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UNVEILING PUBLIC SENTIMENT ON FREE NUTRITIOUS MEAL POLICY THROUGH SOCIAL MEDIA ANALYTICS: IMPLICATIONS FOR NUTRITION AND PUBLIC HEALTH

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ABSTRACT

This study aims to analyze public sentiment toward the Free Nutritious Meal (Makan Bergizi Gratis/MBG) policy on social media and examine its association with health-related issues. Understanding public perception is essential, as it plays a crucial role in determining the effectiveness and acceptance of public health policies. This research adopts a quantitative approach using sentiment analysis based on social media data, particularly from Twitter (X). Data were collected using keyword-based queries related to MBG and health issues, including nutrition, stunting, and food safety. The analysis employs text mining and natural language processing (NLP) techniques to classify sentiment into positive, negative, and neutral categories, followed by temporal, demographic, and content-based analyses. The results indicate that public sentiment toward the MBG policy is predominantly negative, although positive sentiment remains substantial. Temporal analysis reveals significant fluctuations, with notable peaks corresponding to emerging issues in policy implementation. Demographic analysis shows that female users tend to express more positive sentiment, while male users exhibit higher levels of criticism. Additionally, the most active contributors to the discourse are individuals within the productive age groups (22–55 years). Content analysis further identifies a dual narrative: positive sentiment is driven by perceived benefits related to nutrition and social welfare, while negative sentiment is largely influenced by concerns over food safety, particularly cases of food poisoning. Overall, the findings suggest that public perception of the MBG policy is shaped not only by its intended benefits but also by implementation challenges and risk-related issues. Therefore, effective communication strategies and responsive policy management are essential to enhance public trust and ensure the successful implementation of the program.

KEYWORDS: *Free Nutritious Meals, Sentiment Analysis, Social Media, Public Health, Policy Evaluation*

1. INTRODUCTION

Public health is one of the fundamental pillars in national development, particularly in enhancing the quality of human resources in a sustainable manner. One of the key aspects of public health is the fulfillment of balanced nutrition, especially for vulnerable groups such as children and adolescents (Malandrino, 2024a; Pournaki & Willaert, 2025; Taha & Abdallah, 2025). Nutritional problems, including stunting and malnutrition, remain serious challenges in many developing countries, including Indonesia (Kianpour et al., 2025; Malandrino, 2024b; Widayat et al., 2023). This condition encourages governments to design various strategic policies aimed at improving the nutritional status of the population and reducing inequalities in access to nutritious food across all segments of society.

One of the policies that has recently gained public attention is the Free Nutritious Meal (Makan Bergizi Gratis/MBG) program. This program is designed to improve nutritional intake, particularly for students and vulnerable groups, as part of a long-term effort to reduce stunting rates and enhance public health quality (Bust et al., 2023; Martens et al., 2022; Törnberg et al., 2021). Conceptually, this policy has significant potential to generate positive impacts, both in terms of health and socio-economic outcomes. However, the success of policy implementation is not solely determined by program design, but also by the level of public acceptance and perception toward the policy in practice (Alhafez et al., 2023).

In the digital era, social media has become a primary space for individuals to express opinions, share experiences, and shape perceptions of various public issues. Platforms such as Twitter (X), Instagram, and other social media channels enable rapid and widespread dissemination of information, thereby playing a crucial role in shaping collective public opinion. In the context of public policy, social media functions not only as a communication channel but also as an important indicator for understanding public responses to a policy, including those related to health and social welfare (Cascini et al., 2022; Duffy et al., 2021; Rustamaji et al., 2025).

To understand these responses, social media-based sentiment analysis has become an increasingly relevant approach. By utilizing text mining and natural language processing (NLP) techniques, sentiment analysis enables researchers to systematically identify public opinion trends at a large scale (Koc-Michalska et al., 2023; Sumartias et al., 2023; Terren & Borge, 2021). This approach offers advantages in capturing real-time dynamics of

public opinion compared to conventional methods. Furthermore, sentiment analysis allows deeper exploration of public discourse patterns related to specific issues, including health, nutrition, and risks emerging from policy implementation.

However, public responses to the Free Nutritious Meal policy are not always positive. On one hand, there are narratives supporting the program as an effort to improve welfare and nutritional fulfillment (Alfardan, 2026; Alsharairi et al., 2025; Casero-Ripollés, 2021). On the other hand, various concerns have emerged regarding policy implementation, such as food quality, program distribution, and potential health risks, including food poisoning incidents. These narratives evolve dynamically on social media and have the potential to influence public perception broadly, resulting in complex and diverse opinion dynamics (Avelino, 2021; Benkler, 2008; Wu et al., 2025).

Previous studies have examined sentiment analysis of public policies using social media data. These studies generally focus on identifying sentiment polarity and public opinion trends toward specific policies (Atsilah Siregar & Nugroho, 2025; Lutkenhaus et al., 2025; Paskarina, 2023; Yue & Yu, 2025a). Additionally, some research has linked sentiment analysis with public health issues, such as perceptions of vaccination programs and healthcare services. However, most of these studies remain limited to general analyses and have not specifically connected public sentiment with more in-depth health issues within the context of nutrition-related policies (Dai et al., 2023; Friemel & Neuberger, 2023; Yue & Yu, 2025b; Zhang, 2023).

Several research gaps still need to be addressed. First, studies related to the Free Nutritious Meal policy in the context of social media remain limited, given that the policy is relatively new and evolving. Second, there is a lack of studies integrating sentiment analysis with demographic aspects such as age and gender to understand variations in public perception. Third, the relationship between public sentiment and specific health issues, such as nutrition, stunting, and health risks, has not been comprehensively explored within an integrated analytical framework.

Based on this background, the research problem can be formulated as follows: how does public sentiment toward the Free Nutritious Meal policy evolve on social media, and how is this sentiment related to health issues emerging in society? This issue is important to examine considering the role of public opinion in influencing the success of policy implementation. Moreover, understanding public sentiment can help identify

potential communication risks and key issues that need attention in program implementation.

