SCIENTIFIC CULTURE
www.sci-cult.com

SCIENTIFIC CULTURE, Vol. 12, No. 2.1, (2026), pp. 9379-9391
Open Access. Online & Print

DOI: 10.5281/zenodo.19949698

DIGITAL CULTURE AND POLICY CONTROVERSY: SOCIAL AMPLIFICATION OF RISK IN THE DEBATE ON INDONESIA'S FREE NUTRITIOUS MEAL PROGRAM

Maria Stella Maris Lawalu[1], Ananius Donatus D Rure[2], Maria Imelda Naibobe[3], Junaidy Alkadir Kapitan B[4], Chelso Edgar Tassie[5], Prayogi Utama Aji Reasa[6], Jessa Henokh Supit[7]

[12356]Master of Public Administration, Universitas Gadjah Mada, Special Region of Yogyakarta, Indonesia
[4]Master of Communication Science, Universitas Padjajaran, West Java, Indonesia
[7]Master of Leadership and Policy Innovation, Universitas Gadjah Mada, Special Region of Yogyakarta, Indonesia

Received: 15/03/2026
Accepted: 18/04/2026

Corresponding Author: Maria Stella Lawalu (mariastellamarislawalu1998@mail.ugm.ac.id)

ABSTRACT

The rapid development of digital technology has transformed how public policies are communicated, interpreted, and contested within digital culture. This study examines the dynamics of public discourse surrounding Indonesia's Free Nutritious Meal Program (MBG) using the Social Amplification of Risk Framework (SARF). Employing a qualitative media analysis approach, this research analyzes 2,188,683 social media conversations collected through Intelligence Socio Analytics (ISA) across five platforms: X (Twitter), TikTok, YouTube, Instagram, and Facebook during 2025. The findings reveal that MBG functions as a risk signal that generates significant public attention, particularly dominated by X as the primary communication hub. The amplification process occurs through dominant issue framing, such as education budget reallocation and teacher welfare, as well as symbolic narratives reflected in digital discourse. Public risk perception is largely negative, indicating collective concern over the policy's broader implications. Furthermore, this perception evolves into active public responses, characterized by high engagement levels and structured criticism targeting both structural and technical aspects of policy implementation. The study highlights that in digital culture, policy communication is non-linear and shaped by amplification mechanisms that influence public perception and behavior. This research contributes to extending SARF within digital contexts and provides practical insights for policymakers to develop adaptive communication strategies in managing public perception in the digital era.

KEYWORDS: Digital Culture; Social Media; Social Amplification of Risk; Public Policy; Risk Perception; Public Response; Policy Controversy; Indonesia; Big Data Analytics; MBG Program.

1. INTRODUCTION

In recent decades, the rapid development of digital technology has significantly transformed the way societies interact, form opinions, and respond to public policies. Social media is no longer merely a communication tool (Casero-Ripollés, 2021); it has evolved into a digital public sphere that enables the exchange of ideas, criticism, and the mobilization of public opinion on a broad and rapid scale (Benkler, 2008). In this context, the phenomenon known as digital culture plays a crucial role in shaping the dynamics of public discourse, particularly in relation to controversial policy issues (Koteyko & Atanasova, 2023).

One of the main characteristics of digital culture is its ability to accelerate the dissemination of information while simultaneously amplifying the impact of an issue through mechanisms such as hashtags, platform algorithms, and user interactions (Dobrin, 2020). This condition positions social media as a space that not only reflects public opinion but also actively shapes societal perceptions of public policies (Horton & Street, 2021). As a result, policies that were initially technocratic in nature can quickly transform into social issues that are widely debated within the digital sphere.

In the Indonesian context, the Free Nutritious Meal Program (Makan Bergizi Gratis – MBG) represents one of the policies that has triggered intense public discourse on social media (Fikri et al., 2025). Although the program aims to improve nutritional quality, particularly for children and vulnerable groups, it has generated diverse public responses, ranging from support to strong criticism (Wu et al., 2025). The discourse surrounding the program extends beyond its intended goals and encompasses broader issues such as the reallocation of education budgets, teacher welfare, implementation quality, and policy transparenc

This phenomenon indicates that public policy is no longer understood in a singular or uniform manner by society, but rather through processes of collective interpretation that occur within the digital ecosystem. In many cases, these processes are non-linear and involve amplification mechanisms, where certain information is intensified, modified, and widely disseminated (Avelino, 2021). One theoretical approach that is particularly relevant to understanding this phenomenon is the Social Amplification of Risk Framework (SARF), which explains how issues or risks are amplified through social communication processes, thereby influencing public perception and response (Kasperson et al., 1988).

According to SARF, a policy can be conceptualized as a risk signal that undergoes amplification through various amplification stations, including mass media and social media. In this process, information is not only transmitted but also interpreted, framed, and redistributed by social actors, resulting in diverse risk perceptions among the public. This amplification process may ultimately produce secondary social impacts, such as increased public concern, policy criticism, and the large-scale mobilization of opinion.

Previous studies have examined the role of social media in shaping public opinion toward government policies (Gilardi et al., 2022), particularly through sentiment analysis (Molenaar et al., 2024), framing (Karreman et al., 2025), and digital discourse approaches (Ngaji et al., 2025). However, most of these studies tend to focus on descriptive aspects, such as measuring sentiment or identifying discussion topics, without integrating theoretical frameworks that can comprehensively explain amplification mechanisms. Furthermore, there remains a limitation in systematically linking digital culture dynamics with the formation of risk perception and public response.

Moreover, studies specifically addressing how public policies in Indonesia undergo risk amplification processes within social media ecosystems are still relatively limited. This is particularly significant given Indonesia's high level of social media penetration and its complex socio-political dynamics (Setyawan et al., 2025), which provide a rich context for examining the interaction between technology, digital culture, and public policy.

Based on these considerations, a clear research gap emerges, namely the lack of studies that integrate social media data analysis with the Social Amplification of Risk Framework to explain how public policies transform into controversial issues within digital culture. Therefore, this study aims to fill this gap by examining how the MBG program, as a public policy, undergoes a process of risk amplification through social media, and how this process shapes public perception and response.

2. THE PURPOSE OF THE STUDY

This study aims to analyze the dynamics of public discourse surrounding the Free Nutritious Meal Program (Makan Bergizi Gratis – MBG) within the context of digital culture by employing the Social Amplification of Risk Framework (SARF). Specifically, this research seeks to understand how

social media functions as a medium that enhances the visibility of policy issues, as well as how the amplification process influences public perception and response.

The primary objective of this study is to identify how the MBG program, as a risk signal, triggers widespread public discourse on social media, and how the intensity of these conversations reflects the level of public attention toward the policy (Fang & Zhu, 2022). In addition, this study aims to analyze the mechanisms of risk amplification that occur through various elements of digital culture, such as the use of hashtags, the dominance of particular issues, and the distribution of discussions across multiple platforms (Liu et al., 2023).

