

Strategic Challenges and Optimization Strategies for Human Resource Development through Indonesia's Free Nutritious Meal Program

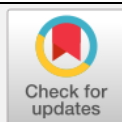
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ABSTRACT

This study analyzes the strategic challenges and optimization pathways for human resource development through Indonesia's Free Nutritious Meal Program (MBG), which is aligned with the national vision of Golden Indonesia 2045. The research addresses critical gaps stemming from persistent stunting rates (19.8%), heavy reliance on food imports (80% of milk needs), and ongoing public concerns over program transparency and accountability, despite a substantial budget allocation of IDR 71 trillion serving 19.47 million beneficiaries. Using a qualitative descriptive approach, the study integrates big data from social media, online news, and academic publications. The analysis uses NVivo 15 Plus software to explore word frequency, sentiment polarity, and thematic factor categorization related to MBG implementation. Results reveal key challenges such as infrastructure limitations, import dependency, perceived corruption risks, and predominantly neutral public sentiment. To optimize outcomes, the study recommends three strategic directions: (1) enhancing national food self-sufficiency, (2) establishing Nutrition Food Processing Centers (Sentra Pengolahan Pangan Gizi, SPPG) across all regions, and (3) recruiting Indonesian Development Driving Graduates (Sarjana Penggerak Pembangunan Indonesia, SPPI) to ensure professional program management and policy compliance. The MBG initiative represents a transformative step in reshaping Indonesia's nutrition and education landscape, catalyzing the development of competitive, high-quality human capital essential for achieving Indonesia's long-term socio-economic vision.

Keywords: Free Nutritious Meal Program (MBG); Human Resource Development; Indonesia 2045 Vision; Optimization Strategies; Strategic Challenges

1. Introduction

The development of high-quality human resources (HR) is fundamental to Indonesia's aspiration to become a developed nation by 2045, a vision widely known as Golden Indonesia 2045 (Sugiarto, 2024). Human resources constitute the cornerstone of national progress, measured not only by intellectual capacity and technical skills but also by physical and mental health factors closely linked to diet and nutritional status. Ensuring that all citizens, particularly children, receive a balanced diet supporting growth and cognitive development is essential to building a healthier, more productive society (Badan Gizi Nasional, 2024).

Nutrition plays a decisive role in shaping the quality of human resources. Adequate nutrition enables individuals to realize their full potential in learning, performance, and social contribution. Empirical studies demonstrate that children with optimal nutrition exhibit higher concentration levels, memory retention, and academic achievement. At the same time, malnutrition imposes long-term adverse effects on cognitive development, physical health, and economic productivity (Suryana & Azis, 2024). As highlighted in its latest report on child nutrition, the Indonesian Ministry of Health has repeatedly underscored the urgency of addressing malnutrition through national programs to reduce stunting and prevent anemia.

The Free Nutritious Meal Program is one of the flagship initiatives included in the 100-day priority agenda of President and Vice President-elect Prabowo Subianto and Gibran Rakabuming Raka (Maharani et al., 2024). Initially known as the Free Lunch Program, Prabowo Subianto's policy team revised the name following an internal review to allow greater flexibility in implementation hours. According to Habiburokhman, Deputy Chairman of the Gerindra Party, kindergarten and elementary school students in several regions typically finish classes before noon; therefore, they would have to wait too long for the scheduled lunch period, making Free Nutritious Meals a more appropriate and inclusive term (Sugiharto Putri, 2024).

The Free Nutritious Food Program (*Makan Bergizi Gratis*, MBG) represents a transformative initiative within Indonesia's education and public-health landscape, addressing the critical intersection of nutrition, education, and child development. Launched as part of the government's comprehensive strategy to combat malnutrition and enhance learning outcomes (Rahmah et al., 2025). The MBG Program aims to provide nutritious meals to students across all educational levels nationwide. The government envisions this initiative as a cornerstone for advancing human-resource development and achieving the Golden Indonesia 2045 vision.

Based on UNICEF data, nutritional indicators show a notable decline in stunting rates among toddlers and children between 2013 and 2024, as illustrated in Figure 1.

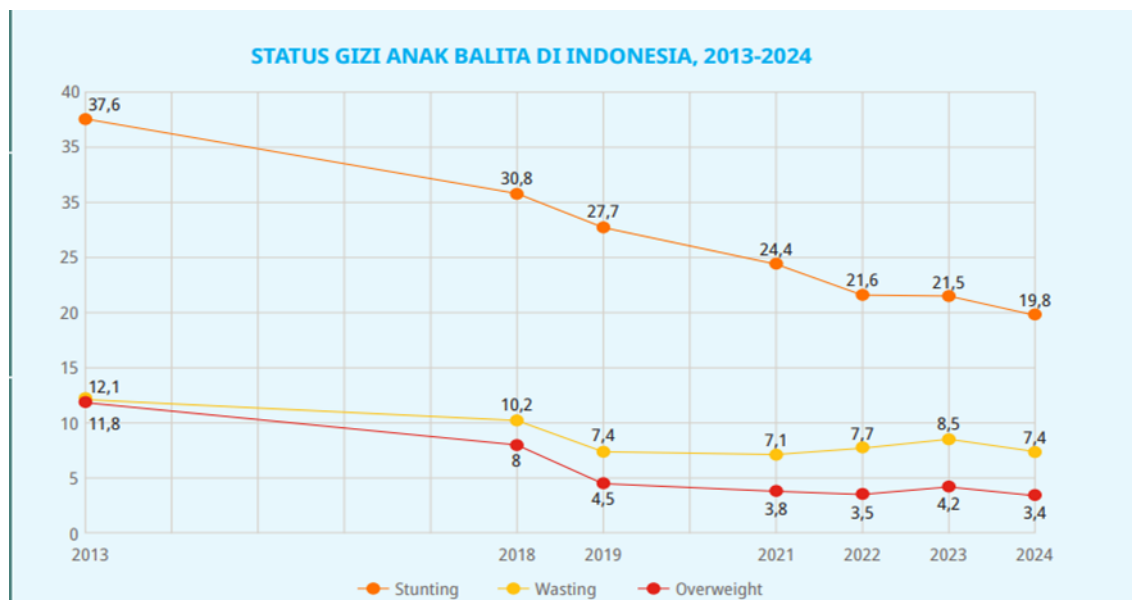


Figure 1. Nutritional Status of Children and Toddlers in Indonesia, 2013–2024

Source: Basic Health Research 2013, 2018; Indonesian Nutritional Status Survey (SSGI) 2019, 2021–2024.

