



Digital Policy Feedback on Maritime Governance: Sentiment and Emotion Analysis of Indonesian Social Media Discourse

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Abstract

Social media increasingly serves as an informal channel through which citizens react to public policy, yet it remains unclear what such reactions reveal about Indonesia's maritime policy. This study analyses how maritime policy discourse is expressed on Twitter and what it implies for digital policy feedback and participatory governance. Drawing on the concepts of policy feedback and digital governance, we conducted an exploratory computational analysis of 19,996 posts collected with Drone Emprit Academic (DEA) between 1 January and 31 July 2022. We combined temporal trends, DEA sentiment and emotion classification, geographic distribution, and thematic coding for the 15 most-retweeted posts. Discourse was strongly event-driven: two days accounted for about one quarter of all posts. Sentiment was predominantly negative (84%), yet emotions were dominated by anticipation and surprise rather than anger, and the most retweeted posts concerned commodity prices, cross-border incidents, and political symbolism rather than maritime policy instruments. Therefore, a negative tone should not be equated with opposition to the policy. We argue that social media listening can complement formal participation only if a policy-relevant stance is separated from general tone, and we outline measures for communication, participation, and monitoring in maritime governance.

Keywords: Digital Policy Feedback, Maritime Policy, Sentiment Analysis, Social Media, Digital Governance

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INTRODUCTION

Citizens increasingly respond to public policy on digital platforms rather than only through formal consultation channels. Studies of government social media and e-participation show that online interactions can become policy-relevant information when they are analyzed systematically (Simonofski, Fink, and Burnay 2021; Dwivedi et al. 2023). Recent work frames such reactions as informal policy feedback, particularly where formal feedback channels are limited, and analytically links sentiment, themes, and subsequent policy adjustments (Cui et al. 2026). Government social media have likewise been framed as a driver of digital transformation in the public sector (Dwivedi et al. 2023).

In Indonesia, Twitter has been a prominent arena for public feedback. Studies using Drone Emprit Academic (DEA) have examined reactions to the “new normal” policy (Rahmanti et al. 2021), large-scale social restrictions (Putra 2022), emergency activity restrictions (Ummahati et al. 2022), fuel price increases (Nuzila 2022), Tapera (Thufailah, Albianazwa, and Deliana 2024), and a controversial civil service test (Sumartias et al. 2023), alongside research on democracy and freedom of opinion (Lawelai, Sadat, and Suherman 2022). Findings show that sentiment varies by issue: positive posts dominated the “new normal” debate (Rahmanti et al. 2021), while negative sentiment prevailed on fuel prices and Tapera (Nuzila 2022; Thufailah, Albianazwa, and Deliana 2024). However, government social media use has largely focused on information dissemination rather than two-way interaction (Idris 2018), limiting the integration of public feedback into policy processes.

Maritime policy is a particularly instructive case. Presidential Regulation No. 16 of 2017 on Indonesian Sea Policy translated the Global Maritime Fulcrum (GMF) vision into a national policy framework (Republic of Indonesia 2017). One of its most visible enforcement instruments is the policy of sinking vessels engaged in illegal, unreported, and unregulated (IUU) fishing, which responds to losses suffered by fishing communities and the state (Madjid, Widodo, and Samudro 2019). In addition, the sinking of ships is carried out to deter violators. The GMF has also been debated in relation to China's Belt and Road initiative and Indonesia's foreign policy autonomy (Setiawan and Kamil 2021; Bütün et al. 2024).

Scholarship on the GMF has concentrated on foreign policy, security, and diplomacy, and on the gap between vision and implementation. Recent studies attribute the weakening momentum of the GMF to leadership style, elite interests, weak inter-agency coordination, and

competing priorities (Agastia 2021; Caroline 2021; Munabari and Sellita 2024), while others stress its role as a diplomatic and strategic instrument amid great-power competition (Fitrah, Darmawan, and Luthfi 2025; Setiawan 2024; Bütün et al. 2024). Earlier work already warned that policy narratives oriented to domestic audiences can create mistaken external perceptions and disappointed expectations (Muhibat 2017) and called for a human security lens on maritime security (Chapsos and Malcolm 2017). What remains largely unexamined is how citizens themselves talk about maritime policy online.