Furthermore, this study seeks to explore how the amplification process shapes public risk perception, which is reflected in public sentiment toward the MBG program. In this regard, sentiment analysis is employed to understand how society evaluates the policy, whether positively, neutrally, or negatively. Moreover, this study also examines public responses to the MBG program, as indicated by levels of engagement and various forms of policy criticism (Saleh et al., 2025).

These responses are considered part of the secondary social impacts within the SARF framework, demonstrating how risk amplification can influence public behavior and attitudes within the digital sphere. Overall, this study is expected to contribute to a deeper understanding of the relationship between digital culture, social media, and public policy, as well as to enrich the literature on the application of SARF in policy discourse, particularly in developing countries such as Indonesia.

3. THE CONCEPTUAL FRAMEWORK OF THE STUDY

This study employs the Social Amplification of Risk Framework (SARF) as the primary conceptual framework to explain how a public policy transforms into a widely debated issue within the digital sphere. SARF emphasizes that risk or policy issues are not solely determined by their objective characteristics, but also by social communication processes that shape public perception. In the context of this study, the Free Nutritious Meal Program (Makan Bergizi Gratis – MBG) is positioned as a risk signal that triggers public attention. When the policy is introduced and discussed on social media, an information flow emerges involving various actors and digital platforms. In this regard, social media functions as amplification stations that accelerate and expand the dissemination of information.

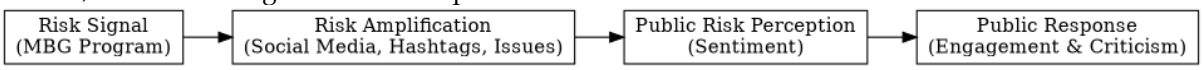

Figure 1: Conceptual Framework based on the Social Amplification of Risk Framework (SARF).

The process of risk amplification in this study is manifested through various mechanisms within digital culture, such as the increasing volume of conversations, the use of viral hashtags, and the emergence of dominant narratives that frame the policy from particular perspectives. These mechanisms play a role in strengthening issue visibility and influencing how society understands the policy. Furthermore, this amplification process shapes public risk perception, which in this study is measured through sentiment analysis of public discourse regarding the MBG program. This perception reflects how society evaluates both the potential benefits and risks of the policy, as well as how they respond to information circulating within the digital space.

The final stage in this conceptual framework is public response, which encompasses various forms of societal reactions to the policy, such as levels of engagement on social media and the emergence of criticism toward the structural and technical aspects of the MBG program. These responses indicate that risk amplification does not only influence perception but also drives actions and interactions within the digital public sphere. Thus, this conceptual framework illustrates the dynamic relationship between public policy, digital culture, and public response. It enables the study to systematically connect empirical data with theoretical concepts, thereby providing a more comprehensive understanding of how public policies are processed and contested in the digital era.

3.1. Research Method

This study employs a qualitative approach by utilizing media analysis to understand the dynamics of public discourse surrounding the Free Nutritious Meal Program (Makan Bergizi Gratis – MBG) on social media (Creswell, 2013). The qualitative approach is selected because this research does not merely focus on numerical measurement, but also aims to interpret meanings, patterns, and narratives that emerge within public conversations in the digital space. In this context, social media is viewed as part of digital culture, functioning as a contemporary digital public sphere, where society actively

produces, disseminates, and interprets information related to public policy. Therefore, media analysis serves as an appropriate approach to examine how a policy is not only communicated but also debated, framed, and responded to by the public within the digital ecosystem.

This study was conducted over the period from January to December 2025, which represents the initial year of implementation of the Free Nutritious Meal Program in Indonesia. The selection of this timeframe is based on the assumption that the early phase of policy implementation is a critical moment in the formation of public opinion. During this stage, society begins to receive information about the policy, interpret its potential impacts, and provide initial responses that tend to be both intense and dynamic. Therefore, analyzing this period allows the researcher to capture more comprehensively how a policy evolves into a public issue, including how the intensity of conversations increases, how dominant narratives are formed, and how public perception begins to crystallize within the digital sphere.

Data collection in this study was conducted using the Intelligence Socio Analytics (ISA) platform, a big data analytics system capable of crawling and monitoring large-scale conversations across social media platforms. The use of ISA enables the researcher to access data in a systematic and structured manner based on keywords relevant to the MBG program. The primary advantage of this platform lies in its ability to perform large-scale data collection, identify discourse trends in real time, and classify data into various categories such as platform type, sentiment, and emerging issues. Through this crawling process, the study successfully collected a total of 2,188,683 conversations related to the MBG program over a one-year period. The collected data include various forms of digital content, such as text, comments, captions, and user interactions that reflect public responses to the policy.

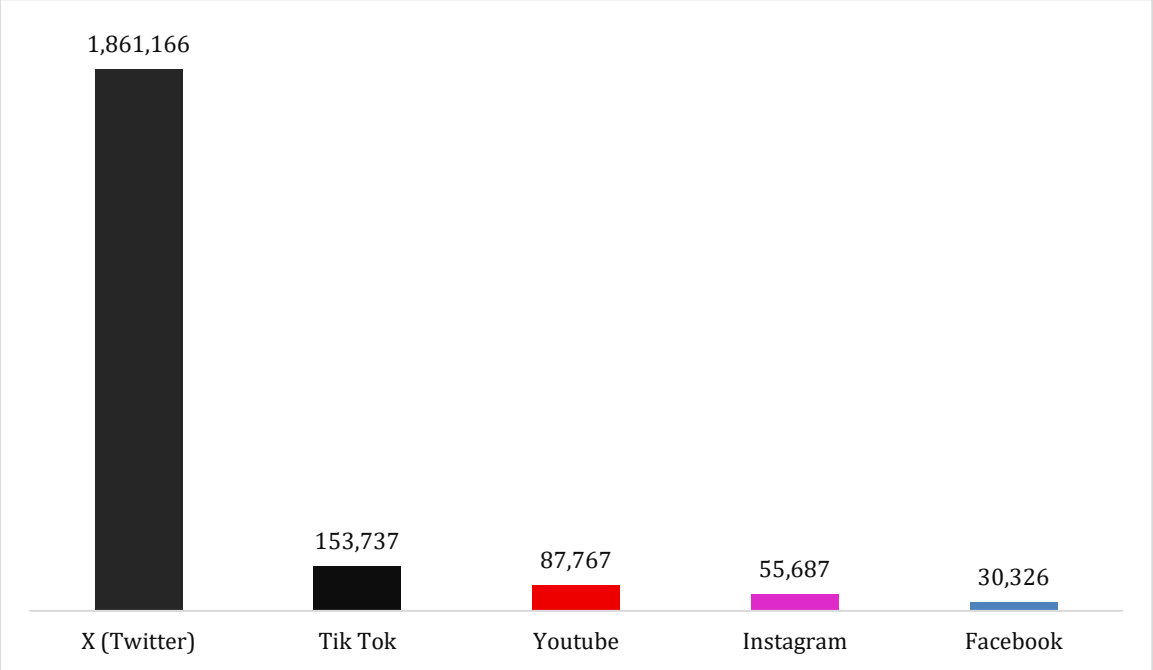

Figure 1: Conceptual Framework based on the Social Amplification of Risk Framework (SARF)

Source. Analyzed using Big Data Intelligence Socio Analytics (ISA), 2026.