Based on the graphs and data from the 2024 Indonesian Nutritional Status Survey (SSGI) released by the Ministry of Health, the nutritional status of children under five in Indonesia shows a consistent improvement trend from 2013 to 2024, with a steady decline in three primary indicators of dietary problems. Specifically, the stunting rate decreased significantly from 37.6% in 2013 to 19.8% in 2024, representing a reduction of 1.7 percentage points from the previous year. Similarly, the prevalence of wasting (undernutrition) fell from 12.1% in 2013 to 7.4% in 2024, a decrease of 1.1 percentage points from 2023. In addition, the rate of overweight among children under five declined sharply, from 11.8% in 2013 to 3.4% in 2024, marking an 8.4 percentage point drop from the previous year ([Kementerian Kesehatan Republik Indonesia, 2024](#)).

Indonesia is not the only country implementing a free nutritious meal program ([Krisanthi & Widiastika, 2024](#)). Japan's school lunch initiative, known as Kyūshoku, is recognized as one of the world's most comprehensive and well-organized systems for providing nutrition to students, having been officially integrated into the national curriculum in 1954 ([Abidin, 2025](#)). The Kyūshoku system incorporates multiple dimensions of child development, from physical needs to character formation and healthy lifestyle habits. The program emphasizes food quantity, nutritional quality, hygiene, and the educational values gained from communal meals within schools.

The primary objective of Kyūshoku is to improve students' nutritional intake, ensuring that every child receives balanced meals to support physical growth and cognitive development ([Ishida, 2018](#); [Kementrian Koordinator Bidang Pembangunan dan Kebudayaan Republik Indonesia, 2024](#); [Kompas.com, 2025](#)). Equally important is the role of nutrition education, which transforms the lunch program into a hands-on learning experience where students are taught about the importance of healthy eating, the nutritional content of food, and the long-term benefits of proper dietary habits. Furthermore, Kyūshoku has been proven effective in increasing student attendance, as consistent access to nutritious meals motivates students to attend school regularly, enhancing their learning processes and academic outcomes ([Idris, 2025](#); [Ishida, 2018](#); [Kompas.com, 2025](#)).

Aspek	Indonesia (Program Makan Bergizi Gratis)	Jepang (Kyushoku Program)
Tahun Dimulai	2024 (Prabowo Administration)	1954 (Post-WWII Era)
Target Penerima	83 juta anak (PAUD, SD, SMP, Ibu Hamil)	10.2 juta siswa (SD & SMP)
Anggaran Tahunan	\$4.6 miliar USD (Rp 71 triliun)	\$3.8 miliar USD
Biaya per Anak/Hari	\$0.34 USD (Rp 15,000)	\$2.50 USD
Tingkat Partisipasi	Target 95% (2024-2029)	99.2% (Hampir Universal)
Fokus Nutrisi	Protein, Sayuran, Buah Lokal	Balanced Diet, Local Ingredients
Implementasi	Bertahap (2024-2029)	Sudah Universal sejak 1970s

Figure 2. Comparison of Free Lunch Programs in Indonesia and Japan

Source: ([Kompas.com](https://kompas.com), 2025).

Japan's Kyūshoku program demonstrates success in the technical aspects of food provision and its philosophical and comprehensive approach to character education through communal mealtime activities ([Abidin, 2025](#); [Miyazaki et al., 2024](#)). The program teaches students responsibility, cooperation, and respect for food through a system that directly involves them in meal preparation, serving, and post-meal cleanup. It also introduces students to the richness of local and traditional Japanese cuisine while broadening their exposure to diverse regional and international food cultures. With strict hygiene and food safety standards, as well as the involvement of professional nutritionists in menu planning, the Kyūshoku program has become a global benchmark studied and adopted by many countries as a model for implementing school lunch programs that meet nutritional needs and contribute to the formation of a healthy, disciplined generation aware of the importance of a healthy lifestyle ([Miyazaki et al., 2024](#)).

A comparison between Indonesia's Free Nutritious Meal (*Makan Bergizi Gratis*, MBG) program and Japan's Kyūshoku reveals fundamental differences in philosophy, implementation, and policy orientation ([Krisanthi & Widiastika, 2024](#); [Liputan6.com, 2024](#)). Japan's Kyūshoku, which has operated since 1899 and been integrated into the national education system for over a century, reflects a mature and institutionalized understanding of the relationship between nutrition, character development, and human resource quality. In contrast, Indonesia's MBG program, launched under the Prabowo Subianto administration, represents an ambitious initiative with a total budget of IDR 71 trillion (approximately USD 5.7 billion) targeting about 19.47 million beneficiaries, including schoolchildren, pregnant women, and breastfeeding mothers ([Kementrian Koordinator Bidang Pembangunan dan Kebudayaan Republik Indonesia, 2024](#)).

A significant difference lies in the financing mechanism: Kyūshoku is partially funded by parents through monthly fees of around IDR 400,000–500,000, while Indonesia's MBG program is entirely government-funded and free for beneficiaries ([Idris, 2025](#); [Kompas.com, 2025](#)). Regarding menu and food variety, Kyūshoku provides diverse local and international dishes to encourage healthy eating habits and cultural appreciation. Conversely, Indonesia's MBG meals

are simpler, focusing on home-style dishes based mainly on chicken and eggs as primary protein sources, with relatively limited variation by global standards (Krisanthi & Widiastika, 2024).