Research on social media in marine and fisheries contexts exists but is dominated by environmental and resource management topics, such as marine plastic pollution (Otero, Gago, and Quintas 2021) and electronic monitoring in fisheries co-management (Cutler et al. 2022). Studies closer to maritime labor and ports examine seafarers' rights advocacy (Tang 2022) and port communication on Twitter (Vitellaro et al. 2022). To our knowledge, studies that analyse citizen discourse on a national maritime policy in Indonesia as digital policy feedback are scarce; this statement refers to the literature we reviewed and is not an exhaustive census.

A second gap is conceptual and methodological. Many policy sentiment studies report the share of negative posts as an indicator of public reception of a policy (e.g., Zulfikar, Atmadja, and Pratama 2023; Thufailah, Albianazwa, and Deliana 2024). This inference is fragile. Polarity measures the tone of a text, not its stance toward a policy; keyword-based collection can capture content that merely mentions the topic; lexicon and classifier choices can change conclusions, especially for political vocabulary (Czarnek et al. 2022); emotion annotation is itself subjective (Krommyda et al. 2021); tweet-level samples over-represent highly active users (Vicente 2023); and automated accounts can amplify selected topics (Duan et al. 2022).

Conceptual Framework: Digital Policy Feedback

We therefore approach Twitter discourse through the lens of digital policy feedback, defined here as the signals that citizens generate on digital platforms in response to public policy and that governments may detect, interpret, and act upon (cf. Cui et al. 2026; Simonofski, Fink, and Burnay 2021). We distinguish four analytical dimensions. Salience refers to how much attention a topic receives and when, which shows what triggers attention. Valence refers to the text's polarity. Affect refers to the discrete emotions expressed. Substance refers to what the posts are about and whether they address policy instruments or outcomes. Only substance can establish whether a signal is policy feedback in the narrow sense;

the other three describe the attention and tone surrounding it. Spatial and social differentiation, such as geography or gender, may condition whose feedback is heard, a point we return to in the discussion. This framing connects digital governance concerns about responsiveness and accountability (Dwivedi et al. 2023) with a practical question: can monitoring tools distinguish feedback from noise?

Novelty, Contributions, and Research Questions

This study makes three contributions. Empirically, it provides a transparent descriptive map of maritime-policy-related discourse on Twitter in Indonesia in 2022 across salience, valence, affect, geography, and substance. Conceptually, it shows that valence alone is an unreliable proxy for policy feedback by comparing DEA labels with the substance of the most retweeted posts. In practice, it derives monitoring and communication measures for maritime governance, with attention to gender and stakeholder inclusion. Four research questions guide the analysis. RQ1: How did attention to maritime policy discourse evolve over time, and what triggered its peaks? RQ2: How were sentiment and emotion distributed? RQ3: Where did the discourse originate geographically? RQ4: What did the most widely shared content address, and to what extent does it constitute feedback on maritime policy?

METHODS

Research Design

This study uses an exploratory, descriptive computational design with a single-platform, cross-sectional window (1 January to 31 July 2022). The unit of analysis is the post (original posts, replies, mentions, and retweets) and, for the content analysis, the individual highly retweeted post. The design does not estimate causal effects or population-level opinion.

Data Source and Collection

Data were collected using DEA, a social media monitoring and analytics platform developed in Indonesia (Fahmi 2018) that retrieves posts by keyword and reports on trends, word frequency, sentiment, and emotion analyses (Rahmanti et al. 2021; Putra 2022). The collection keyword was “Indonesia's Maritime Policy”. DEA retrieved 19,996 posts for the period, including mentions, retweets, and replies. The sentiment export reports 19,999 classified items; this three-item difference could not be reconciled from the available output, so we use 19,996 for volume and the sentiment export for polarity shares. The period was chosen because conversation on the topic was active and coincided with several government maritime initiatives. The posts shown in Table 1 are in Indonesian and Malay, which suggests that DEA's

matching extended beyond the English keyword; however, the exact query syntax, language variants, and any retrieval cap were not recorded in the export. The corpus is therefore treated as maritime-policy-related discourse as retrieved by keyword matching, and because the count is close to 20,000 we cannot rule out a collection limit.