After the data were collected, the analysis process was conducted using the qualitative analysis model developed by Miles and Huberman, which consists of three main stages: data reduction, data display, and conclusion drawing and verification. In the data reduction stage, the researcher performed a process of selecting and simplifying the raw data obtained from the crawling results. Considering the large volume of data, this stage was essential to ensure that only data relevant to the research topic were further analyzed. At this stage, the data were categorized based on the predetermined research variables, namely risk signal, risk amplification, public risk perception, and public response. In addition, categorization was also carried out to identify the main emerging issues, patterns of public sentiment, and forms of public responses.

The next stage is data display, in which the reduced data are organized in a systematic and comprehensible manner. Data presentation is carried out through various forms of visualization, such as conversation trend graphs, platform distribution,

sentiment analysis, and the identification of dominant issues and hashtags. The purpose of this stage is to facilitate the researcher in identifying patterns, relationships, and dynamics within public discourse. By presenting the data visually and systematically, the researcher is able to gain a clearer understanding of how conversations evolve, how certain issues become dominant, and how public responses are formed within the digital space.

The final stage is conclusion drawing and verification, which involves interpreting the data to generate research findings. At this stage, the researcher connects the analyzed empirical data with the theoretical framework employed in this study, namely the Social Amplification of Risk Framework (SARF). Through this process, the researcher is able to identify how the MBG program, as a public policy, functions as a risk signal that triggers public attention, how information regarding the policy undergoes amplification through social media, and how this process shapes public perception and response. Verification is conducted by ensuring consistency between the data, analysis, and interpretation, thereby enhancing the validity and credibility of the research findings.

Overall, this research method is designed to integrate a qualitative approach with large-scale social media data analysis. By utilizing big data technology through the ISA platform alongside the qualitative analytical approach of Miles and Huberman, this study provides a comprehensive understanding of public discourse dynamics within the context of digital culture. This approach not only enables the researcher to describe phenomena descriptively, but also to explain the underlying mechanisms through which a public policy can undergo risk amplification and become a controversial issue within the digital public sphere.

4. RESULT

4.1. Risk Signal: Dynamics Of Social Media Conversations on the Mbg Program

As the initial stage within the Social Amplification of Risk Framework (SARF), the Free Nutritious Meal Program (Makan Bergizi Gratis – MBG) is positioned as a risk signal that triggers public attention within the digital space (Kiftiyah et al., 2025; Setiadi & Muhafidin, 2025). The intensity of this attention can be observed through the volume of conversations across various social media platforms throughout 2025. The data indicate that discourse surrounding the MBG program does not occur sporadically, but rather develops into a structured and recurring communication phenomenon. This suggests that the policy has successfully captured widespread public attention and has become a relevant issue within the digital culture of Indonesian society.

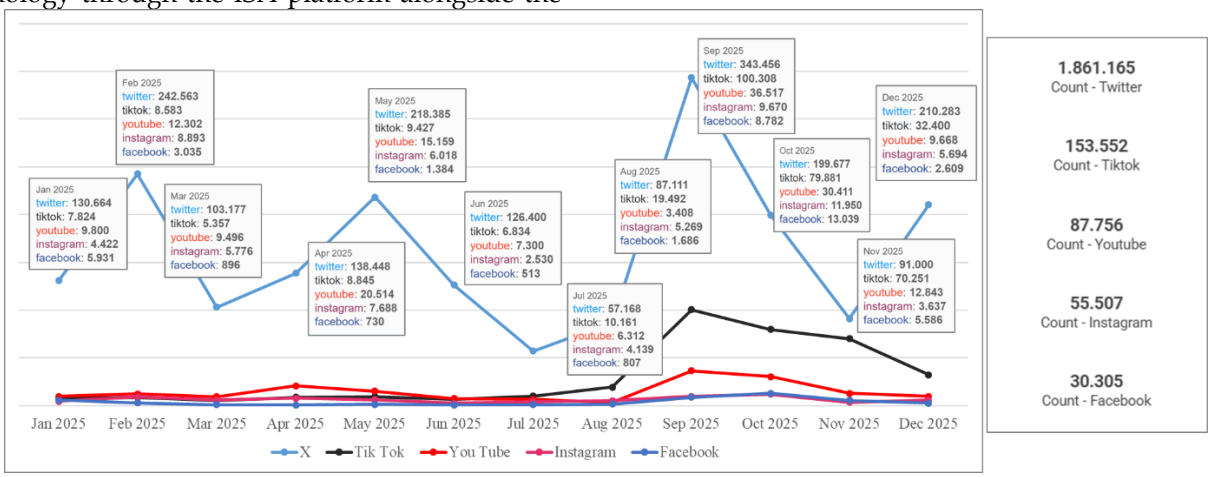

Figure 2. Monthly Distribution of Social Media Conversations on the MBG Program Across Platforms (2025).

Source. Analyzed using Big Data Intelligence Socio Analytics (ISA), 2026.

Figure 2 illustrates the dynamics of public conversations related to the MBG program across five major social media platforms throughout 2025. Overall, the volume of conversations exhibits a fluctuating pattern, with several significant spikes indicating increased issue visibility. The total number of identified conversations exceeds two million interactions, with a highly uneven distribution across platforms. Platform X (Twitter) dominates significantly with a total of 1,861,165 conversations, followed by TikTok, YouTube, Instagram, and Facebook with substantially lower volumes. This indicates a concentration of discourse on specific platforms.

The dominance of platform X in public discourse highlights its crucial role as a primary amplification

channel in the early stage of risk signal dissemination. The platform's text-based and real-time characteristics enable rapid and intensive exchanges of opinions. Meanwhile, other platforms such as TikTok and YouTube contribute through the distribution of visual content with high viral potential, although their volume remains relatively lower. This pattern suggests that although discourse is distributed across multiple platforms, there is a central hub that serves as the main source of information production and dissemination (Badyal & Moffat, 2025; Raveenthiranathan et al., 2024).

From a temporal perspective, the trend of conversations indicates that public attention toward the MBG program is dynamic and non-linear. During the early period of the year, from January to March 2025, the volume of conversations remains at a moderate level. This reflects the initial exposure phase of the policy, during which the public begins to recognize the MBG program and form initial perceptions. At this stage, discourse is still limited and has not yet reached a high level of intensity, and can therefore be categorized as the early phase of risk signal formation within the digital ecosystem.