The contrast between the two programs is also striking from the perspective of food sourcing and economic sustainability. Japan's Kyūshoku relies on a well-established local food supply chain supported by efficient logistics, advanced agricultural technology, and rigorous quality-control mechanisms. The program integrates a farm-to-school model that strengthens local economies while educating students about food origins and sustainability (Auliawan & Harsiwi, 2025).

In contrast, Indonesia's *Makan Bergizi Gratis* (MBG) program remains highly dependent on imported raw materials for several key food ingredients, particularly milk, approximately 80% of which is sourced from abroad, despite ongoing efforts to empower local farmers and micro, small, and medium enterprises (MSMEs) within its supply chain (Republik Indonesia, 2024). This condition underscores the complexity of Indonesia's food system, which continues to pursue national food self-sufficiency amid structural constraints and market dependence. Nevertheless, the MBG program holds significant potential for broader economic impact due to its large-scale implementation and capacity to foster a people-centered economy through the active involvement of local MSMEs in food production and distribution.

Although differing in implementation approach and institutional maturity, Japan's Kyūshoku and Indonesia's MBG share a common long-term vision of cultivating a healthier, more productive generation. The Kyūshoku model has successfully established a sustainable and health-oriented food culture, contributing to Japan's high public health standards. At the same time, Indonesia's MBG initiative carries the potential to transform the nation's nutrition and education landscape. However, continuous improvement in implementation quality, program standardization, and the development of competent human resources remain essential to achieving optimal long-term outcomes (Kementrian Koordinator Bidang Pembangunan dan Kebudayaan Republik Indonesia, 2024).

The Free Nutritious Meal Program is formally regulated under Presidential Regulation of the Republic of Indonesia Number 83 of 2024 concerning the National Nutrition Agency, which provides operational guidelines for strengthening national nutrition fulfillment as stipulated in Article 5, paragraph 1 of the regulation (Republik Indonesia, 2024). According to the National Nutrition Agency, the rationale for establishing the MBG program is rooted in the urgent need to improve national nutrition standards, given that Indonesia continues to face the triple burden of malnutrition, undernutrition, overnutrition, and micronutrient deficiencies, despite notable economic progress and social welfare achievements. The persistently high rates of stunting and malnutrition indicate that millions of Indonesian children continue to experience inhibited physical growth and delayed cognitive development, reflecting deep-seated inequities in access to nutritious food across regions. Moreover, several Indonesian areas remain vulnerable to food insecurity, limiting food access, availability, and quality, directly affecting community nutrition and overall human capital development.

The condition of food security significantly influences the effectiveness and nutritional quality of the *Makan Bergizi Gratis* (MBG) program, which in turn affects the overall quality of human resources in Indonesia. This relationship aligns closely with the theoretical foundations of Human Resource Management (HRM), which provides a strategic and comprehensive approach to managing an organization's most valuable asset. These people work within it, individually and collectively, to achieve long-term goals. HRM encompasses essential functions such as recruitment and selection, training and development, performance management,

compensation and benefits, industrial relations, and occupational health and safety, all designed to optimize employee productivity while safeguarding well-being and job satisfaction (Wang & Huang, 2025).

HRM theory is intrinsically linked to human resource development, as developing people's capacities constitutes one of HRM's principal objectives and core functions (Wang & Huang, 2025). It offers a systematic, theoretical, and practical framework for identifying, nurturing, and maximizing human potential through strategic interventions such as competency development, talent management, and lifelong learning programs to strengthen individual and organizational performance. This conceptual framework directly applies to Indonesia's MBG program, which represents a fundamental investment in long-term human resource formation. When viewed through the lens of HRM, the program functions as an early-stage intervention in human resource development, emphasizing that workforce quality is built from early childhood through adequate nutrition and health, key foundations for cognitive, physical, and emotional growth (Dong & Lu, 2025).

The MBG program, targeting school-aged children and toddlers, also aligns with human capital theory within the HRM paradigm. It asserts that investment in people, particularly their health and nutrition, enhances future productivity, adaptability, and innovation capacity (Dong & Lu, 2025). Empirical evidence shows that childhood malnutrition has long-term consequences on cognitive development, reducing learning outcomes, work productivity, and adult earning potential. From a strategic HRM perspective, the MBG initiative can therefore be viewed as a national workforce-planning instrument designed to prepare future generations with optimal health and intellectual readiness, enabling Indonesia to develop a globally competitive labor force capable of responding effectively to evolving economic and industrial challenges in the era of digital and technological transformation (Wang & Huang, 2025).

The relationship between Human Resource Management (HRM) theory and Indonesia's *Makan Bergizi Gratis* (MBG) program can also be understood through the lens of employee well-being and organizational performance when extended to the national macro context, in which the government functions as an "organization" responsible for managing the nation's human resources to achieve long-term development objectives (Jayarathna et al., 2026). In modern HRM theory, employee well-being, which encompasses physical, mental, and nutritional health, has been positively correlated with productivity, engagement, and overall organizational performance. The MBG program applies this principle at the societal level by ensuring that Indonesia's young generation receives adequate nutritional intake, which contributes to improved school attendance, concentration, academic performance, and ultimately, better preparedness to enter the labor market with enhanced competencies (Jayarathna et al., 2026).

The concept of talent development in HRM, emphasizing the identification and cultivation of human potential from an early age, is also reflected in the MBG program (Jayarathna et al., 2026). By guaranteeing access to nutritious food for all children regardless of socioeconomic background, the program promotes equal opportunities for personal growth and learning. From the perspective of diversity and inclusion in HRM, the MBG initiative functions as a social equalizer, narrowing the nutritional gap between children from affluent and low-income families, thereby creating a more equitable foundation for national human resource development.

In the long term, the successful implementation of the MBG program is expected to contribute to creating a healthier, more skilled, and productive national talent pool, a strategic asset for enhancing national competitiveness and supporting sustainable economic growth. This

also reduces future burdens on the healthcare system and mitigates social costs associated with malnutrition and diet-related diseases. The National Nutrition Agency (Badan Gizi Nasional, BGN), established under Presidential Regulation 83 of 2024, is mandated to meet the country's nutritional needs. Accordingly, the BGN launched the Free Nutritious Meals Program (MBG) as a strategic intervention to improve community nutritional status and strengthen students' behavioral foundations for realizing Indonesia's Golden Generation 2045.