The author also searched the Scopus database for article references using the keywords "maritime policy", "maritime and social media", and "Indonesia's maritime direction", with a 2015–2022 time limit. The literature was complemented by an updated search of peer-reviewed publications from 2021 to 2026 on policy sentiment analysis, digital governance, Indonesian maritime policy, and gender in fisheries governance.

Measures and Analysis

Salience was assessed from daily post counts and DEA's interaction index, and peaks were matched with the timestamps of the most retweeted posts. Valence was taken from DEA's machine-learning classification of each post as positive, negative, or neutral, and shares were computed from the reported counts. Affect was taken from DEA's counts for eight emotion categories (joy, trust, fear, surprise, sadness, disgust, anger, and anticipation), which correspond to Plutchik's primary emotions (Krommyda et al. 2021; Zhang et al. 2024); DEA reports emotion for a subset of 701 posts. Geography was read from the location counts on DEA's map, and because the derivation of location is not documented in the output, these counts are treated as indicative.

Substance was examined through a manual thematic coding of the 15 most retweeted posts (Table 1) and an inspection of DEA's most frequent terms. Five categories were derived inductively from the content: commodity prices and the everyday economy; cross-border incidents and maritime enforcement; maritime history and identity; diplomacy and investment; and political and institutional critique or symbolism. Each post was assigned one primary category, and retweet counts were summed per category. As a robustness check on the sentiment result, we ran a bounding calculation that removes all posts of 20 and 21 February from both the total and the negative count, under the assumption that every post on those days was negative.

Validity, Reproducibility, and Ethics

The DEA classifiers were used as provided and were not validated against a human-labelled sample, so sentiment and emotion shares are indicative. Coding was performed by a

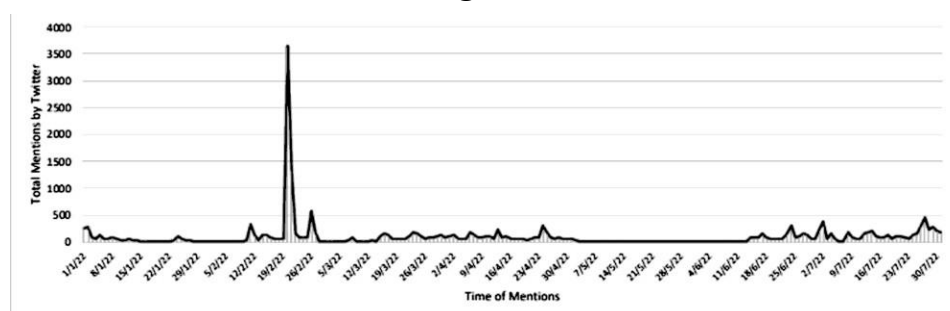
single coder and was not checked for inter-coder agreement. Automated accounts were neither identified nor removed. To support reproducibility, we report the keyword, period, counts, and coding rules, and future work should release post identifiers where platform terms allow. All data were public posts. Accounts of ordinary users are anonymized and paraphrased in Table 1, and only official accounts of public figures are identified by role.

RESULTS AND DISCUSSION

Salience: Event-Driven Attention

Figure 1 shows that attention was concentrated in a few days rather than sustained. On 20 February 2022, DEA recorded 3,641 posts, and on 21 February, 1,336 posts, so these two days together account for 4,977 posts, about 25% of the corpus (the peak day alone accounts for 18%). Smaller peaks appear in mid-February (roughly 300 posts), around 26 February (roughly 570), late April, and from late June to the end of July (up to roughly 450 posts), with very low volume between May and early June (values approximated from the plot).

Figure 1.