This study aims to analyze the trends and distribution of public sentiment toward the Free Nutritious Meal policy on social media, identify variations in sentiment based on demographic characteristics, and explore dominant issues emerging in public discourse, particularly those related to health aspects. By employing a social media-based data approach, this research is expected to provide a more comprehensive, real-time, and evidence-based understanding of public perception toward the policy.

The findings of this study are expected to contribute both theoretically and practically. Theoretically, this research enriches the literature on sentiment analysis in the context of public policy and public health. Practically, the findings can serve as input for policymakers in understanding public perception, identifying potential issues, and formulating more effective communication and policy implementation strategies. Thus, this study contributes to supporting data-driven policymaking in the digital era.

2. RESEARCH METHODOLOGY

This study employs a quantitative approach using social media-based sentiment analysis to examine public perception of the Free Nutritious Meal (Makan Bergizi Gratis/MBG) policy. This approach is selected due to its ability to capture public opinion dynamics comprehensively, in real time, and based on large-scale data (big data). The analysis is conducted using text mining and natural language processing (NLP) techniques to classify sentiment and identify dominant issues related to public health aspects.

2.1 Data Source and Data Collection

The research data are obtained from social media platforms, particularly Twitter (X), which is selected due to its open nature and widespread use as a platform for public discourse on policy-related issues. Data collection is carried out using web scraping techniques by utilizing APIs or media monitoring analytical tools. The keywords used in the data retrieval process include "Free Nutritious Meal," "MBG," as well as combinations with health-related terms such as "nutrition," "stunting," "health," and "food poisoning." The data collection period spans from January to December 2025 to capture the temporal dynamics of public sentiment.

2.2 Data Pre-processing

Text data obtained from social media are generally unstructured and contain noise; therefore, a pre-processing stage is required. This stage includes data cleaning processes such as the removal of URLs, mentions, hashtags, symbols, and special characters. Subsequently, case folding, tokenization, stopword removal, and stemming are performed to transform the text into a more representative form. These steps aim to improve the accuracy of the model in classifying sentiment.

2.3 Sentiment Classification

Sentiment analysis in this study was conducted using a supervised machine learning approach. Specifically, the classification model employed a [INSERT MODEL HERE, e.g., Support Vector Machine (SVM) / Naïve Bayes / IndoBERT-based classifier], which has been widely used in sentiment analysis tasks involving Indonesian-language text. The model was trained using a labeled dataset consisting of [INSERT NUMBER] tweets that were manually annotated into three sentiment categories: positive, negative, and neutral. The annotation process was conducted by [INSERT: number of annotators / experts if applicable] to ensure labeling consistency. Feature extraction was performed using [INSERT: TF-IDF / word embeddings / BERT embeddings], allowing the model to capture semantic relationships within the text. The classification process aims to identify sentiment polarity based on contextual meaning, particularly in informal Indonesian language commonly used on social media. To evaluate model performance, standard metrics including accuracy, precision, recall, and F1-score were calculated. The model achieved an accuracy of [INSERT %], indicating a satisfactory level of reliability in classifying sentiment.

2.4 Temporal and Demographic Analysis

To gain a deeper understanding of sentiment dynamics, temporal analysis is performed by mapping sentiment trends over time (monthly). In addition, this study conducts demographic analysis by grouping data based on user attributes such as gender and age groups. This approach aims to identify differences in perception among social groups and to determine which segments are more dominant in shaping public opinion regarding the MBG policy.

2.5 Topic Analysis and Data Visualization

In addition to sentiment classification, this study also conducts topic analysis using a word frequency-based approach and word cloud

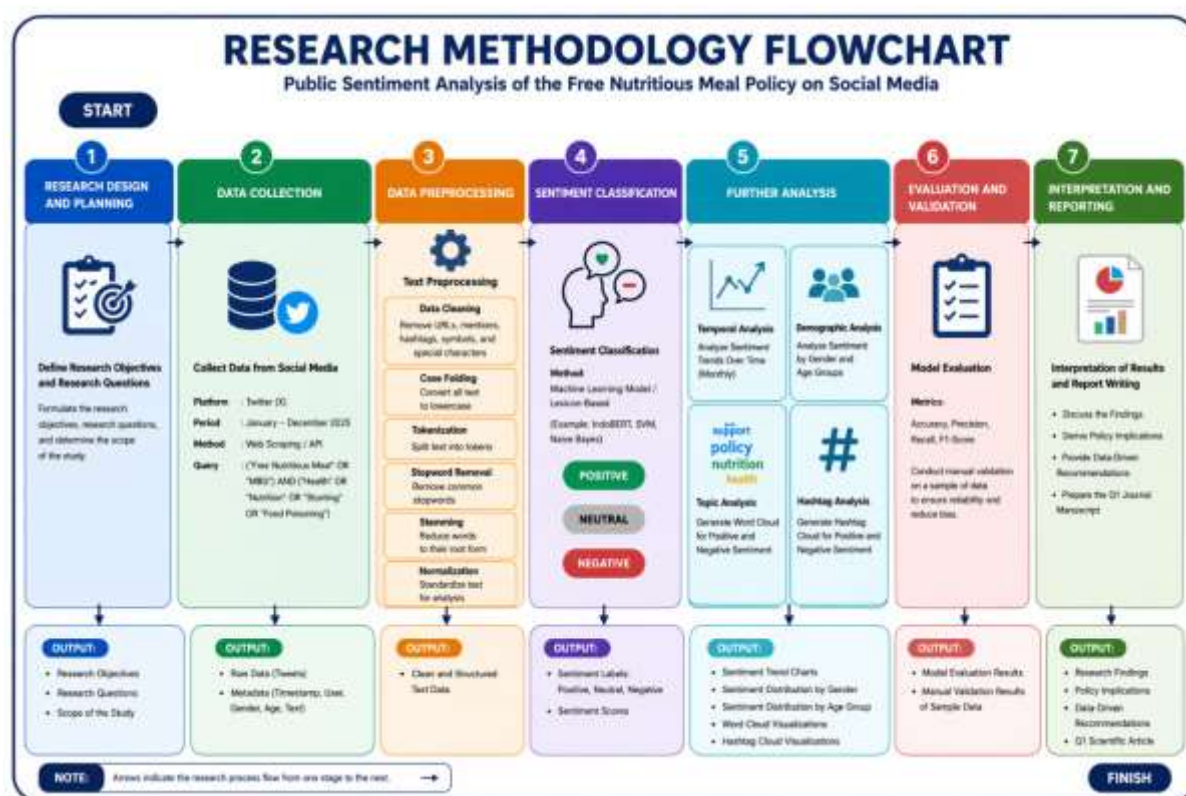
visualization. This analysis aims to identify key issues emerging in both positive and negative sentiments, particularly those related to health aspects such as nutrition, stunting, and food safety risks. Data visualization is employed to clarify sentiment distribution patterns, temporal trends, and relationships among variables, thereby facilitating the interpretation of research findings.