2. Research Methodology

This research employs a qualitative approach with a descriptive design to explore how the Free Nutritious Meal Program (*Makan Bergizi Gratis*, MBG) influences human resource development in Indonesia (Charismana et al., 2022). The study emphasizes comprehensive and in-depth analysis, focusing on understanding the strategic relationship between nutritional policy implementation and the enhancement of human capital.

2.1. Data Collection

The study utilizes big data from multiple online sources, including social media platforms, digital news outlets, and academic publications relevant to the research topic. Empirical data, government websites, and social media content are examined to assess how the MBG program addresses community nutritional needs and contributes to the development of human resources. Additional sources include research reports, policy documents, and journal articles discussing the design, implementation, and public perception of the MBG program.

2.2. Data Analysis

Data are processed and analyzed using NVivo 15 Plus software, which facilitates qualitative and visual analysis through several key features:

1) Crosstab Analysis

Crosstab analysis in NVivo 15 enables the exploration of relationships between categorical variables within large datasets. This feature is accessed via the Explore or Query menu, allowing results to be visualized as bar charts, heat maps, or tables to identify emerging patterns and trends. This study uses crosstab queries to visualize big-data interactions, particularly the number of comments and likes collected from YouTube content related to the MBG program.

2) Word Cloud Visualization

Word clouds in NVivo 15 represent the most frequently occurring terms within the dataset, where word size indicates frequency. This visualization helps identify dominant themes and linguistic patterns in the qualitative data. The analysis focuses on hashtags, trending issues, and key news topics relevant to the free nutritious meal initiative, offering a preliminary overview before conducting deeper thematic coding.

3) Sentiment Analysis

NVivo 15's Sentiment Count feature conducts automated sentiment analysis by classifying textual data into positive, negative, or neutral categories based on emotional tone. The algorithm employs natural language processing to assess word usage and contextual meaning, generating sentiment scores that can be visualized through graphs or tables. This feature helps identify public sentiment toward the MBG program, including the proportion of positive, negative, and neutral reactions observed across social media platforms.

3. Results and Discussion

3.1. Social Media Analysis and Hotline News

Qualitative data analysis conducted using NVivo software on 9 (nine) source files from social media (YouTube) shows significant variations in public engagement with content related to the Free Nutritional Meal Program (MBG). As outlined in the research plan, one method to identify challenges is through "Social media analysis". Quantitative data in the form of "Number of Likes" from each content is analyzed as one of the leading indicators of public sentiment and reach. The analysis results are visualized in a pie chart, "YouTube: Number of Likes - Files by Attribute Value", which shows.

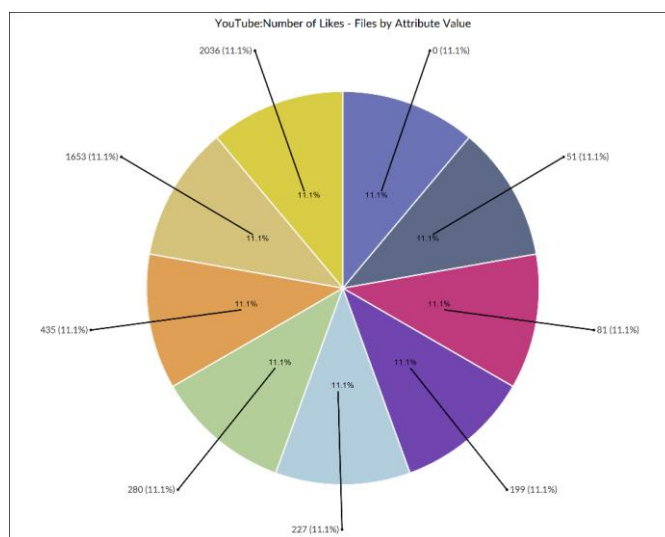


Figure 3. Number of Likes NVIVO code visualization

Source : YouTube: Number of Likes - Files by Attribute Value NVIVO 15

Based on the analysis, Data Distribution A comprises nine different content files, each representing 11.1% of the total corpus of data analyzed and the Engagement Range. There is a significant disparity in the number of likes each content receives. This number ranges from the lowest of 0 likes to the highest, reaching 2036 likes. The details of the distribution of likes in each file are 0, 51, 81, 199, 227, 280, 435, 1653, and 2036. The implications of the findings include this wide range of likes, which is a key finding indicating diverse public perceptions and reactions to the MBG program.

A high number of likes (2036-1653) indicates a strong positive reception or that the content has gone viral, suggesting potential public support that can be leveraged for optimization. Conversely, content with many likes but very low or even zero scores (0, 51, 81) indicates challenges such as a lack of interest, negative sentiment, or the content's failure to reach a wider audience. This data confirms that public narratives about the Free Nutritional Meals (MBG) Program on social media platforms like YouTube are not uniform. This extreme variation in engagement levels provides fundamental data for further qualitative analysis to understand the factors driving positive and negative sentiment. These findings will serve as a basis for identifying the program's specific challenges.