Daily volume of posts on Indonesia's maritime policy, 1 January to 31 July 2022 (source: DEA output)

The timestamps in Table 1 link the main peaks to specific posts. The most retweeted post (4,889 retweets), a satirical remark about scarce cooking oil and expensive salt in a maritime country, was published on 19 February at 21:18 WIB, immediately before the main peak. Its retweet count is of the same order as the 4,977 posts recorded on 20 and 21 February, suggesting that the peak consisted largely of retweets of this single post. This is an inference from magnitude and timing, since some retweets may fall on other dates. A post about missing Malaysian anglers, published on 26 February, coincides with the secondary peak, and posts of 23 and 24 April match the April peak. DEA's interaction index follows the same pattern, rising to roughly 90 around 21 February, about 29 in late February, about 17 in early March, and about 11 in late April (approximate values read from the plot; the unit of the index is not

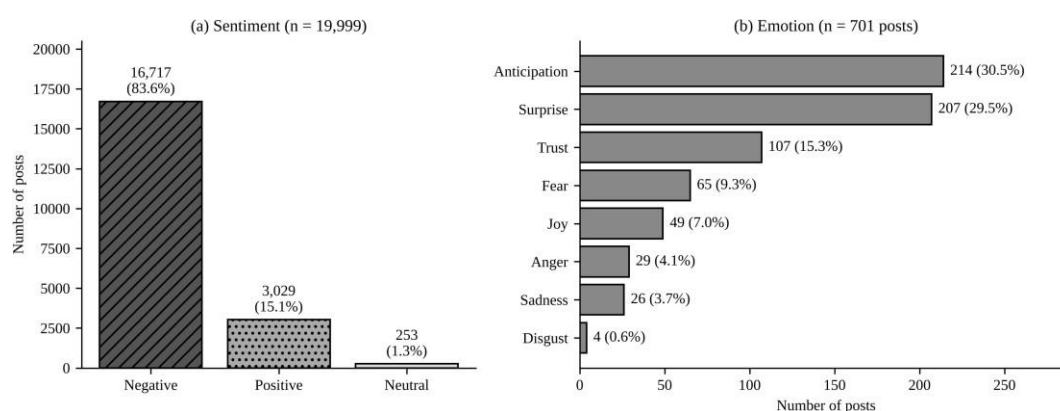
documented). In response to RQ1, attention to the topic was triggered by viral episodes, largely outside the policy-making process, rather than by policy announcements.

Valence: Predominantly Negative but Peak-Sensitive

Figure 2a shows that of 19,999 classified items, 16,717 (83.6%) were negative, 3,029 (15.1%) positive, and 253 (1.3%) neutral, a ratio of about 5.5 negative posts to every positive one. The neutral share is unusually small, which suggests that the classifier assigns most posts to a polarity and that the neutral class carries little information; this reading is tentative because classifier details are not available. The negative series follows the volume series closely on the peak day, so negativity is partly a product of the viral episode. The bounding calculation shows that even if every post on 20 and 21 February were negative, the remaining 15,019 posts would still contain at least 11,740 negative posts, or at least 78.2%. Predominant negativity therefore does not depend solely on the peak, although its size does. Positive posts show small increases in late April and late July, which coincide with the spice route post and the bilateral cooperation posts in Table 1.

Comparison with other DEA studies shows that polarity is issue-dependent. Rahmanti et al. (2021) found 52% positive and 41% negative posts on the “new normal” policy, Thufailah, Albianazwa, and Deliana (2024) reported more than 90% negative sentiment toward Tapera. A high negative share is thus a feature of the topic and its framing and cannot be interpreted on its own as a rejection of a policy.

Figure 2.



Sentiment (a) and emotion (b) of posts on Indonesia's maritime policy (source: DEA output; percentages computed by the authors)

Affect: Anticipation and Surprise Rather Than Anger

Emotion is reported for 701 posts, 3.5% of the corpus (Figure 2b). Anticipation (214; 30.5%) and surprise (207; 29.5%) together account for 60% of these posts, followed by trust (107; 15.3%), fear (65; 9.3%), joy (49; 7.0%), anger (29; 4.1%), sadness (26; 3.7%), and disgust (4; 0.6%). Anger and disgust together account for less than 5%. Rahmanti et al. (2021) found that trust, anticipation, and joy accounted for 77.6% of emotions in the “new normal” debate, while surprise accounted for 8.62%. In the present data, trust, anticipation, and joy together account for 52.8%, whereas surprise is far more prominent (29.5%). Because high negative polarity coexists with low anger, we interpret the negative label as arising largely from irony, satire, and astonishment (for example posts 1 and 11 in Table 1) rather than from anger directed at a policy. This is an interpretation supported by the content of the top posts; it was not tested on the full corpus, and the 701 posts may not be representative.