2.6 Validity and Reliability

To ensure the validity and reliability of the sentiment classification model, performance evaluation was conducted using standard metrics, including accuracy, precision, recall, and F1-score. These metrics provide a comprehensive assessment of the model's ability to correctly classify sentiment categories. In addition, manual validation was performed on a randomly selected subset of the dataset to verify the consistency between automated classification results and actual contextual meaning. Inter-annotator agreement was also considered to ensure labeling reliability. This combined approach enhances the robustness of the analysis and reduces potential misclassification bias in interpreting public sentiment.

2.7 Limitations of Social Media Data

Despite the advantages of using social media data, several limitations should be acknowledged. First, Twitter (X) users do not fully represent the entire Indonesian population, as the platform is predominantly used by younger and more digitally active individuals. Therefore, the findings may not fully reflect the perceptions of all societal groups. Second, the presence of automated accounts (bots) and coordinated campaigns may influence the distribution of sentiment, potentially amplifying certain narratives disproportionately. Although data cleaning procedures were applied, it is not possible to completely eliminate such biases. Third, social media discourse tends to be more polarized, where extreme opinions are more likely to be expressed and shared. This may result in an overrepresentation of negative or highly critical sentiments compared to moderate opinions. These limitations suggest that the findings should be interpreted with caution and complemented with other data sources in future research.



3. RESULT & DISCUSSION

3.1 Trends in Public Sentiment toward the MBG Policy on Social Media

The dynamics of public sentiment toward the MBG policy on social media are not stable but evolve over time following the development of related issues. In general, public discourse shows a

dominance of negative sentiment compared to positive and neutral sentiment. However, the intensity of each type of sentiment does not follow a linear pattern, but rather fluctuates from month to month. This pattern indicates that public opinion regarding the MBG program is highly sensitive to current events, media coverage, and public experiences circulating in the digital space (Bruns, 2023; Ouedraogo et al., 2025; Quintanilha, 2018; Wineman et al., 2022). Therefore, temporal analysis is essential to comprehensively understand the direction of public perception.

Based on Figure 1, the sentiment distribution indicates that public discourse on MBG is dominated by negative sentiment at 54.37%,

followed by positive sentiment at 30.64% and neutral sentiment at 15.00%. This composition suggests that although the MBG program receives public support, the prevailing discourse is more heavily characterized by criticism, concerns, or negative evaluations. On a monthly basis, negative sentiment appears more volatile, with sharp increases observed in May, September, and October 2025, while positive sentiment shows moderate growth during September–October 2025. These findings indicate that public perception is influenced not only by the existence of the policy itself but also by implementation dynamics and concurrent health-related issues.

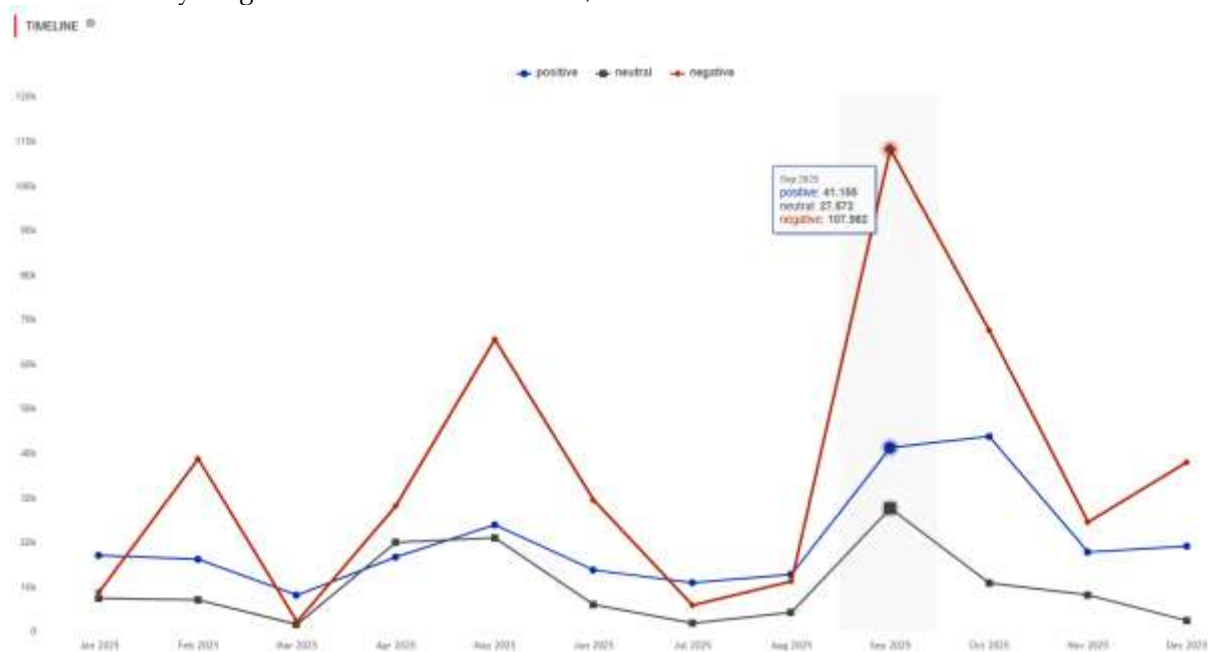


Figure 1. Trends in public sentiment toward the Free Nutritious Meal (MBG) policy on social media from January to December 2025