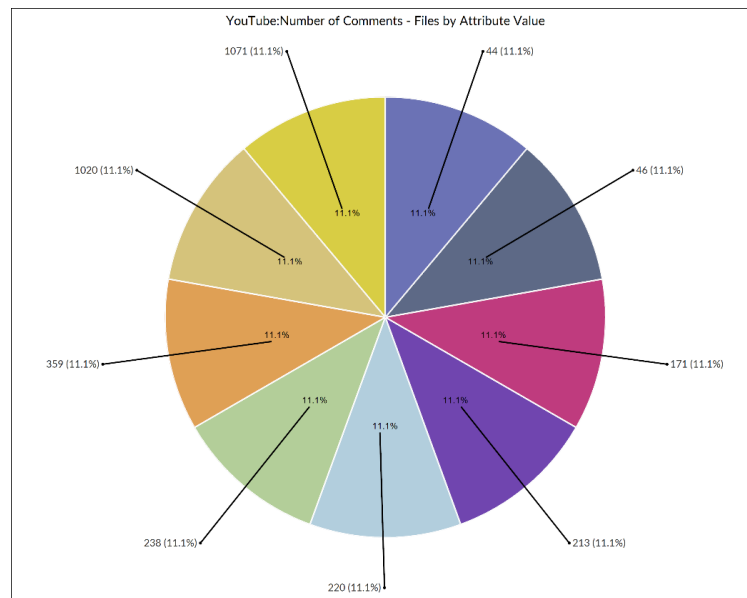


Figure 4. Number of Comments NVIVO 15 code visualization

Source : YouTube: Number of Comments - Files by Attribute Value NVIVO 15

As part of a qualitative research methodology to identify the challenges of the Free Nutritional Meal Program (MBG), social media data was analyzed using NVivo software. One of the quantitative metrics analyzed to measure public interaction and discourse level is the number of comments (Number of Comments) on YouTube content related to the MBG program. The analysis results visualized in the pie chart “YouTube: Number of Comments, Files by Attribute Value” show findings based on the Distribution of Data Sources. The analysis was conducted on nine content files, representing 11.1% of the total data. This indicates that each content is formed as an equivalent unit of study.

In the range of public interactions, very significant variations were found in the number of comments received by each content. The number of comments ranged from a low of 44 to a high of 1,071. The distribution of the number of comments on each file is as follows: 44, 46, 171, 213, 220, 238, 359, 1020, and 1071. There are also several Implications of the findings. This wide range indicates a very diverse level of public discussion. Content with many comments (ranging from 1,071 to 1,020) suggests that the topic sparked intense debate, was controversial, or attracted considerable public attention. These contents are a rich source of qualitative data for deeper analysis to understand public sentiment, discussion, and input.

Content with fewer comments (between 44 and 46) indicates a lower level of discussion engagement, which could indicate a lack of reach or a less contentious topic. Quantitative comment data analyzed through NVivo suggests that public discourse regarding the Free Nutritional Meals (MBG) Program on social media is highly dynamic and heterogeneous. The presence of content generating more than a thousand comments demonstrates that the program is a significant topic of discussion in the digital space. This finding provides an essential foundation for the next stage of qualitative analysis. By identifying which content generates the most discussion, researchers can focus their study on the content of these comments to delve deeper into the challenges perceived by the public, such as criticisms, concerns, hopes, and suggestions related to implementing the MBG program. The results of this in-depth analysis will provide crucial input for formulating an effective and responsive optimization strategy that addresses societal dynamics. Challenges of the Free Meal Program in Improving Human Resources: To identify the most frequently occurring themes in public conversations, a word

sentiment. This graph shows various main themes identified, including strategies to maximize food self-sufficiency, #sppi program mbg (referring to Sarjana Penggerak Pembangunan Indonesia), #sppg program mbg (referring to Sentra Pengolahan Pangan Gizi), and related hashtags such as #programmakanbergizigratis and #makanbergizigratis. The sentiment coding results from NVivo 15 indicate the dominance of the gray segment in the visualization circle, suggesting that the Free Nutritional Meal Program elicits neutral sentiment towards human resource development. The dominant gray segment indicates that most sentiment coding results are neutral. Although the program concept was widely discussed, using a single hashtag was not dominant. This finding suggests that the narrative and substance of the discussion were more prominent than the use of specific hashtags on social media. This provides critical insight into public talks more focused on substantive content than viral marketing through hashtags. Overall, this graph demonstrates that the qualitative data analysis successfully mapped the key pillars of debate surrounding the MBG program. The data consistently highlighted challenges that needed to be addressed and specific strategies proposed as solutions, which formed the basis for further analysis in this study.

Based on the visual analysis and research context, it can be concluded that this graph effectively validates the research framework, centered on the challenges and strategies of the MBG program, as relevant and robust. These themes consistently emerge across multiple data sources, confirming that both are the main pillars in the public discourse regarding the program.

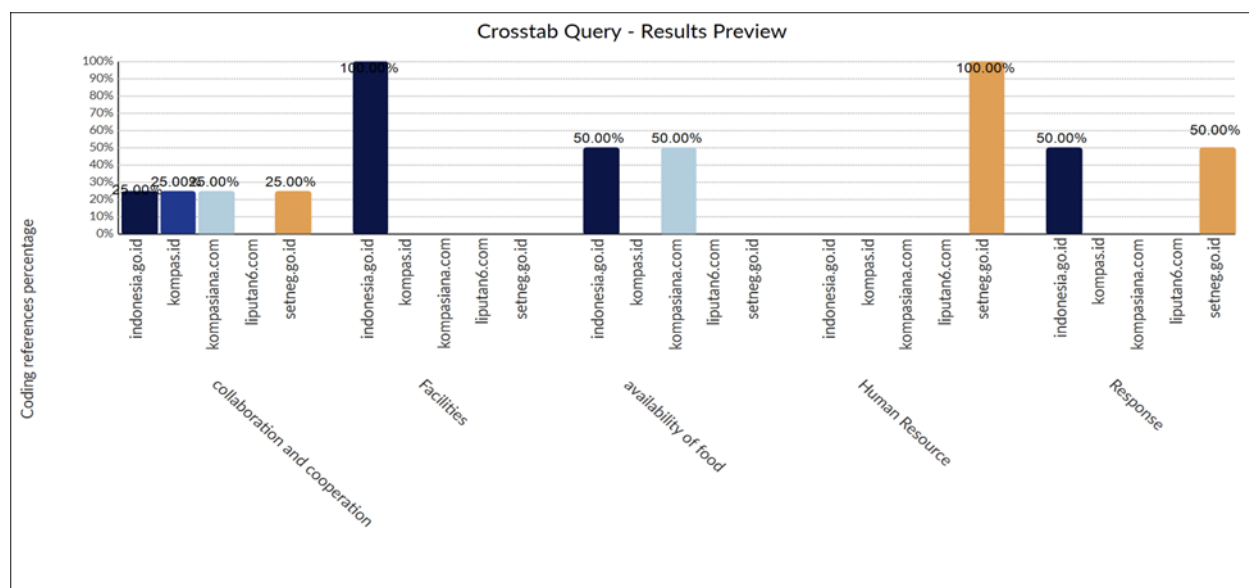


Figure 7. Collaborative response of facilities and human resources in the readiness of the MBG NVIVO 15 code visualization program