Geography: Mostly Domestic Discourse

On DEA's location map, the largest cluster is in Indonesia (3,178 posts). Other clusters are small: Europe (clusters of 44, 42, and 13), East Africa (87), Southeast Asia outside Indonesia (20), East Asia (14), and North America (11 and smaller). Summing the visible labels gives roughly 3,500 posts with location information, about 17% of the corpus, of which about nine-tenths are in Indonesia. In answer to RQ3, the discourse was mainly domestic, and international attention was modest. The map shows where posts originate, not how they evaluate the policy, so the earlier claim that the international community mostly welcomed the policy is not supported by these data. Some foreign posts concern Malaysian maritime agencies rather than Indonesian policy (Table 1), and the origin of the East African and European clusters cannot be explained from the output.

Table 1.

No.	Date	Account type	Content (translated and paraphrased)	Theme	RT	DEA label
1	19 Feb	Ordinary user	Satire: cooking oil is scarce in the world's largest palm oil producer, while salt is expensive in a maritime country	Commodity prices	4,889	Negative
2	26 Feb	News account (Malaysia)	Report of 18 anglers and crew missing after a boat suspected to have sunk near Langkawi (credited to Malaysia's maritime agency)	Cross-border incident	626	Negative
3	23 Jun	Ordinary user	Indonesians recall the Srivijaya maritime kingdom but rarely remember that it fell to a Chola invasion	History and identity	354	Negative
4	1 Jul	Presidential account	Exchange of cooperation MoUs with the UAE President, including maritime and fisheries, defense, and ports	Diplomacy and investment	284	Neutral
5	24 Apr	Ordinary user	Spice route series: "Picking up Indonesia as the world maritime axis"	History and identity	236	Positive
6	30 Jul	Ordinary user	Video of an Indonesian patrol vessel obstructed by a Malaysian maritime vessel in Indonesian waters	Cross-border incident	210	Neutral
7	15 Mar	Ordinary user (Malaysia)	Asks why authorities let irregular migrants reach the shore before detaining them instead of turning boats back at the maritime border	Cross-border incident	141	Negative
8	27 Jun	Ordinary user	Partisan insult at critics who earlier mocked the maritime axis and sea toll program	Political critique and symbolism	116	Negative

9	26 Jul	Presidential account	Meeting with a Chinese delegation on trade, investment, infrastructure, finance, and maritime cooperation	Diplomacy and investment	105	Positive
10	5 Jan	Ordinary user (Malaysia)	Malaysian maritime enforcement agency prevented a drifting vessel from Indonesia from hitting an oil platform	Cross-border incident	90	Positive
11	17 Jul	Ordinary user	Surprise that a maritime country has a salt crisis (#SaveGaram)	Commodity prices	89	Negative
12	25 Jul	Ordinary user	Sarcasm that the coordinating minister for maritime affairs and investment now deals with cattle disease	Political critique and symbolism	89	Negative
13	28 Jul	Presidential account	Bilateral meeting on green investment, the new capital city, and maritime cooperation	Diplomacy and investment	86	Positive
14	1 Jan	Ordinary user	Mocks a dragon statue at an airport defended as a maritime symbol	Political critique and symbolism	82	Negative
15	23 Apr	Ordinary user	Claims the president cannot dismiss the coordinating minister for maritime affairs and investment, calling him a proxy	Political critique and symbolism	76	Negative

Note: All dates are in 2022. Retweet counts and DEA sentiment labels are from the DEA output; account types, content summaries (translated and paraphrased), and themes are by the authors. Ordinary-user accounts are anonymized.