The data in Figure 1 reveal two key findings. First, in aggregate, negative perceptions toward the MBG policy outweigh positive appreciation, indicating a gap between the normative objectives of the policy and the actual public response. Second, the simultaneous increase in both negative and positive sentiment during September–October 2025 suggests that MBG became a highly engaging topic rather than being entirely rejected. This implies that the policy is polarizing, generating both support and criticism on a large scale (Batistela dos Santos et al., 2022; Matsentu, 2025). In the context of public policy, such a condition is important as it reflects high public attention while also highlighting vulnerabilities in policy communication and risk perception.

Figure 2 illustrates that positive sentiment toward MBG fluctuates, with a tendency to increase in the second half of the year. After remaining at a moderate level in January–February, positive sentiment declined in March, then rose again in April–May. A decline is observed in June–July before a sharp increase in September and October 2025, which represent the highest levels during the observation period. Subsequently, the intensity decreases in November and stabilizes slightly in December. This pattern indicates that support for MBG remains strong, particularly when public discourse highlights program benefits, target beneficiaries, or successful implementation perceived positively by the public.

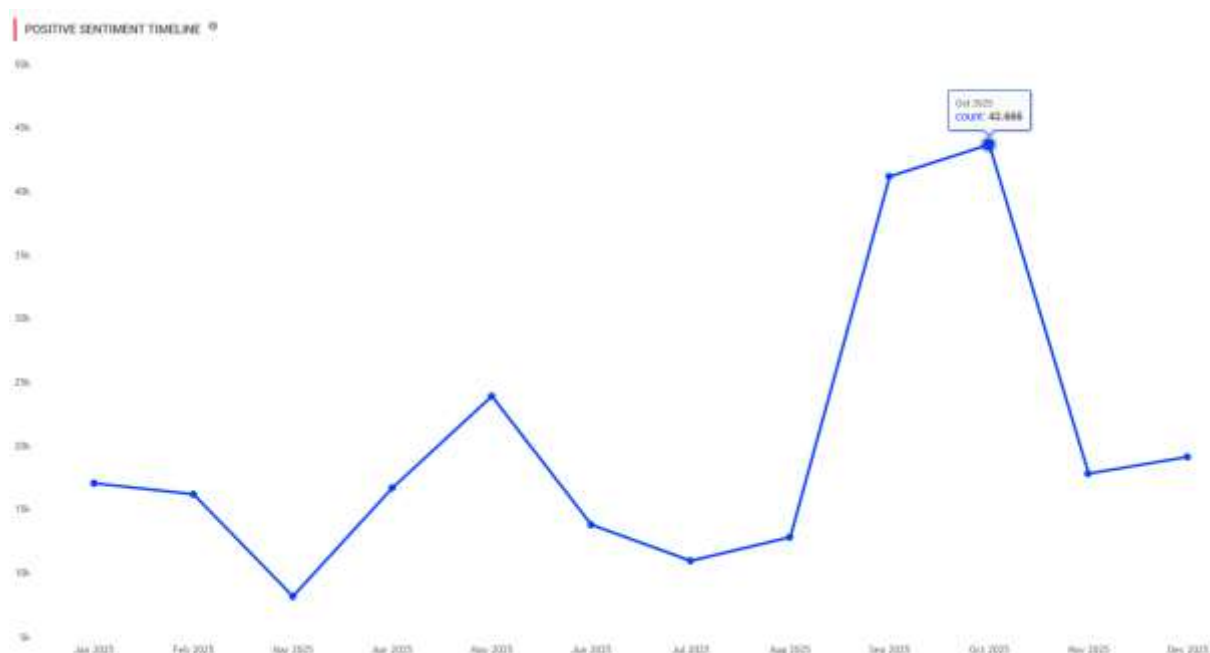


Figure 2. Temporal development of positive sentiment toward the MBG policy

The surge in positive sentiment during September–October 2025 indicates that supportive narratives toward MBG persist despite the overall dominance of negative sentiment. This suggests the presence of a relatively strong base of public acceptance of the program’s objectives, particularly in relation to nutritional fulfillment, support for vulnerable groups, and government commitment to social welfare. The decline observed in the mid-year period implies that public support may weaken when exposure to program benefits is overshadowed by issues related to implementation challenges. Therefore, positive sentiment appears to depend heavily on the government’s ability to sustain narratives of effectiveness, legitimacy, and tangible benefits of the MBG program on social media.

In contrast, Figure 3 shows that negative sentiment exhibits a sharper and more volatile pattern compared to positive sentiment. After remaining relatively low in January, negative sentiment increased in February, dropped significantly in March, then rose again in April and peaked in May. Following a decline in June–July, negative sentiment surged dramatically in September 2025 and remained high in October before declining again in November. In December, negative sentiment increased once more (Iandoli et al., 2021; Mattei et al., 2022). This pattern suggests that negative discourse is more responsive to specific events, particularly issues that trigger collective concern and spread rapidly across social media..

