketing content. Furthermore, community-based marketing and CSR strategies were associated with higher engagement than surrogate marketing. These findings were consistent with previous research demonstrating that more covert marketing strategies (influencer promotion, event-based sponsorships, and lifestyle branding) can be particularly effective in influencing users while attracting less regulatory scrutiny and user resistance.^{26,31}

From a public health perspective, these findings underscore important weaknesses in Indonesia's existing tobacco control measures, including insufficient regulation of digital TAPS. Indonesia remains the only country in the Asia-Pacific region that has not ratified the WHO FCTC. Although a previous study has demonstrated that policies restricting online cigarette advertising, promotion, and sponsorship on social media are effective, implementation in Indonesia remains limited.¹² Comparative evidence from other countries further illustrates this gap. In India, where electronic cigarettes are completely banned, 90 promotional posts (6%) were

identified, whereas in Mexico, which has partial restrictions, 318 posts (22%) were documented. In contrast, Indonesia—where no comparable restrictions are in place—accounted for 1,029 posts (72%).¹² These differences suggest that comprehensive regulatory frameworks may substantially reduce the volume of online tobacco-related promotional content.

The FCTC provides comprehensive guidance to reduce smoking prevalence and improve population health outcomes. However, political discourse in Indonesia has suggested that ratification of the FCTC could adversely affect the national economy. In contrast, previous research has reported a positive association between FCTC implementation and reductions in smoking prevalence, without evidence of negative economic impact. Moreover, several densely populated middle-income countries, including Bangladesh, Pakistan, and Brazil, have ratified the FCTC, and their overall smoking prevalence has declined steadily since 2007. Ratification of the FCTC could support Indonesia in adopting a comprehensive advertising ban²⁸ and strengthening regulatory responses to tobacco marketing on social media.^{22,32,33}

This study's findings have important implications for health education and nursing practice. A clear understanding of the mechanisms and reach of tobacco marketing strategies should inform the development of counter-marketing campaigns, health promotion initiatives, and advocacy efforts led by nursing professionals, public health practitioners, and civil society organizations. Youth-focused health promotion interventions that incorporate digital literacy and counter-advertising components may mitigate the influence of tobacco marketing on young people in online environments, particularly on Instagram.³⁴ Tobacco marketing on social media in Indonesia appears widespread, strategically targeted, and highly engaging, especially on visually oriented platforms such as Instagram, Facebook, and TikTok. Community-based marketing, CSR-related content, and event-based promotion were prominently represented in the digital environment, suggesting a shift from direct advertising to more indirect, socially embedded promotional strategies. Platform characteristics also influenced engagement; short-form and interactive media formats appeared to amplify the reach of tobacco-related content.

Several limitations of this study should be acknowledged. Previous research has suggested that multiple factors, including platform characteristics, message framing, marketing tactics, demographic characteristics, and perceived user value, shape user

engagement. Meanwhile, this study focused on social media platform type and marketing tactics; therefore, other potentially important determinants of engagement were not included in the multivariable analysis. Future research should examine additional engagement-related factors, particularly message framing and demographic variables (e.g., age, sex, and generational differences), as well as perceived user value in relation to engagement processes within digital contexts.

Conclusion

Extensive tobacco marketing on digital platforms emphasizes high reach and engagement, especially on Instagram and TikTok, with community-based marketing and CSR tactics becoming more prevalent. Social and lifestyle-oriented narrative marketing produces higher user engagement than explicit commercial approaches. Higher engagement is also shown on short-form, visually oriented, and interactive content. These pose a significant threat to digital public health, underscoring the urgent need to strengthen enforcement of policies and implement digital counter-marketing and educational strategies to protect youth from tobacco industry marketing activities.

Abbreviations

TAPS: Tobacco advertisement, promotion, and sponsorships; WHO: World Health Organization; FCTC: Framework Convention on Tobacco Control; TERM: Tobacco Enforcement and Reporting Movement; CSR: corporate social responsibility; SE: standard error; OR: odds ratio; CI: confidence interval.

Ethics Approval and Consent to Participate

This study used secondary data from publicly available sources and did not involve human participants or specific personal information. Thus, no ethical approval was required under the local and national research ethics principles.

Competing Interest

The authors have no conflicts of interest in this paper.

Availability of Data and Materials

Not available.