Entering the second quarter, from April to June 2025, there is an increase in conversation intensity with more variation, reaching a temporary peak in May. However, this trend is not sustained, as a significant decline occurs in June. These fluctuations indicate that public attention toward the policy is highly influenced by the dynamics of circulating information, including the possibility of competing issues within the digital public space. This suggests that the risk signal had not yet reached a full amplification stage during this period.

The most significant change occurs in the third quarter, particularly in September 2025, when there is a substantial surge in conversations across almost all platforms. During this month, the number of conversations on platform X reaches its peak, accompanied by increased activity on platforms such as TikTok and YouTube. From a SARF perspective, this phenomenon indicates the intensification of the risk signal, where the MBG issue gains significantly higher visibility and becomes a central focus of public attention.

Following the peak in September, the volume of conversations declines again in October and November, before showing an increase once more in December. This pattern indicates that public attention toward the policy is cyclical and influenced by specific moments within the digital space (Alkhudari et al., 2024; Gilardi et al., 2022; Liu et al., 2023). Overall, these findings confirm that the MBG program functions as a strong risk signal, which subsequently paves the way for the process of risk amplification in the next stage of the SARF framework.

4.2. Risk Amplification: Issue Intensification and Narrative Formation In Digital Culture

Within the framework of the Social Amplification of Risk Framework (SARF), the stage of risk amplification refers to the process through which an issue is not only disseminated but also intensified through digital communication mechanisms. At this stage, social media functions as amplification stations that enhance the visibility of the MBG policy through the production of narratives, the distribution of information, and user interactions. The findings indicate that risk amplification does not occur solely through an increase in the volume of conversations, but also through the formation of dominant issues and the symbolic construction of meaning within digital culture (Fahrul et al., 2025; Kusuma Jati & Iriani, 2025). Therefore, amplification is not merely quantitative in nature, but also qualitative in shaping public perception.

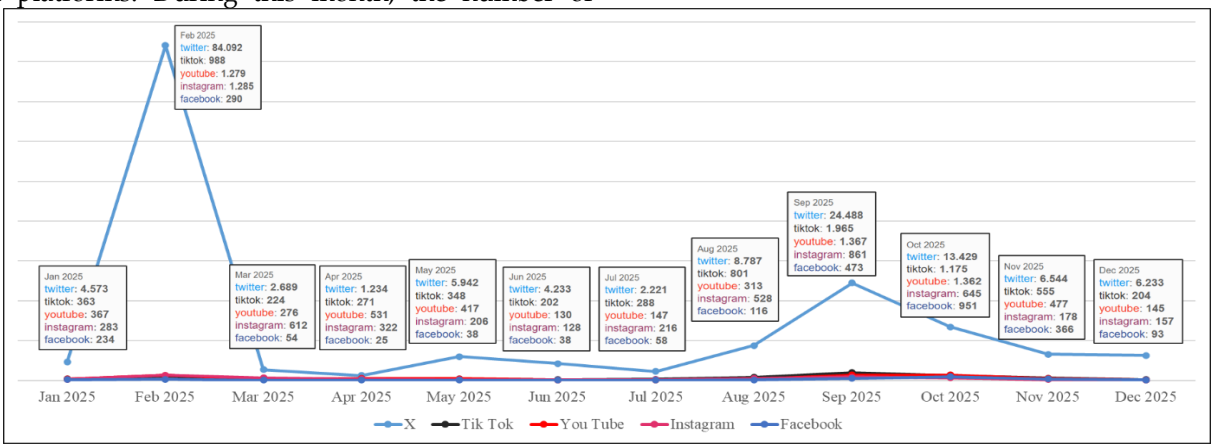

Figure 3. Dominant Issues in Social Media Discussions on the MBG Program (2025)
Source. Analyzed using Big Data Intelligence Socio Analytics (ISA), 2026.

Figure 3 shows that risk amplification in the MBG program occurs through the formation of dominant issues that become the primary focus of public discourse. The most prominent issue is the reallocation of the education budget, which has the highest number of conversations, followed by neglect of teacher welfare and sacrificing school infrastructure. The dominance of these issues indicates that the public does not merely discuss the MBG program as a social policy, but also frames it as a policy that potentially compromises the education sector. From a SARF perspective, this phenomenon reflects the process of risk framing, in which certain issues are amplified to shape the collective interpretation of society toward the policy.

Furthermore, the emergence of issues such as politicization of education, implementation inequality, and reduction in the meaning of education indicates that amplification is not limited to economic aspects but also extends to social and normative dimensions. These issues reflect public concerns regarding the long-term impact of the MBG policy on the education system. Within the context of digital culture, these issues function as interpretive frames that reinforce risk perception through repetitive narratives widely distributed across various social media platforms.

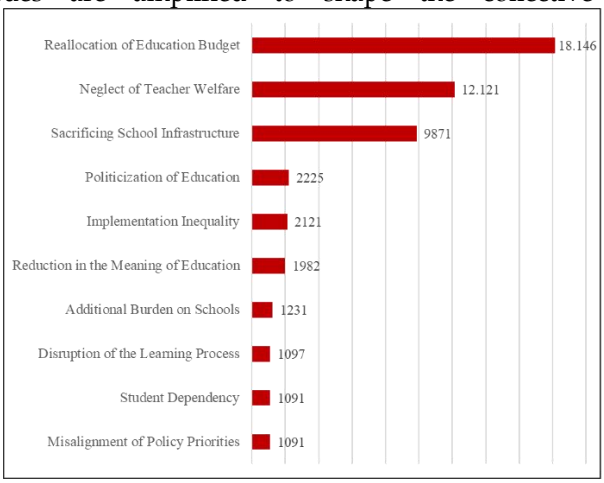

Figure 4. Word Cloud of Social Media Discourse on the MBG Program (2025)
Source. Analyzed using Big Data Intelligence Socio Analytics (ISA), 2026.

Figure 4 illustrates a more symbolic form of risk amplification through the representation of keywords in public discourse. The term "free education" appears as the most dominant expression, indicating that the public strongly associates the MBG program with education-related issues. In addition, words such as budget, funding, wages, and subsidy suggest that public discourse is largely dominated by narratives concerning economic aspects and resource distribution. This demonstrates that risk amplification does not only occur through specific issues, but also through broader associations of meaning within digital culture.

The presence of terms such as citizens' hardship, policy inconsistency, and government intervention indicates that public discourse also contains critical perspectives on policy governance. From a SARF perspective, this phenomenon can be interpreted as symbolic amplification, where the meaning of a policy is expanded through language and symbols used in digital communication (Rimbawan et al., 2023; Susanto et al., 2025). The word cloud reflects how the public collectively constructs narratives that reinforce risk perception, thereby positioning the MBG policy not only as a social program, but also as an issue with broader structural and societal implications.