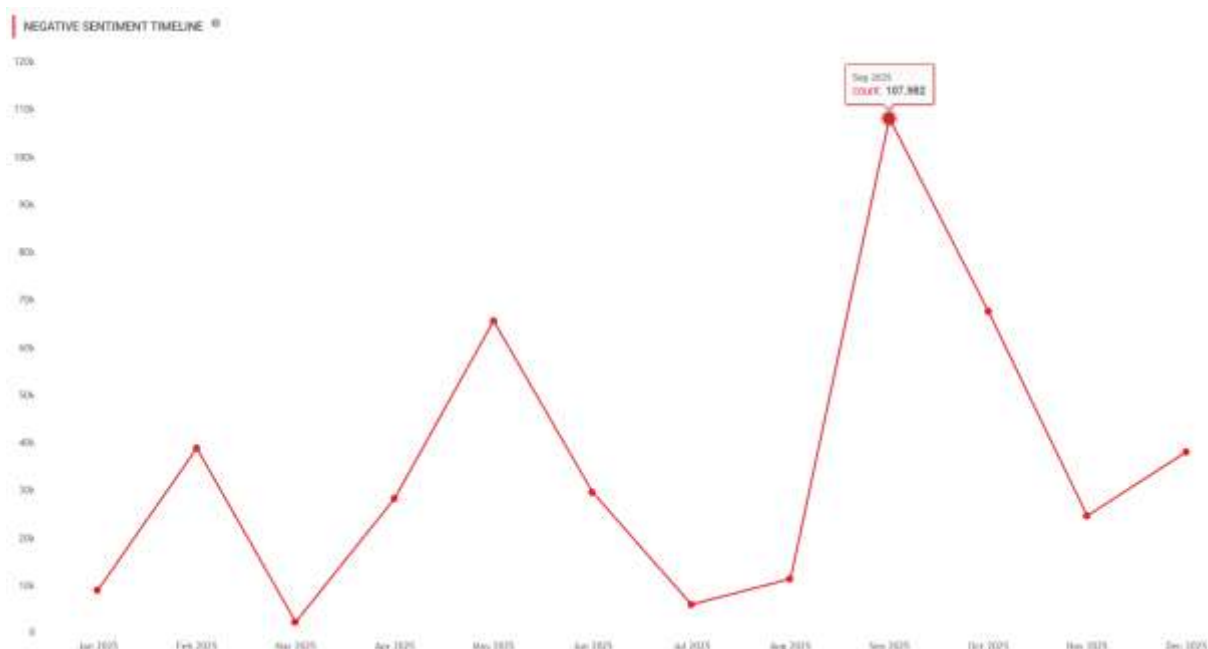
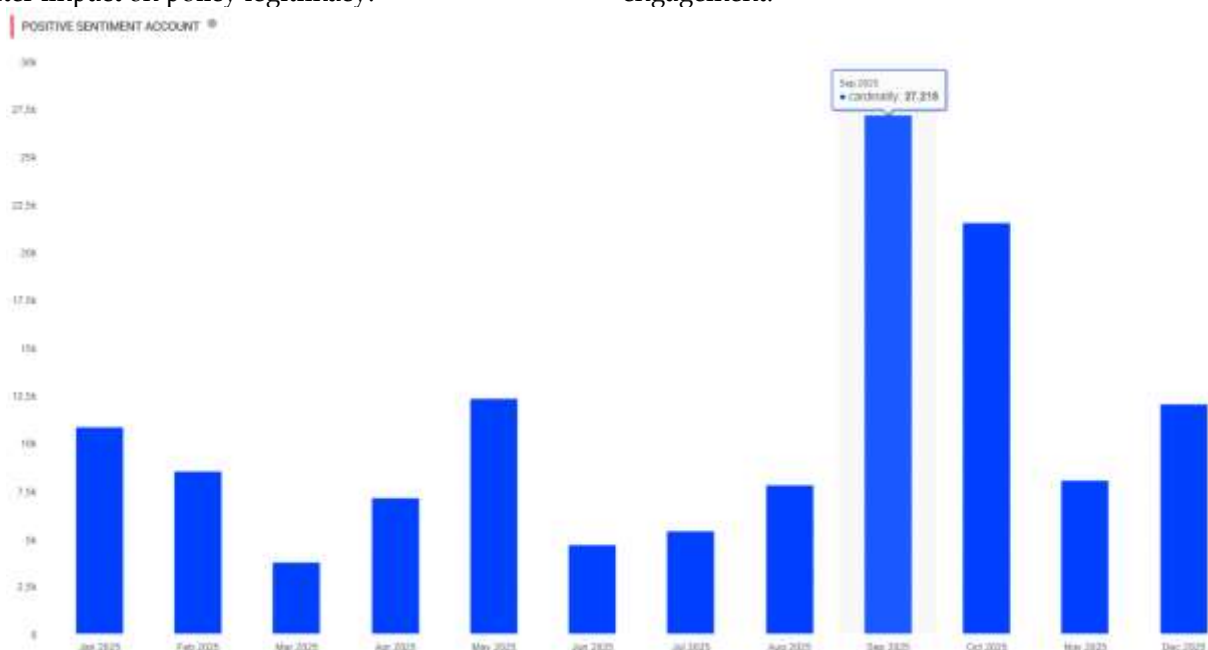


Figure 3. Temporal development of negative sentiment toward the MBG policy

The volatility of negative sentiment indicates that risk perception is a key driver in shaping public opinion toward MBG. The extreme peak in September 2025 suggests the occurrence of a major issue that significantly influenced public discourse, potentially related to food safety, distribution quality, or incidents perceived as failures in policy implementation. Compared to positive sentiment, which grows gradually, negative sentiment tends to escalate more explosively, thereby exerting a stronger influence on public perception. This is particularly significant, as in social media ecosystems, negative narratives tend to spread faster, attract more attention, and exert a greater impact on policy legitimacy.

Figure 4 shows that the number of accounts generating both positive and negative sentiment follows a pattern consistent with previous temporal trends. For positive sentiment, the highest volume of accounts is observed in September and October 2025, indicating increased public participation in supporting or defending the MBG program. However, the number of accounts contributing to negative sentiment also increases significantly, particularly during periods when MBG becomes a major topic of discussion. This finding suggests that sentiment changes are not driven solely by a small number of highly active accounts but rather by broader user participation, reflecting collective engagement.