Authors' Contribution

RYS: Writing-original draft; Conceptualization; Data curation; Formal analysis; Funding acquisition; Investigation; Methodology; Software; Supervision; Validation; Visualization; Review & editing. NE, DS: Writing-original draft; Conceptualization; Data curation; Formal analysis; Funding acquisition; Methodology; Software; Visualization; Review & editing. S, DPB, BTW: Writing-original draft; Conceptualization; Methodology EA, AR, YR, SD, RP, RPR: Conceptualization; Methodology; Resources.

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Declaration on the Use of Artificial Intelligence

The authors declare that artificial intelligence (AI) tools were utilized solely for language editing and grammatical refinement to improve the clarity and readability of the manuscript. The specific AI tools used are Grammarly. AI was not involved in content generation, data analysis, interpretation, or decision-making. All scientific content, interpretations, conclusions, and responsibilities related to the manuscript rest solely with the authors.

References

1. World Health Organization. WHO report on the global tobacco epidemic 2023. Geneva: World Health Organization; 2023.
2. Zhu Y. Pro-smoking information scanning using social media predicts young adults' smoking behavior. *Comput Human Behav.* 2017; 77: 19–24. DOI: 10.1016/j.chb.2017.08.004.
3. World Health Organization. Global Adult Tobacco Survey (GATS) Indonesia Report 2021. Jakarta: World Health Organization Indonesia; 2023.
4. Ministry of Health Republic of Indonesia, World Health Organization, Center for Disease Control and Prevention. Global Youth Tobacco Survey: Fact Sheet Indonesia 2019. Geneva: World Health Organization; 2020.
5. de Haro D, Amador ML, Lopez-Salas M, et al. The influence of social media and video-on-demand platforms on the appeal and consumption of tobacco and emerging tobacco products: A cross-sectional study. *Tob Induc Dis.* 2024; 22. DOI: 10.18332/tid/194491.
6. Soneji S, Knutzen KE, Moran MB. Reasons for engagement with online tobacco marketing among US adolescents and young adults. *Tob Induc Dis.* 2019; 17. DOI: 10.18332/tid/99540.
7. World Health Organization. WHO Framework Convention on Tobacco Control. Geneva: World Health Organization; 2003.
8. Center for Disease Control and Prevention. Tobacco Industry Marketing. Atlanta, GA: Center for Disease Control and Prevention; 2019.
9. Pemerintah Indonesia. Peraturan Pemerintah No 109 Tahun 2012 tentang Pengamanan Bahan Yang Mengandung Zat Adiktif Berupa Produk Tembakau Bagi Kesehatan. Jakarta: Pemerintah Pusat; 2019.
10. Pemerintah Indonesia. Peraturan Pemerintah No 28 Tahun 2024 tentang Peraturan Pelaksanaan Undang-Undang Nomor 17 Tahun 2023 Tentang Kesehatan. Jakarta: Pemerintah Pusat; 2024.
11. Kong G, Laestadius L, Vassey J, et al. Tobacco promotion restriction policies on social media. *Tob Control.* 2024; 33: 398–403. DOI: 10.1136/tc-2022-057348.
12. Murukutla N, Magsumbol MS, Raskin H, et al. A content analysis of e-cigarette marketing on social media: Findings from the Tobacco Enforcement and Reporting Movement (TERM) in India, Indonesia and Mexico. *Front Public Health.* 2022; 10: 1012727. DOI: 10.3389/fpubh.2022.1012727.
13. Harbison L, Simmons K. Fundamentals of Descriptive Statistics. *Am Dent Hyg Assoc.* 2024; 98 (5): 51-54.
14. Hu LYR, He Y, Irinata KE, et al. Much Ado About Survey Tables: A Comparison of Chi-Square Tests and Software to Analyze Categorical Survey Data. *Am Stat.* 2025; 79 (4): 480–491. DOI: 10.1080/00031305.2025.2501800.
15. Poisson Regression | SPSS Data Analysis Examples. Los Angeles, CA: University of California, Los Angeles.
16. Vassey J, Donaldson SI, Dormanesh A, et al. Themes in TikTok Videos Featuring Little Cigars and Cigarillos: Content Analysis. *J Med Internet Res.* 2022; 24 (11): e e42441. DOI: 10.2196/42441.