4.3. Public Risk Perception: Sentiment Dynamics Toward the Mbg Program

Within the framework of the Social Amplification of Risk Framework (SARF), public risk perception refers to how society interprets and evaluates a policy after undergoing amplification processes within the social communication space. At this stage, risk perception is influenced not only by the information that circulates, but also by how that information is framed and distributed within digital culture (Cohen et al., 2021; Oddo et al., 2022). The analysis results indicate that public perception of the MBG program is dominated by negative sentiment, reflecting a collective concern regarding the policy's implications in social and educational contexts.

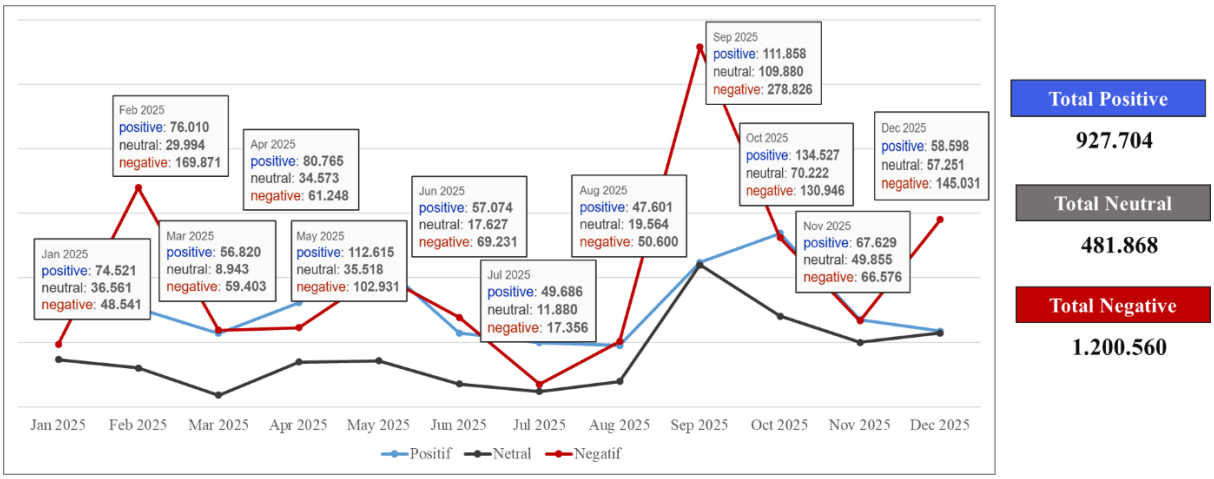

Figure 5. Sentiment Dynamics of Social Media Discussions on the MBG Program (2025)
Source. Analyzed using Big Data Intelligence Socio Analytics (ISA), 2026.

Figure 5 illustrates the dynamics of public sentiment toward the MBG program throughout 2025, categorized into three main types: positive, neutral, and negative. In aggregate, negative sentiment dominates with a total of 1,200,560 conversations, compared to positive sentiment (927,704) and neutral sentiment (481,868). This dominance indicates that public perception tends to view the MBG program as a policy that carries risks or consequences that warrant critical evaluation. From a SARF perspective, this condition reflects the outcome of amplification processes that reinforce negative interpretations of the policy through digital discourse.

From a temporal perspective, public sentiment exhibits a fluctuating pattern that reflects the dynamic nature of societal interpretations of the MBG program. At the beginning of the year, negative sentiment already shows dominance, particularly in February, with a significantly higher volume compared to other sentiment categories. This indicates that from the early phase of implementation, the MBG policy has triggered critical responses from the public. Positive and neutral sentiments are still present, but in smaller proportions, suggesting that support for the policy is not as strong as the criticism circulating within the digital space.

The most significant shift in public perception occurs in September 2025, when negative sentiment reaches its peak, far exceeding levels observed in other months. This surge coincides with an increase in conversation volume during the same period, indicating a strong relationship between discourse intensity and the strengthening of risk perception. Within the SARF framework, this phenomenon can be interpreted as the stage at which amplification reaches its maximum level, resulting in the consolidation of negative perceptions on a broader scale.

Following this peak period, negative sentiment declines but remains the dominant category compared to positive and neutral sentiments. From October to December, despite some fluctuations, the overall pattern indicates that risk perception persists within public discourse. This suggests that the effects of amplification are not temporary but have a sustained impact on how society understands the MBG policy. Therefore, these findings confirm that amplification processes within digital culture play a significant role in shaping public risk perception toward public policies.

4.4. Public Response: Engagement Dynamics and Policy Criticism In Digital Discourse

Within the framework of the Social Amplification of Risk Framework (SARF), the public response stage represents the social reactions that emerge after risk perceptions have been formed within society. These responses may take the form of increased communication activity, digital participation, and policy criticism. The findings indicate that the MBG program not only triggers risk perception but also generates significant public responses in the form of high engagement and structured expressions of criticism. This demonstrates that risk amplification in digital culture does not stop at the formation of perception, but extends into communicative actions that reinforce the dynamics of public discourse.

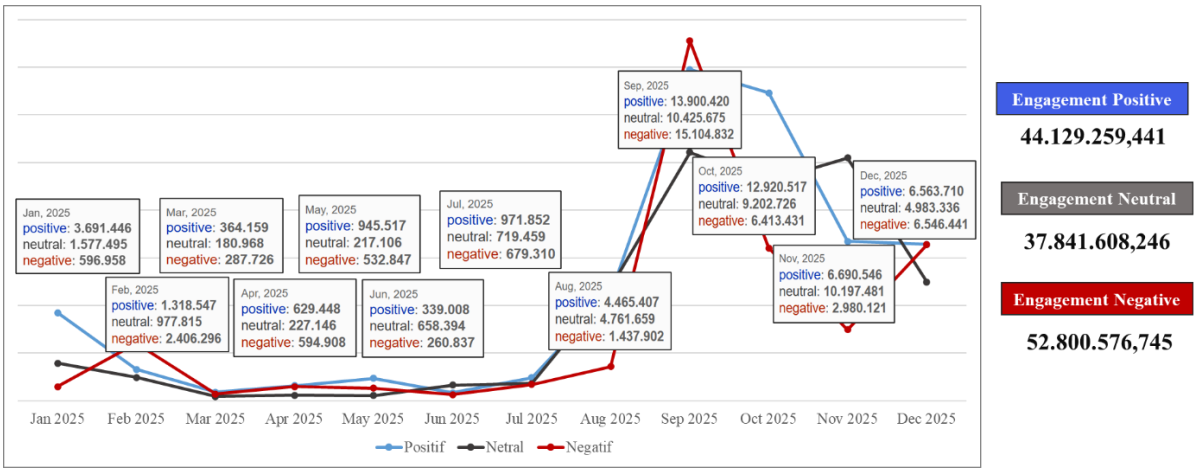

Figure 6. Engagement Dynamics of Social Media Discussions on the MBG Program (2025)
Source. Analyzed using Big Data Intelligence Socio Analytics (ISA), 2026.