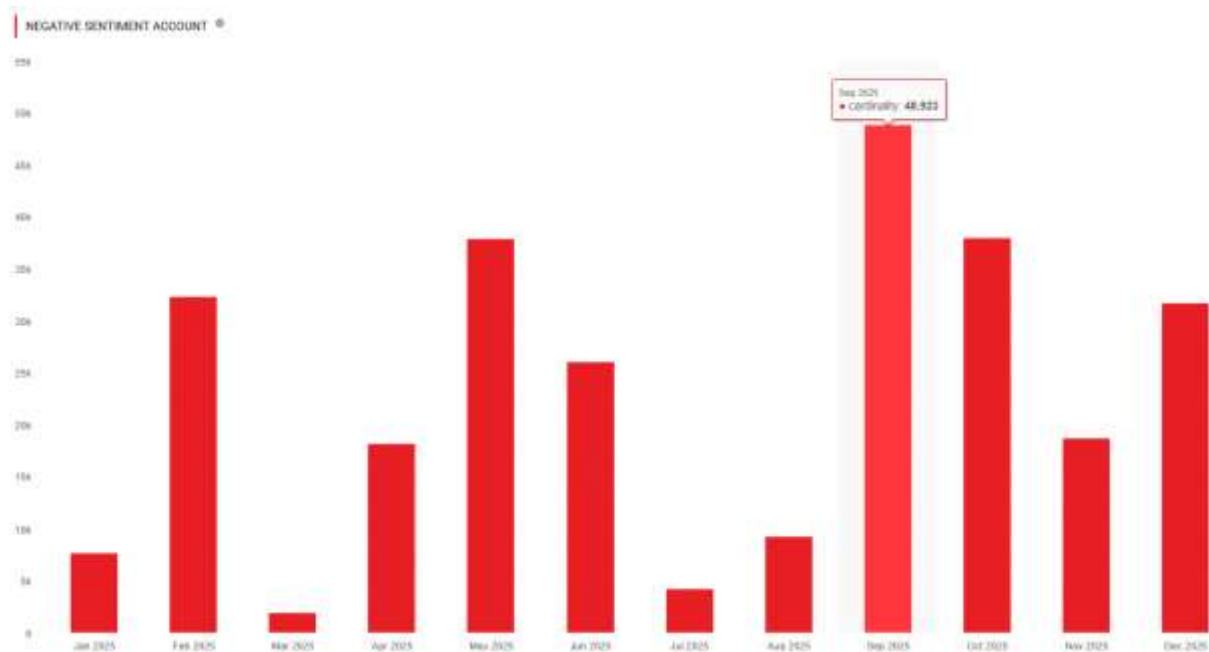


Figure 4. Distribution of account volume generating positive and negative sentiment toward the MBG policy

The evidence presented in Figure 4 reinforces that the observed spikes in sentiment represent a collective phenomenon rather than anomalies caused by a few dominant users. When the number of participating accounts increases alongside sentiment volume, it indicates that MBG has become a public agenda that triggers widespread engagement. From a social media analysis perspective, this pattern is significant as it demonstrates the broad reach of the discourse and the potential for organic opinion diffusion. The high level of participation in negative sentiment also indicates that critical issues related to MBG have strong resonance, requiring prompt, transparent, and evidence-based policy communication responses.

This discussion confirms that trends in public sentiment toward MBG exhibit a complex and dynamic pattern that is strongly influenced by temporal context. The overall dominance of negative sentiment does not necessarily imply outright rejection of the program, as positive sentiment also strengthens during certain periods (Brüggemann & Meyer, 2023; Cui et al., 2024). Instead, the findings suggest that MBG is a high-attention policy that generates polarized perceptions in the digital space. Therefore, these results highlight the need for evaluation not only in terms of policy substance but also in implementation quality, issue management, and public communication strategies to ensure that the benefits of the program are not overshadowed by widespread risk perceptions.

3.2 Demographic Analysis of Sentiment (Gender and Age)

Demographic analysis is essential to determine whether public responses to the MBG policy are evenly distributed or differ across specific social characteristics. In this study, demographic attributes are examined through two main indicators, namely gender and age groups. This approach helps identify which segments of society are more supportive, more critical, or more neutral toward the MBG policy. Furthermore, demographic analysis provides practical value for policy evaluation, as differences in public perception across groups can serve as a basis for designing more targeted communication strategies that are responsive to the specific needs and concerns of different societal segments.

Based on Figure 5, both male and female groups demonstrate a dominance of positive sentiment toward the MBG policy. However, the proportion of positive sentiment among females reaches 74.68%, which is higher than that of males at 61.43%. Conversely, the proportion of negative sentiment among males is 26.34%, exceeding that of females at 17.80%. Neutral sentiment is also higher among males (12.22%) compared to females (7.52%). These findings indicate that females tend to respond to the MBG policy with a higher level of acceptance, while males exhibit a more varied distribution of opinions, including support, criticism, and neutrality.



Figure 5. Distribution of public sentiment toward the MBG policy based on gender

The differences in sentiment distribution by gender indicate that public perception of MBG is not homogeneous. The higher level of positive sentiment among females may suggest that the policy is more readily accepted when associated with family welfare, child nutrition, and the protection of vulnerable groups. In contrast, the higher proportion of negative sentiment among males reflects a more critical evaluative tendency toward policy implementation. Substantively, this pattern is significant as it suggests that support for MBG is stronger among groups that may perceive the program in terms of direct social benefits, whereas criticism is more prominent among those who may focus on effectiveness, governance, or implementation risks.