Source: news and hot line news - Files by Attribute Value NVIVO 15

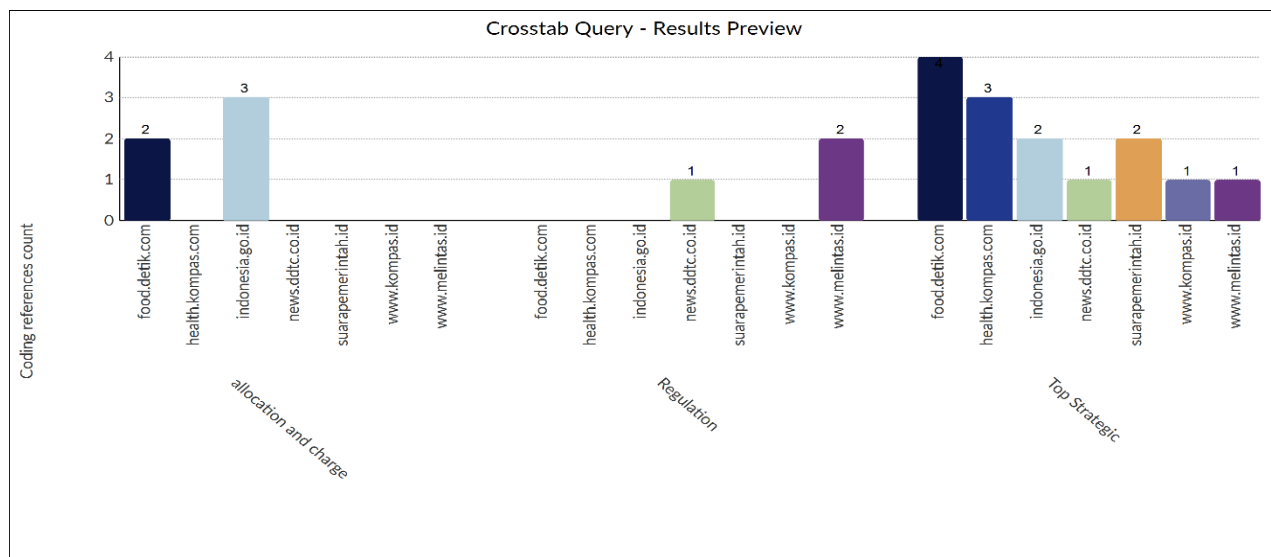


Figure 8. Number of Comments NVIVO 15 code visualization

Source: news article - Files by Attribute Value NVIVO 15

The data above shows that the Free Nutritional Meals Program (MBG) media coverage is highly fragmented and specialized. Data visualization clearly maps how news sources focus on particular aspects of the program, with no single source comprehensively covering all themes. This analysis reveals a clear pattern: the theme “Human Resources,” which is core to the program’s objectives described in the study, is exclusively (100%) covered only by setneg.go.id. Similarly, the theme “Facilities” appears exclusively (100%) in news reports on Indonesia.go.id. This suggests that narratives regarding the program’s primary objectives and logistical aspects tend to be dominated by government-affiliated sources.

Furthermore, other themes demonstrate a division of focus. The theme “availability of food” was evenly distributed between indonesia.go.id (50%) and Kompasiana.com (50%), while the theme “Response” was equally distributed between indonesia.go.id (50%) and setneg.go.id (50%). The most widely distributed theme was “collaboration and cooperation,” which four of the five news sources covered, albeit with equal shares (25% each), indicating that the cooperation aspect was a more common topic discussed across platforms. Thus, the main conclusion from this data analysis is that to gain a holistic understanding of the challenges and optimization strategies of the MBG program, researchers cannot rely solely on a single news source. This NVIVO data effectively maps the media landscape, demonstrating that each news source has its own “specialization” in covering the program. It underscores the importance of a multi-source approach with research objectives for in-depth and balanced analysis.

Based on the crosstab query results from NVivo 15, it can be concluded that the media coverage of the Free Nutritional Meals (MBG) Program is unevenly distributed among various themes and sources. The “Top Strategic” theme is dominant, with the most coding references (14) and the broadest coverage involving seven different media sources. Specifically, food.detik.com (4 references) and health.kompas.com (3 references) are the sources that most frequently discuss this strategic aspect. In contrast, the “allocation and charge” theme has more limited coverage, being mentioned only by indonesia.go.id (3 references) and food.detik.com (2 references). In comparison, the “Regulation” theme is the least discussed and only appears on www.melintas (2 references) and news.ddtc.co.id (1 reference). These findings suggest that public and media discussions primarily focus on the strategic aspects of MBG program implementation and optimization, aligning with the research objective of identifying challenges

and optimization strategies. This pattern also shows the specialization of media sources, where specific issues, such as budget allocation and legal basis, tend to be discussed by particular news portals, including the government website (indonesia.go.id) or media with a policy focus. In conclusion, this crosstab analysis confirms the argument presented in the study that to gain a comprehensive understanding of the MBG program, analysis from various media sources is necessary, as each platform has a distinct focus on reporting, as also concluded in the media landscape analysis in the study. Strategies for managing free nutritious meals to achieve optimal human resource development include:

3.1. Increasing food self-sufficiency

Food self-sufficiency is a fundamental pillar determining the Free Nutritional Meal Program's sustainability, effectiveness, and sovereignty (MBG) (Sugiarto, 2024; Sugiharto Putri, 2024). Indonesia's biggest challenge is its significant dependence on imports of vital food commodities, with 80% of its milk needs still supplied abroad. This dependence creates significant vulnerability to global price fluctuations, geopolitical turmoil, and disruptions to international supply chains. This contrasts with the successful model of the Kyushoku program in Japan, which is built on the foundation of a well-established and high-quality local food supply system. Food self-sufficiency will transform the MBG program from a mere social “cost” to an economic “investment” (Sulistyar, 2022). This program will create a multiplier effect by prioritizing purchases from local farmers, livestock breeders, and fishermen, revitalizing the rural economy, providing market certainty for domestic producers, and shortening the long distribution chain. Implementing a food self-sufficiency strategy requires a concrete, integrated approach. The first step is mapping strategic food commodities that form the backbone of the MBG menu in each region, then formulating affirmative policies for the absorption of local harvests. This requires massive investment in agricultural infrastructure, from modernizing irrigation systems, building post-harvest facilities such as storage warehouses and cold storage, to improving road access from production centers to SPPG. The government must facilitate farmers' access to modern agricultural technology, superior seeds resistant to climate change, and easily accessible financing schemes to increase production capacity. The challenge lies in quantity and standardizing food quality and safety (Arif et al., 2020). Collaboration between the Ministry of Agriculture, the National Food Agency, and the National Nutrition Agency is key to ensuring local products meet nutritional and hygiene standards. By building a short and transparent supply chain from local farmers directly to SPPGs in the regions, this program can minimize the gaps in corruption that are a primary public concern. Food self-sufficiency is not an end goal, but rather a continuous process that ensures that every plate of nutritious food received by Indonesian children reflects the nation's independence, economic strength, and sovereignty.

3.2. Development of nutritional food processing centers (SPPG) in each region

The development of Nutritional Food Processing Centers (SPPG) in each region is the operational heart that determines the success of the Free Nutritional Meal Program (MBG). Without SPPG, this massive program risks becoming a fragmented logistical nightmare vulnerable to misappropriation (Sugiarto, 2024; Sugiharto Putri, 2024). SPPG functions as a large-scale, modern kitchen centralized at the district/city level, transforming raw materials from local farmers into tens of thousands of hygienic, standardized meals. SPPG addresses critical challenges through quality and nutrition standardization. By involving professional nutritionists in centralized menu planning, like the Kyushoku program in Japan, SPPG ensures

every child receives meals with calories, protein, and micronutrients that meet national standards. This eliminates the risk of quality variation if left to thousands of small school kitchens (Pangastuti, 2025). SPPG also serves as a bulwark against the risk of corruption, the public's most significant concern based on social media sentiment analysis. By centralizing procurement and processing processes in one point, supervision and auditing become easier, minimizing budget leakage gaps. More than a giant kitchen, SPPG is a socio-economic hub that integrates the strategic pillars of the MBG program. SPPG absorbs local farmers' harvests on a large scale, creating a sustainable market that drives the regional economy. SPPG is also the operational base of Sarjana Penggerak Pembangunan Indonesia (SPPI) as quality managers and logistics coordinators. SPPG development will transform the MBG program into a modern, decentralized food industry system, creating new standards for providing child nutrition and building a foundation for superior human resources towards Indonesia Emas 2045.

3.3. Building good infrastructure for maximum distribution of free nutritious food

Good infrastructure development is the lifeblood that powers and distributes nutrition from the Free Nutritional Meal Program (MBG) throughout the country. Infrastructure must be understood broadly as an integrated logistics system from upstream to downstream. Upstream, adequate infrastructure means farm roads and proper access from local food production centers to Nutritional Food Processing Centers (SPPG) in each region. Without this access, food self-sufficiency and the empowerment of local farmers will fail because harvests are difficult to transport and logistics costs are inefficient. Infrastructure includes a reliable transportation network and a dedicated distribution fleet to transport prepared food from SPPG to thousands of distribution points such as schools and integrated health posts (posyandu). Vehicles with refrigeration systems (cold chain logistics) are needed to maintain the freshness and safety of food, especially sensitive products such as milk and meat, considering that Indonesia still imports 80% of its milk needs. This infrastructure development is key to addressing geographic disparities, ensuring that children in the 3T regions receive the same quality food as those in urban areas. Modern infrastructure must include a sophisticated digital layer for transparency and accountability, addressing public concerns about the risk of corruption. The GPS tracking system on the distribution fleet enables real-time monitoring, minimizing misappropriation. The integrated platform used by SPPI enables digital verification and instant reporting, creating an unmanipulated digital footprint. This investment in physical and digital infrastructure is not just an operational expense, but a long-term strategic investment that builds public trust.

Table 1. Legal and Institutional Framework Supporting the Free Nutritious Meal (MBG) Program

No.	Group	Type of Regulation	Number & Year	Subject	Role in the MBG Program
1	Operational Legal Basis	Presidential Regulation	No. 83 of 2024	National Nutrition Agency (<i>Badan Gizi Nasional</i> , BGN)	It serves as the central operational legal framework mandating that BGN fulfill national nutritional needs and define criteria for program beneficiaries.
2	Fundamental Law – Food	Law (Constitutional	No. 18 of 2012	Food	Establishes the State's obligation to ensure the

No.	Group	Type of Regulation	Number & Year	Subject	Role in the MBG Program
	Sector	Mandate)			availability of sufficient, safe, high-quality, and affordable food, and to promote national food sovereignty and self-sufficiency.
3	Fundamental Law – Health Sector	Law (Constitutional Mandate)	No. 36 of 2009	Health	Assigns central and regional governments the responsibility for improving community nutrition to enhance public health standards.
4	Fundamental Law – Child Protection Sector	Law (Amendment)	No. 35 of 2014 (Amendment to Law No. 23 of 2002)	Child Protection	Guarantees every child's right to access healthcare and social security according to their physical needs, including adequate nutrition.
5	Fundamental Law – Regional Government Sector	Law (Constitutional Mandate)	No. 23 of 2014	Regional Government	Grants authority to regional governments to manage mandatory health, education, and food security affairs, including establishing Nutrition Food Processing Centers (SPPG).