Figure 6 illustrates the dynamics of public engagement with the MBG program throughout 2025, categorized into three types: positive, neutral, and negative. In aggregate, negative engagement dominates with a total of 52,800,576,745 interactions, followed by positive engagement at 44,129,259,441 and neutral engagement at 37,841,608,246. This dominance indicates that public responses to the MBG policy are largely expressed through critical interactions. From a SARF perspective, this reflects that previously formed risk perceptions have evolved into active behavioral responses within the digital space.

From a temporal perspective, engagement shows a significant spike in September 2025, corresponding with the peak in conversation volume and negative sentiment. During this period, all engagement categories experience a sharp increase, with positive engagement exceeding 13 million, neutral surpassing 10 million, and negative engagement reaching more than 15 million interactions within a single month. This surge indicates the presence of a collective attention peak, where the MBG issue becomes the focal point of widespread public attention. This phenomenon confirms that risk amplification not only increases issue visibility but also encourages active public participation in digital discourse.

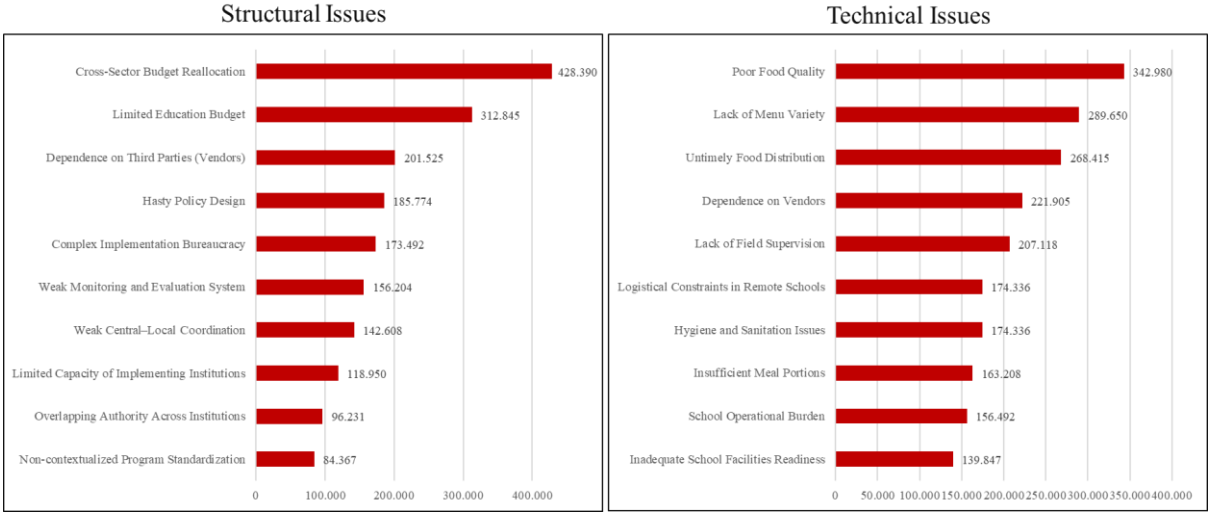

Figure 7. Structural and Technical Issues in Public Criticism of the MBG Program (2025)
Source. Analyzed using Big Data Intelligence Socio Analytics (ISA), 2026.

Figure 7 shows that public responses to the MBG program are also expressed through policy criticism, which can be categorized into structural and technical issues. On the structural dimension, the most dominant issue is cross-sector budget reallocation, followed by limited education budget and dependence on third parties (vendors). These findings indicate that the public perceives the MBG policy not only as a social program but also as a policy with implications for resource distribution and governance.

Meanwhile, on the technical dimension, public criticism is dominated by issues such as poor food quality, lack of menu variety, and untimely food distribution. These issues reflect the public's direct experiences with policy implementation in the field. From a SARF perspective, this phenomenon can be interpreted as secondary social impacts, where risk amplification generates more concrete responses in the form of evaluation and criticism of the policy. Thus, public responses are not merely symbolic, but also reflect demands for substantive policy improvement.

4.5. Discussion

This study provides a more comprehensive understanding of how public policy is processed within the digital culture ecosystem through the Social Amplification of Risk Framework (SARF). The findings indicate that the Free Nutritious Meal Program (Makan Bergizi Gratis – MBG) functions not only as a social policy, but also as a risk signal that undergoes transformation through digital communication mechanisms. In this context, social media does not merely serve as a channel for information distribution, but as an active space that shapes, reinforces, and even distorts public perceptions of policy.

Findings at the risk signal stage show that the high volume of conversations, particularly on platform X (Twitter), confirms that the initial visibility of the policy is strongly influenced by the characteristics of digital platforms. This is consistent with previous studies suggesting that text-based and real-time social media platforms tend to become central arenas for public opinion formation in policy-related issues (Bruns & Burgess, 2015). The dominance of a single platform in this study also indicates that amplification processes do not occur evenly, but are concentrated within certain communication hubs that have greater capacity to produce and disseminate information.

Furthermore, findings at the risk amplification stage demonstrate that amplification occurs not only through increased conversation volume, but also through the formation of dominant narratives and the symbolic construction of meaning. Issues such as the reallocation of education budgets and teacher welfare indicate that the public does not merely discuss the MBG policy in technical terms, but frames it within broader contexts such as resource distribution justice and policy priorities. These findings reinforce the SARF argument that risk amplification is heavily influenced by processes of social interpretation and risk framing, in which information is processed through broader social values, experiences, and interests (Kasperson et al., 1988).

In addition, the word cloud analysis reveals that amplification also occurs at the symbolic level through evolving associations of meaning within public discourse. The dominance of terms such as free education, budget, and funding indicates that the public links the MBG policy to broader structural issues. This suggests that in digital culture, risk amplification is not only informational but also symbolic, where language and visual representations play a crucial role in shaping collective perception. This finding aligns with the perspective of digital culture, which emphasizes that social meaning is constructed through symbolic interaction in digital spaces (Couldry & Hepp, 2017).

At the public risk perception stage, the dominance of negative sentiment indicates that the amplification process has resulted in a collective interpretation that is largely critical of the MBG policy (Cohen, Hecht, McLoughlin, et al., 2021; Rimbawan et al., 2023b). This suggests that risk perception is shaped not only by the intrinsic characteristics of the policy, but also by how the policy is represented within social media. The surge in negative sentiment in September 2025 demonstrates a strong correlation between discourse intensity and the strengthening of risk perception. Within the SARF framework, this phenomenon represents the stage at which amplification reaches its peak, resulting in the consolidation of perception on a broader scale.