Figure 6 shows that all age groups are dominated by positive sentiment, although with varying levels of volume. The 31–40 age group records the highest number of positive sentiments (43,148), followed by the 41–55 group (30,175) and the 22–30 group (29,808). At the same time, the 31–40 group also registers a substantial number of negative sentiments (18,581), as does the 22–30 group (13,831). Meanwhile, individuals under 18 and above 55 years of age exhibit significantly lower volumes of discussion. This pattern indicates that individuals in the productive age range play a central role in shaping public discourse on the MBG policy on social media.

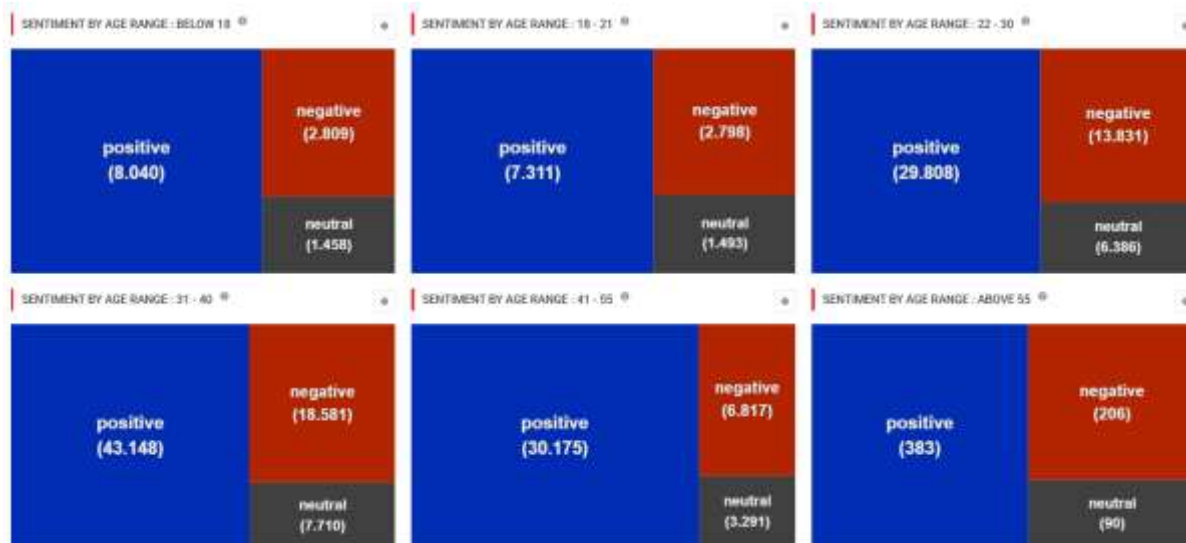


Figure 6. Distribution of public sentiment toward the MBG policy based on age groups

The dominance of sentiment volume among individuals aged 22–55 suggests that public opinion on MBG is primarily shaped by the productive age group, which demonstrates higher levels of participation in social media. The 31–40 age group emerges as the most dominant segment in both positive and negative sentiment, indicating a high level of engagement as well as a more reflective position regarding both the benefits and limitations of the program (Gusti et al., 2025; Muhammad & Muhamad, 2025; Staab & Thiel, 2022). The substantial level of positive sentiment indicates

acceptance of the MBG objectives; however, the high level of negative sentiment within the same group suggests that such support is conditional. In other words, individuals in the productive age group not only accept the program but also actively monitor, evaluate, and critically respond to its implementation.

The demographic findings further indicate that variations in sentiment by age are not solely determined by volume but also by the level of proximity between age groups and the policy issue. Individuals in the productive age range, particularly

those aged 22–40, are likely to exhibit greater interest in MBG due to their social position, which is closely related to family welfare, children's education, household expenditures, and the quality of public services. In contrast, younger and older age groups show lower levels of engagement, which may reflect limitations in digital participation or reduced direct involvement in policy-related concerns. Thus, these demographic differences reveal an unequal structure of public participation.

When viewed from a policy evaluation perspective, the findings in this subsection indicate that acceptance of the MBG policy is stronger among female groups and individuals within the productive age range, while the most intense criticism also originates from the same demographic segments. This is significant, as it suggests that the groups most actively discussing MBG are not merely recipients of policy narratives but also active evaluators of its implementation. Therefore, public communication strategies should not be uniform. Policymakers need to tailor messages for different segments, emphasizing program benefits for supportive groups while addressing concerns related to effectiveness, quality, and safety for more critical audiences.

This discussion confirms that demographic analysis provides clear evidence that sentiment toward the MBG policy is shaped differently by gender and age. Females tend to exhibit more positive responses, while males demonstrate a higher proportion of critical sentiment. Meanwhile, individuals in the productive age range serve as the central drivers of public opinion, both in terms of support and opposition. Consequently, public perception of MBG cannot be interpreted as a single unified voice. Instead, it represents the result of

interactions among diverse social groups with varying interests, experiences, and sensitivities toward the benefits and risks of the policy in the digital space.

3.3 Dominant Issues in Public Sentiment (Health Topics and Social Narratives)

In addition to examining the distribution and demographics of sentiment, it is essential to understand what the public is actually discussing in conversations related to MBG. This analysis focuses on identifying dominant keywords and hashtags that appear in both positive and negative sentiments. This approach allows researchers to explore the context behind sentiment metrics, thereby explaining why certain sentiments emerge. By utilizing text mining techniques and word cloud visualization, this study identifies key issues related to health, nutrition, government policy, and perceived risks associated with the implementation of the MBG program in the digital space.

Based on Figure 7, the most dominant keywords in positive sentiment include "mbg program," "free nutritious meal," "support," "child nutrition," and "government program." In addition, terms such as "benefits," "school children," and "nutritional fulfillment" also appear, indicating that the public associates the MBG policy with improvements in welfare and health. The emerging narrative tends to position the program as a form of state intervention aimed at addressing nutritional issues. The dominance of these terms suggests that positive sentiment is constructed based on perceived direct benefits, particularly in the context of meeting the nutritional needs of vulnerable groups such as children.