Although the Free Nutritional Meal Program (MBG) is an initiative launched during the new administration, its implementation's legal and regulatory basis has been outlined. It can be drawn from various existing laws and regulations. The most specific and current basis mentioned in the research document is Presidential Regulation of the Republic of Indonesia Number 83 of 2024 concerning the National Nutrition Agency. This Presidential Regulation serves as the central operational legal umbrella, as it directly mandates the National Nutrition Agency (BGN) to fulfill national nutrition needs, including establishing the criteria for program beneficiaries. However, the foundation of this program is also rooted in more fundamental laws. Law Number 18 of 2012 concerning Food is a central pillar that requires the state to ensure the availability of sufficient, safe, quality, and affordable food, as well as to achieve food self-sufficiency, which is very much in line with the strategy for increasing food self-sufficiency proposed as a solution in the research. Furthermore, Law Number 36 of 2009 concerning Health mandates that improving community nutrition is the responsibility of the central and regional governments to improve public health. From a child rights perspective, Law Number 35 of 2014 concerning Amendments to Law Number 23 of 2002 concerning Child Protection guarantees the right of every child to obtain health services and social security according to their physical needs, where good nutrition is an essential component. For regional implementation, Law Number 23 of 2014 concerning Regional Government authorizes regional governments to organize mandatory affairs in the fields of health, education, and food security, which is the

basis for them to build infrastructure such as Nutrition Food Processing Centers (SPPG) and manage program distribution in their regions. Thus, the combination of Presidential Decree 83/2024 as an operational basis with fundamental laws in food, health, child protection, and regional government has formed a comprehensive regulatory framework to support implementing the MBG program legally and structured throughout Indonesia.

3.4. MBG Program Finances

The Free Nutritious Meal Program is an ambitious initiative aimed at improving the nutritional status of the community, particularly vulnerable groups such as school children, pregnant women, and low-income groups. Implementing this program requires a significant budget (Oktawila & Bagijo, 2025). The value depends on the number of beneficiaries, food prices, and distribution efficiency. With schoolchildren primarily targeted, the government must ensure that every student receives nutritious food that meets health standards. If implemented nationally, the annual budget requirement could reach tens to hundreds of trillions of rupiah, depending on the number of recipients and the distribution scheme employed. In initial calculations, if each school child receives a nutritious meal for IDR 15,000 per day, and the initial coverage covers 30 million students at various levels of education, the daily budget required would reach IDR 450 billion. Assuming 200 school days per year, the total annual budget could reach IDR 90 trillion. The budget burden would increase significantly if coverage is expanded to include early childhood, pregnant women, and low-income groups. Therefore, fiscal sustainability is key in determining the financing scheme to ensure the program continues without burdening the state budget.

Table 2. Financial Overview of the *Makan Bergizi Gratis* (MBG) Program

Component	Description	Value / Amount
Primary Target Recipients	School children (initial phase of implementation)	Approximately 30 million students
Cost per Serving	Daily provision of nutritious meals per child	IDR 15,000
Daily Budget Requirement	Total daily funding needed for program implementation	IDR 450 billion
Number of School Days per Year	Average number of operational school days annually	200 days
Annual Budget (Initial Phase)	Estimated total annual budget for school children	IDR 90 trillion
National Budget Projection (Full Implementation)	The estimated budget, if applied comprehensively at the national level	Tens to hundreds of trillions of rupiah

Commitment to advancing the country with a food self-sufficiency program in each coordinated region to create food independence to meet the needs of the nutritious meal program, as well as the development of SPPG units in each area as the spearhead of the distribution of the free meal program aimed at covering nutritional needs in fulfilling the free nutritious meal program, as well as the recruitment of SPPI as professional staff tasked with managing the program's operations with appropriate standards and regulations. With several strategies that have been formulated, the free nutritious meal program can improve the quality of human resources so that they can compete with developed countries.

4. Conclusion

The Free Nutritious Meal Program (Makan Bergizi Gratis, MBG) is a transformative national initiative that reflects Indonesia's strong commitment to developing high-quality human resources in alignment with the Golden Indonesia 2045 vision. With a total allocation of IDR 71 trillion serving approximately 19.47 million beneficiaries, the program seeks to overcome the nation's triple burden of malnutrition, stunting (19.8%), wasting (7.4%), and overnutrition (3.4%), while simultaneously functioning as a catalyst for inclusive and sustainable economic growth. Lessons drawn from Japan's Kyūshoku system emphasize the significance of nutrition, character education, and professional management in ensuring consistent quality standards, offering valuable insights for optimizing Indonesia's MBG implementation. Analysis using NVivo 15 Plus identified key challenges such as public skepticism regarding transparency and corruption, neutral public sentiment, dependence on imported food ingredients (particularly milk), geographical disparities, and inadequate logistics infrastructure. To address these challenges, three strategic directions are recommended: strengthening national food self-sufficiency through the empowerment of local farmers and micro, small, and medium enterprises (MSMEs); developing Nutrition Food Processing Centers (Sentra Pengolahan Pangan Gizi, SPPG) across all regions to standardize and localize meal production; and recruiting Indonesian Development Driving Graduates (Sarjana Penggerak Pembangunan Indonesia, SPPI) to manage operations professionally and ensure policy compliance. Supported by strong legal foundations, particularly Presidential Regulation No. 83 of 2024 concerning the National Nutrition Agency (Badan Gizi Nasional, BGN), and sustained investment in both physical and digital infrastructure, the MBG program has the potential to transform Indonesia's nutritional and educational landscape, improve children's health, cognitive capacity, and learning outcomes, and strengthen the development of competitive human resources essential for realizing a healthy, intelligent, and productive Golden Indonesia 2045.

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6. Declaration of Conflicting Interests

The authors affirm that no known financial or personal relationships could have appeared to influence the work reported in this article.

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