. *The 15 most retweeted posts on Indonesia's maritime policy on Twitter, with thematic coding*

Table 1 shows that the content was dominated by commodity prices. The two posts on cooking oil and salt account for 4,978 of the 7,473 retweets in the table (66.6%). Cross-border incidents and maritime enforcement involving Malaysia account for 1,067 retweets (14.3%), maritime history and identity for 590 (7.9%), diplomacy and investment announcements by the presidential account for 475 (6.4%), and political or institutional critique and symbolism for 363 (4.9%). Only five of the 15 posts (posts 4, 5, 8, 9, and 13) explicitly refer to maritime programs, the maritime axis, or maritime diplomacy, and they account for 827 retweets (11.1%).

In answer to RQ4, the most widely shared content was mostly not feedback on maritime policy instruments.

The DEA labels in Table 1 (nine negative, four positive, two neutral) capture tone and event valence rather than stance toward policy. Post 10 is labeled positive although it praises a Malaysian enforcement agency; post 2 is labeled negative because it reports missing anglers; post 3 is labeled negative because it recounts the fall of a historical maritime kingdom. The presidential account's posts on bilateral cooperation are labeled neutral or positive, which is consistent with a dissemination-oriented use of Twitter by government (Idris 2018). The word frequency output points in the same direction. Prominent terms include “Indonesia”, “kapal” (ship), “Malaysia”, “dihadang” (obstructed), “patroli” (patrol), “investasi” (investment), “infrastruktur”, “perdagangan” (trade), “pendanaan” and “keuangan” (funding and finance), and “nelayan” (fishers), whereas “maritime” and “policy” are not among the most frequent terms. Account handles and URL fragments also appear among the frequent tokens, indicating that the output was not cleaned and that term frequency should be interpreted with caution.

Discussion: What the Evidence Says About Digital Policy Feedback

Taken together, the four dimensions describe a weak and indirect form of policy feedback. Attention was event-driven (salience), the tone was mostly negative (valence), the emotions were anticipatory and surprised rather than angry (affect), and the content mostly did not address policy instruments (substance). This differs from the Chinese leave-compensation case, where themes in public discourse were tied to the policy and later policy adjustments responded to them (Cui et al. 2026). In our data we find no evidence of a link between the discourse and policy adjustment, and the design could not detect one.

Nevertheless, the posts carry a meaningful signal. The satire that salt is expensive in a “maritime country” shows citizens measuring the maritime-nation narrative against everyday welfare. This is consistent with studies that locate the GMF's problems in implementation and coordination (Setiawan 2024; Munabari and Sellita 2024) and with the warning that narratives can generate expectations that policy does not meet (Muhibat 2017). It remains an interpretation based on a handful of posts. Posts on cross-border incidents show that maritime sovereignty and safety enter public attention through concrete events, such as missing anglers and obstructed patrol vessels, which a human security perspective on maritime security emphasizes (Chapsos and Malcolm 2017). The corpus also mixes audiences, since part of it

concerns Malaysian agencies, so the keyword “maritime” retrieves a transnational conversation that is only partly about Indonesian policy.

Several data quality issues limit interpretation. Automated accounts can amplify selected topics (Duan et al. 2022), and bot detection tools trained on benchmark datasets may generalize poorly (Hays et al. 2023). Tweet-level samples over-represent very active users (Vicente 2023), classifier and lexicon choices can alter conclusions (Czarnek et al. 2022), and emotion labels depend on annotation practice (Krommyda et al. 2021; Zhang et al. 2024). Nuzila (2022) reported bot scores for Twitter discussion of fuel prices using DEA, which shows that bot analysis is available on the platform but was not applied here. These issues argue for treating DEA output as a signal for human review rather than as a measure of public opinion.

Gender and Stakeholder Perspectives

The DEA output does not include gender or other demographic attributes, so this study cannot report or infer differences across demographic or stakeholder groups. What the available output allows is limited. None of the 15 most retweeted posts concerns women, fisherwomen, or gendered labour, and no gender-specific term appears among the most frequent words. This absence is informative but not conclusive: it may reflect the keyword, which retrieves content labelled “maritime” rather than coastal livelihoods; the dominance of one viral post; or a genuine lack of visibility.