Figure 7. Visualization of dominant keywords in positive sentiment toward the MBG policy

The word cloud for positive sentiment demonstrates that public support for MBG is rooted in expectations of its social and health impacts. The emphasis on terms such as “nutrition,” “children,” and “government program” indicates that the legitimacy of the policy is built through its association with societal welfare. This implies that positive sentiment is not abstract, but directly linked to tangible benefits that are either experienced or expected by the public. This finding is important, as it indicates that the sustainability of public support largely depends on the extent to which the program fulfills these expectations. If the benefits are not visible or perceived, positive narratives may weaken and shift toward criticism.

Figure 8 shows that dominant hashtags in positive sentiment include #FreeNutritiousMeal, #MBG, #ChildNutrition, #HealthyIndonesia, and #GovernmentProgram. In addition, hashtags related to support for government initiatives and social campaigns, such as #IndonesiaMaju and #SupportMBG, are also observed. The presence of these hashtags indicates that positive sentiment does not emerge solely in a spontaneous manner but is also structured through digital campaigns. Hashtags function as tools for organizing narratives, strengthening the dissemination of positive messages, and increasing the visibility of issues on social media through viral mechanisms.



Figure 8. Visualization of dominant hashtags in positive sentiment toward the MBG policy

The dominance of normative and pro-policy hashtags suggests the presence of positive framing efforts surrounding MBG in the digital space. Hashtags such as #HealthyIndonesia and #ChildNutrition connect the program with broader development goals, thereby enhancing its legitimacy in the public eye. Furthermore, the consistent use of hashtags indicates the possibility of coordinated communication efforts, either by government actors or supporting communities. From a social media analysis perspective, this is significant, as it demonstrates that positive sentiment is not only formed organically but also reinforced through systematic and strategic digital communication.

In contrast to positive sentiment, Figure 9 shows that dominant keywords in negative sentiment are characterized by terms such as “mbg poisoning,” “poisoning cases,” “health,” and “risk.” Additionally, terms such as “distribution problems,” “food quality,” and “government criticism” also emerge. The visual dominance of the term “poisoning” indicates that this issue has become the focal point in negative narratives. This suggests that public perception of MBG is heavily influenced by concerns over food safety and the quality of implementation, rather than solely by the conceptual design of the policy itself..



Figure 9. Visualization of dominant keywords in negative sentiment toward the MBG policy

The word cloud for negative sentiment reveals that criticism of MBG is specific and grounded in concrete issues, particularly related to health risks. Unlike positive sentiment, which tends to be aspirational, negative sentiment is more reactive to incidents or perceived risks. The dominance of the term “poisoning” indicates that a single issue can dominate the entire negative narrative and shape public perception broadly. In the context of public policy, this is highly critical, as health-related issues carry high sensitivity and can rapidly erode public trust. Therefore, risk management and information transparency are key factors in maintaining policy legitimacy.

Figure 10 shows that hashtags in negative sentiment are dominated by terms such as #MBGPoisoning, #DarkIndonesia, and various hashtags related to social criticism and media coverage. In addition, hashtags referring to specific locations and media outlets, such as #Sukoharjo and #Tempo, are also present. This indicates that negative narratives are not only driven by individual opinions but are also influenced by media reporting and amplification. These hashtags serve as tools to consolidate criticism and expand the reach of negative discourse on social media.



Figure 10. Visualization of dominant hashtags in negative sentiment toward the MBG policy

Hashtags in negative sentiment demonstrate that critical narratives surrounding MBG are strongly structured and organized. The use of hashtags such as #MBGPoisoning indicates that

specific issues can become symbolic representations of broader criticism toward the policy. Furthermore, the connection with media highlights the interaction between mass media and social media in shaping

public opinion (Bouchekioua et al., 2021; George et al., 2021; Igarashi et al., 2022; Liu et al., 2025). Negative narratives organized through hashtags tend to spread more easily and have a greater impact on public perception. Therefore, policy responses must not only be technical but also communicative in managing risk perception in the digital space.

This discussion confirms that the analysis of dominant issues reveals a duality of narratives in public perception toward MBG. Positive sentiment is driven by expectations of social and health benefits, while negative sentiment is influenced by concerns over implementation risks, particularly related to food safety. These two narratives develop simultaneously and compete in shaping public opinion. Therefore, the success of the MBG policy depends not only on program design but also on the government's ability to manage issues, respond to criticism, and build public trust through transparent and evidence-based communication on social media.

4. CONCLUSION

This study demonstrates that public sentiment toward the Free Nutritious Meal (MBG) policy on social media is dynamic, complex, and tends to be polarized. In general, negative sentiment dominates public discourse, although positive sentiment remains substantial and reflects support for the program's objectives. The temporal pattern indicates that fluctuations in sentiment, both

positive and negative, are strongly influenced by emerging issues, particularly those related to policy implementation and health risks.

The demographic analysis reveals that public perception is not homogeneous. Female users tend to exhibit higher levels of positive sentiment compared to male users, while individuals within the productive age group (22–55 years) serve as the primary actors in shaping public discourse. This group not only dominates the volume of conversation but also demonstrates a balance between support and criticism, reflecting active engagement in evaluating the policy.

Furthermore, content analysis highlights the presence of dual narratives in public perception. Positive sentiment is driven by expectations of program benefits, particularly in improving nutritional fulfillment and social welfare. In contrast, negative sentiment is largely dominated by concerns over health risks, especially food safety issues such as food poisoning, which significantly influence public perception. These findings confirm that a single critical issue can substantially shape the overall image of a policy in the digital space.

Overall, this study emphasizes that the success of MBG policy implementation depends not only on the substance of the program but also on how it is perceived and communicated to the public. Therefore, responsive, transparent, and data-driven communication strategies are essential to manage public perception, address emerging issues promptly, and strengthen public trust in the policy.

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