Moreover, these findings indicate that risk perception within digital culture is persistent and not easily altered, even after the intensity of discourse declines. This suggests that amplification processes in social media have long-term effects on how society understands public policy. Therefore, social media should not be viewed merely as a temporary discussion space, but as a mechanism that continuously shapes collective memory and public perception.

At the public response stage, the findings show that the formed risk perceptions evolve into active social responses in the form of high engagement and policy criticism. The dominance of negative engagement indicates that the public is not passive, but actively participates in critical discourse. The surge in engagement in September also reflects a collective attention peak, where the MBG issue becomes the focal point of widespread public attention. This phenomenon demonstrates that risk amplification within digital culture is capable of mobilizing large-scale public participation within a

relatively short period.

In addition, the emergence of criticism regarding both structural and technical aspects indicates that public responses are not merely emotional, but also reflective and evaluative. Criticism related to budget reallocation and implementation quality shows that society uses social media as a space to assess and critique policy substantively. From a SARF perspective, this represents secondary social impacts, where risk amplification generates broader social consequences in the form of pressure on public policy.

Theoretically, this study contributes by extending the application of SARF within the context of digital culture, particularly in the analysis of public policy in developing countries. The findings demonstrate that in the digital era, risk amplification processes are no longer limited to traditional media, but involve digital platforms characterized by interactivity, real-time communication, and network-based structures. Moreover, this study highlights that risk amplification in social media possesses a strong symbolic dimension, which has not been extensively explored in previous SARF studies.

Practically, the findings of this study have important implications for policymakers. In the context of digital culture, the success of a policy is not determined solely by its design and implementation, but also by how it is communicated and perceived by the public. Therefore, governments need to develop more adaptive and responsive communication strategies that align with the dynamics of social media, including managing narratives, anticipating negative amplification, and building public trust through transparency and participation.

5. CONCLUSION

This study demonstrates that the Free Nutritious Meal Program, within the context of digital culture, functions not only as a public policy but also as a risk signal that triggers widespread discourse dynamics on social media. In the initial stage, the high intensity of conversations and the dominance of certain platforms, particularly X (Twitter), indicate that the policy rapidly gains public visibility and becomes a relevant issue within the digital communication space. The fluctuating pattern of conversations, which peaks in September 2025, suggests that public attention toward the policy is dynamic and influenced by specific moments within the digital information ecosystem.

Furthermore, the process of risk amplification reveals that public discourse develops not only quantitatively but also qualitatively through the formation of dominant issues and the symbolic construction of meaning. Emerging narratives, such as the reallocation of education budgets and concerns over teacher welfare, indicate that the public frames the MBG program as a policy with structural implications for the education sector. In addition, the appearance of keywords in the word cloud illustrates that amplification also occurs through symbolic associations that expand the meaning of the policy within broader social and economic contexts. This confirms that social media functions as amplification stations that not only disseminate information but also shape collective interpretations within society.

At the public risk perception stage, the findings indicate that public perception of the MBG program is dominated by negative sentiment. This dominance reflects a collective concern regarding the potential impacts of the policy, particularly in relation to the education sector and resource distribution. The temporal pattern of sentiment, which peaks in September 2025, demonstrates a strong relationship between the intensity of discourse and the strengthening of risk perception. These findings suggest that information amplification within digital culture has the capacity to reinforce particular interpretations in a widespread and sustained manner.

Moreover, the public response stage shows that the formed risk perceptions do not remain at the cognitive level but evolve into active social responses, manifested through high engagement and policy criticism. The dominance of negative engagement, along with spikes in interaction during specific periods, reflects the presence of a collective attention peak that drives massive public participation in digital discourse. In addition, the criticism that emerges, both in structural and technical aspects, indicates that society does not merely respond symbolically but also engages in substantive evaluation of the policy. From a SARF perspective, this represents secondary social impacts, where risk amplification generates broader social consequences in the form of pressure on public policy.

Overall, this study confirms that in the era of digital culture, public policy is no longer processed in a linear manner but through complex amplification mechanisms within the digital communication space. By integrating the Social Amplification of Risk Framework (SARF), this research contributes theoretically to understanding how social media plays a role in amplifying, framing, and distributing risk perceptions related to public policy. The findings also carry practical implications

for policymakers, particularly in designing communication strategies that are more adaptive to the dynamics of digital culture, in order to minimize information distortion and manage public perception more effectively.

Conceptualization, M.S.L. and P.U.A.R.; methodology, P.U.A.R.; software, C.E.T.; validation, M.S.L., A.D.D.R., and M.I.N.; formal analysis, P.U.A.R.; investigation, J.A.K.B. and J.H.S.; resources, A.D.D.R.; data curation, C.E.T. and J.H.S.; writing original draft preparation, M.S.L.; writing—review and editing, P.U.A.R.; visualization, C.E.T.; supervision, A.D.D.R.

ACKNOWLEDGEMENTS: The authors would like to express their sincere gratitude to the Indonesia Endowment Fund for Education (LPDP) under the Ministry of Finance of the Republic of Indonesia for their financial support in this research. This study would not have been possible without the continuous support, trust, and commitment of LPDP in advancing academic research and innovation. The authors also appreciate LPDP's contribution in fostering high-quality scholarship and encouraging interdisciplinary research that addresses societal challenges. All findings, interpretations, and conclusions presented in this study are solely the responsibility of the authors and do not necessarily reflect the official views of LPDP.

REFERENCES

Alkhudari, M. N., Abduljabbar, O. J., Manaseer, A. M. Al, & Al-Omari, M. S. (2024). The role of social media in shaping public opinion among Jordanian university students. Journal of Infrastructure, Policy and Development, 8(8). https://doi.org/10.24294/jipd.v8i8.5489

Avelino, F. (2021). Theories of power and social change. Power contestations and their implications for research on social change and innovation. Journal of Political Power, 14(3), 425–448. https://doi.org/10.1080/2158379X.2021.1875307

Badyal, P., & Moffat, T. (2025). Considerations for diverse, equitable, and inclusive school food programs in the USA and Canada. In Health Promotion International (Vol. 40, Number 2). Oxford University Press. https://doi.org/10.1093/heapro/daaf015

Benkler, Yochai. (2008). Wealth of Networks : How Social Production Transforms Markets and Freedom. Yale University Press.

Casero-Ripollés, A. (2021). Influencers in the political conversation on twitter: Identifying digital authority with big data. Sustainability (Switzerland), 13(5), 1–14. https://doi.org/10.3390/su13052851

Cohen, J. F. W., Hecht, A. A., Hager, E. R., Turner, L., Burkholder, K., & Schwartz, M. B. (2021). Strategies to improve school meal consumption: A systematic review. Nutrients, 13(10). https://doi.org/10.3390/nu13103520

Creswell, J. (2013). Qualitative, Quantitative, and Mixed Method Approaches in Research Design.