The fisheries governance literature shows why this matters. Gender equality commitments in small-scale fisheries are often narrowed or diluted (Lawless et al. 2021), women's influence on governance depends on institutional contexts and informal norms (Galappaththi et al. 2022), and women's marginal participation is linked to procedural injustice (Gustavsson et al. 2021). If digital listening is to inform inclusive maritime governance, it should be designed to hear coastal and fisherwomen's voices, which may not use the label “maritime policy”. Spatially and socially disaggregated analysis is one route. Because inferring gender from names or profiles is error-prone and raises privacy concerns, we recommend participatory or self-reported approaches and targeted keyword sets (for example “nelayan perempuan” and “perempuan pesisir”) in future work.

Theoretical Implications

Theoretically, the findings refine the notion of digital policy feedback in two ways. First, they show that the four dimensions can diverge: high attention, negative tone, and low-anger affect can coexist with little substantive content about policy instruments. Feedback

should therefore be defined by substance, while salience, valence, and affect are better treated as conditions that shape its visibility than as evidence of it. Second, for policies that carry a strong national-identity label, such as the maritime-nation narrative, citizens appear to use the label as a symbolic frame to voice grievances about related issues, including prices, border incidents, and officials. This widens the gap between what governments monitor and what citizens mean. These propositions are derived from a single case and a single platform, and they should be tested in other policy domains and with validated measures.

Implications and Proposed Measures

Six measures follow from the findings. They are proposals derived from the pattern of results and the literature, not tested interventions. First, agencies should move from sentiment dashboards to stance-aware monitoring that classifies posts by whether they address a policy instrument or outcome, validates automated classifiers against a human-labelled sample, and reports confusion matrices, as Thufailah, Albianazwa, and Deliana (2024) did. Second, because attention tends to concentrate on a few viral days, agencies should set volume alert thresholds and review the most-retweeted posts within a day to identify the underlying issue before interpreting sentiment. Third, government accounts should shift from announcement to two-way communication (Idris 2018), responding to viral grievances such as commodity availability with data and plain-language explanation.

Fourth, social media signals should be linked to formal participation channels, following the policy analytics framework that combines social media and e-participation data (Simonofski, Fink, and Burnay 2021). Fifth, transparency tools such as open data on logistics costs and commodity supply could connect the maritime narrative to everyday outcomes. Sixth, monitoring should safeguard data integrity and inclusion by screening for automated or coordinated accounts and adding gender-disaggregated and stakeholder-specific listening for fishing and coastal communities.

Limitations

This study has several limitations. It covers one platform and one seven-month window, and its corpus may be capped. The keyword-based collection mixes relevant and irrelevant content. The sentiment and emotion classifiers were not validated, emotion is available for only 3.5% of posts, and the thematic coding covers 15 posts coded by one coder. Bot accounts were not screened, location data are partial, and demographic attributes were unavailable. The results are descriptive and cannot be generalized to the Indonesian public.

CONCLUSION

This study analysed 19,996 Twitter posts on Indonesia's maritime policy collected between January and July 2022 and found that attention was event-driven, with two days accounting for about one quarter of all posts. Sentiment was predominantly negative (83.6%), and this result remained at no less than 78% even when the two peak days were removed in a bounding calculation, but emotions were dominated by anticipation and surprise rather than anger, the discourse was mainly domestic, and the most retweeted posts concerned commodity prices, cross-border incidents, and political symbolism rather than maritime policy instruments. Negative tone therefore cannot be equated with opposition to the policy, and digital feedback on maritime policy on Twitter was weak and indirect, although it revealed a gap between the maritime-nation narrative and everyday expectations. The study contributes a four-dimensional framework of salience, valence, affect, and substance for assessing digital policy feedback, and it shows that sentiment shares should be interpreted alongside the content of the most-shared posts. For practice, we suggest stance-aware and event-triggered monitoring, two-way government communication, links between social media signals and formal participation channels, and inclusive listening that reaches women and coastal communities.

Declaration of AI

During the preparation of this manuscript, the authors used Grammarly Premium (web version / desktop application) solely for language editing, grammar checking, and readability enhancement. Following the use of this tool, the authors carefully reviewed and revised the suggestions and take full responsibility for the content and integrity of the publication.

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