17. Bahl D, Bassi S, Thapliyal N, et al. Tobacco-related content on social networking sites: Evidence from a youth-led campaign in India. *J Glob Heal Reports*. 2023; 7: 2023: e2023060. DOI: 10.29392/001c.85126.
18. Fauzi R, Arumsari I, Maruf MA, et al. Association of Tobacco Advertising, Promotion, and Sponsorship (TAPS) exposure on smoking intention and current smoking behavior among youth in Indonesia. *J Subst Use*. 2024; 29 (1): 54–60. DOI: 10.1080/14659891.2022.2120432.
19. Sutrisno R, Melinda F. The Effects of Cigarette Advertisement and Peer Influence on Adolescent's Smoking Intention in Indonesia. *Open Access Maced J Med Sci*. 2021; 9 (T4): 291–295. DOI: 10.3889/oamjms.2021.5809.
20. Laestadius L, Van Hoorn K, Vassey J, et al. Tobacco, nicotine and counter-marketing promotions using Instagram's branded content tool. *Tob Control*. 2025; 34: 369–373. DOI: 10.1136/tc-2023-058301.
21. Sutantri S, Ekadinata N, Sugiyo D, et al. Tobacco industry marketing on Instagram: A comparative analysis using data from Tobacco Enforcement and Reporting Movement in Indonesia. *Tob Induc Dis*. 2025; 23 (Suppl 1): A310.
22. World Health Organization. WHO Framework Convention on Tobacco Control: Guidelines for implementation of Article 13. Geneva: World Health Organization; 2013.
23. Lim WM, Rasul T. Customer engagement and social media: Revisiting the past to inform the future. *J Bus Res*. 2022; 148: 325–342. DOI: 10.1016/j.jbusres.2022.04.068.
24. Vassey J, Galimov A, Kennedy CJ, et al. Frequency of social media use and exposure to tobacco or nicotine-related content in association with E-cigarette use among youth: A cross-sectional and longitudinal survey analysis. *Prev Med Reports*. 2022; 30: 102055. DOI: 10.1016/j.pmedr.2022.102055.
25. Lee J, Ouellette RR, Morean ME, et al. Adolescents and young adults use of social media and following of e-cigarette influencers. *Subst Use Misuse*. 2024; 59 (9): 1424–1430. DOI: 10.1080/10826084.2024.2352620.
26. Lee J, Suttiratana SC, Sen I, Kong G. E-Cigarette Marketing on Social Media: A Scoping Review. *Curr Addict Rep*. 2023; 10 (1): 29–37. DOI: 10.1007/s40429-022-00463-2.
27. Modester AN. Role of Short-Form Social Media Content in Shaping Mental Health Awareness and Help-Seeking Behavior among Gen Zs. *Int J Res Sci Innov*. 2025; XII (VII): 1727–1737. DOI: 10.51244/IJRISI.2025.120700175.
28. Parisi ED. Digital Natives and Marketing Communication: How Gen Z Responds to Short-Form Video Content. *Int J Manag Stud Soc Sci Res*. 2025; 7 (6): 20–26. DOI: 10.56293/IJMSSSR.2025.5903.
29. Eryc E. The Impact of Tik-Tok Use on Self-Expression by Generation-Z users. *J Inf Syst Applied, Manag Account Res*. 2022; 6 (4): 921–927. DOI: 10.52362/jisamar.v6i4.956.
30. Sprout Social. The 2025 Generational Marketing Playbook; 2025.
31. Chen Y, Lin H, Zhao X, et al. Marketing behind charity: Media narratives of tobacco industry donations in China. *Tob Induc Dis*. 2025; 23. DOI: 10.18332/tid/211249.
32. Bigwanto M. Tobacco Industry Interference Undermined Tobacco Tax Policy in Indonesia. Bangkok: Southeast Asia Tobacco Control Alliance (SEATCA); 2019.
33. Ahsan A, Afir R, Amalia N, et al. FCTC ratification, smoking prevalence, and GDP per capita: Lessons for Indonesia and the rest of the world. *Glob Health*. 2022; 18: 11. DOI: 10.1186/s12992-022-00810-y.
34. Sutrisno RY, Sutantri S, Sugiyo D, et al. Healthy claims as tobacco marketing message framing in Indonesia social media platforms. *Tob Induc Dis*. 2025; 23 (1): A402.