Dobrin, D. (2020). The Hashtag in Digital Activism: A Cultural Revolution. Journal of Cultural Analysis and Social Change, 5(1). https://doi.org/10.20897/jcasc/8298

Fahrul, A., Affandi, M., & Ramdani, A. H. (2025). "Makan Bergizi Gratis" Program Policy in Media Framing: A Study of iNews.id. In Jurnal Ilmiah LISKI (Lingkar Studi Komunikasi (Vol. 11, Number 2). http://journals.telkomuniversity.ac.id/liski148JurnalIlmiahLISKI

Fang, G., & Zhu, Y. (2022). Long-term impacts of school nutrition: Evidence from China's school meal reform. World Development, 153. https://doi.org/10.1016/j.worlddev.2022.105854

Fikri, M., Azhar, D. A., & Pradana, Y. (2025). Discourse About the News of Makan Bergizi Gratis (MBG) Program on Tiktok. Citizen : Jurnal Ilmiah Multidisiplin Indonesia, 5(5), 1398–1409. https://doi.org/10.53866/jimi.v5i5.940

Gilardi, F., Gessler, T., Kubli, M., & Müller, S. (2022). Social Media and Political Agenda Setting. Political Communication, 39(1), 39–60. https://doi.org/10.1080/10584609.2021.1910390

Horton, K., & Street, P. (2021). This hashtag is just my style: popular feminism & digital fashion activism. Continuum, 35(6), 883–896. https://doi.org/10.1080/10304312.2021.1993573

Karreman, N., Essman, M., Hawkins, B., Adams, J., & White, M. (2025). Obesity and Lifestyle Drift: Framing Analysis of Calorie Menu Labelling in England in News Media. International Journal of Health Policy and Management, 14(1). https://doi.org/10.34172/ijhpm.8649

Kasperson, R. E., Renn, O., Slovic, P., Brown, H. S., Emel, J., Goble, R., Kasperson, J. X., & Ratick, S. (1988). The Social Amplification of Risk: A Conceptual Framework. Risk Analysis, 8(2), 177–187. https://doi.org/10.1111/j.1539-6924.1988.tb01168.x

Kiftiyah, A., Palestina, F. A., Abshar, F. U., & Rofiah, K. (2025). Program Makan Bergizi Gratis (MBG) dalam Perspektif Keadilan Sosial dan Dinamika Sosial – Politik. Pancasila: Jurnal Keindonesiaan, 5(1), 101–112. https://doi.org/10.52738/pjk.v5i1.726

Koteyko, N., & Atanasova, D. (2023). Community and identity in environmental activism on Twitter: A discourse-based approach. Bergen Language and Linguistics Studies, 13(1). https://doi.org/10.15845/bells.v13i1.3989

Kusuma Jati, A., & Iriani, A. (2025). Formulasi Kebijakan Pemerintah Tentang Program Makan Bergizi Gratis di Indonesia. R2J, 8(1). https://doi.org/10.38035/rrj.v8i1

Liu, M., Luo, X., & Lu, W. Z. (2023). Public perceptions of environmental, social, and governance (ESG) based on social media data: Evidence from China. Journal of Cleaner Production, 387. https://doi.org/10.1016/j.jclepro.2022.135840

Molenaar, A., Lukose, D., Brennan, L., Jenkins, E. L., & McCaffrey, T. A. (2024). Using Natural Language Processing to Explore Social Media Opinions on Food Security: Sentiment Analysis and Topic Modeling Study. Journal of Medical Internet Research, 26(1). https://doi.org/10.2196/47826

Ngaji, F. M., Prasetyo, S. I., Alexandra, V. D., San, R. D., & Nata, Y. (2025). Digital Discourse, Public Sentiment, and Ideology: A Critical Discourse Analysis of Social Media Networks on Demonstrations in Yogyakarta. Journal of Cultural Analysis and Social Change, 1885–1896. https://doi.org/10.64753/jcasc.v10i2.1884

Oddo, V. M., Roshita, A., Khan, M. T., Ariawan, I., Wiradnyani, L. A. A., Chakrabarti, S., Izwardy, D., & Rah, J. H. (2022). Evidence-Based Nutrition Interventions Improved Adolescents' Knowledge and Behaviors in Indonesia. Nutrients, 14(9). https://doi.org/10.3390/nu14091717

Raveenthiranathan, L., Ramanarayanan, V., & Thankappan, K. R. (2024). Impact of free school lunch program on nutritional status and academic outcomes among school children in India: A systematic review. BMJ Open, 14(7). https://doi.org/10.1136/bmjopen-2023-080100

Rimbawan, R., Nurdiani, R., Rachman, P. H., Kawamata, Y., & Nozawa, Y. (2023). School Lunch Programs and Nutritional Education Improve Knowledge, Attitudes, and Practices and Reduce the Prevalence of Anemia: A Pre-Post Intervention Study in an Indonesian Islamic Boarding School. Nutrients, 15(4). https://doi.org/10.3390/nu15041055

Saleh, A. A., Abdullah, S., Muhammad, R., Amir, M. Y., & Sulvinajayanti. (2025). Rethinking School Nutrition via Community Engagement: A Review with Implications for Indonesia's MBG Program. Media Kesehatan Masyarakat Indonesia, 21(3), 259–273. https://doi.org/10.30597/mkmi.v21i3.46204

Setiadi, A., & Muhafidin, D. (2025). Challenges in Implementing the Makan Bergizi Gratis (MBG) Program in West Bandung Regency: Between Policy Goals and Field Realities. In International Journal of Science and Society (Vol. 7). http://ijsoc.goacademica.com

Setyawan, E., Rianto, Kusuma Wardana, Sugihartanto, Rizal Angko Pratama, & Malik Ibrahim. (2025). Analisis Wacana Berita Hoaks tentang Program Makan Bergizi Gratis (MBG) Menggunakan Pendekatan Socio-Cognitive Teun A. van Dijk. Jurnal Audiens, 6(2), 254–277. https://doi.org/10.18196/jas.v6i2.607

Susanto, E. B., Christianto, P. A., Ismanto, B., & Sulistiyaningsih, R. (2025). TOEHBCHAIN: A Framework for Blockchain-Based Food Distribution Transparency. ECTI Transactions on Computer and Information Technology, 19(4), 682–692. https://doi.org/10.37936/ecti-cit.2025194.263342

Wu, C., Jiang, S., Sun, J., & Liu, Y. (2025). Research on the influence mechanism of emotional communication on Twitter (X) and the effect of spreading public anger. Acta Psychologica, 260. https://doi.org/10.1016/j.actpsy.2025.105560