

Good Demand-Supply Matching Practices as A Key to The Efficiency and Effectiveness of Free Nutritional Meal Programs: Leveraging Diverse Supply Sources to Maximize Government Expenditure Value

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ABSTRACT

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The free nutritious food program initiated by President-elect Prabowo and his cabinet aims to improve the quality of life of Indonesians, especially vulnerable groups. Various factors, including good demand and supply matching practices, largely determine the success of this program. The objective of this research is to analyze the best strategies and techniques for matching demand and supply, as well as for effective inventory management for this program. The research method used is qualitative, with data collection through literature study. After collecting the data, the analysis is done through several stages: filtering, data presentation, and conclusion drawing. The results show that good inventory management and supply-demand matching are key factors for the success of this program. Some strategies and techniques identified include careful planning, robust information systems, efficient supply chain management, good inventory management techniques, and diversification of supply sources. Diversifying supply sources helps the government reduce costs, improve food quality, support local economies, and strengthen national food security. By implementing these strategies, the government can ensure that the free nutritious food program can run efficiently and effectively and provide optimal benefits to the wider community.



Introduction

Malnutrition remains a significant challenge in Indonesia, as reflected in the 2022 Survey on the Status of Nutrition in Indonesia (SSGI) results. The data shows that the stunting rate in Indonesia reached 21.6%, despite a decrease from 24.4% in the previous year. However, this figure is still far from the 14% stunting reduction target set for 2024, indicating the need for greater efforts in addressing this issue (Hastuti & Dulame, 2024). This high prevalence of malnutrition can hinder the future of a nation. The negative impact of malnutrition is not only seen in children's physical growth but also affects their brain development and intelligence.

According to Anggryni et al. (2021), in the short term, malnourished children are at risk of brain, intelligence and metabolic disorders. Meanwhile, in the long term, they can face a decline in cognitive ability and learning achievement, which leads to low immunity. This makes children more susceptible to diseases, including diabetes, obesity,

heart and vascular diseases, and other health problems such as cancer and stroke in old age. In addition, undernutrition contributes to an increased risk of illness and death in the perinatal and neonatal periods, which can worsen the quality of future human resources. This will result in lower economic productivity and the ability to compete in the global market. Therefore, a comprehensive response to nutrition is essential to improve the quality of life and the nation's future.

In response to Indonesia's nutritional challenges, the new cabinet, under the leadership of President Prabowo, has initiated a free nutritious meal program. This initiative aims to reduce the high malnutrition rate among vulnerable groups. The Free Nutritious Meal or Breakfast Program in schools is expected to improve the nutritional status of the community, which in turn shapes healthy eating habits among children. This is in accordance with what was conveyed by Assistant Deputy for Nutrition Security and Health Promotion of the Coordinating Ministry for Human Development and Culture (Kemenko PMK) Jelsi Natalia Marampa in a Limited Meeting on strategies for preparing a strong young generation towards the Golden Indonesia 2045 at the National Resilience Council Office.

Jelsi Natalia Marampa also emphasized that school feeding is a necessary safety net, especially for children from economically vulnerable families. By providing nutritious meals at school, the program can provide the daily support and stability that children need and contribute to preventing poverty, vulnerability and social exclusion (Kemenko PMK, 2024).

However, despite the program's great potential, several challenges must be faced. One of the main issues is limited government funding, which can hinder the program's implementation. In addition, there are challenges in cost-efficiently maximizing the availability of quality foodstuffs. Developing an optimal supply and demand matching strategy ensures the program is viable. This systematic approach is necessary to ensure that nutritious food is available on time, in adequate quantities, and of good quality without creating wastage or shortages.

Demand-supply matching is vital in ensuring the availability of the right goods or services at the right time and quantity (Bodin et al., 2021). In a free nutritious feeding program, this matching ensures that the available supply can meet the food needed by beneficiaries. This process requires careful planning, good supply chain management, and accurate demand forecasting to avoid shortages or excess inventory so that program operations can run efficiently and effectively.

Previous research by Reusken et al. (2023) describes a food bank supply chain model that aims to optimize investments to maximize food assistance. The model helps the supply chain by distributing the available investment budget, increasing the number of beneficiaries that can be served. The results of applying this model using real-life data from a food bank supply chain in the Netherlands showed an increase in service capacity to 32% more beneficiaries.

The novelty of this research lies in identifying the best strategies and techniques in demand and supply matching and effective inventory management for free nutritious feeding programs in Indonesia that have not been studied before. The main focus of this

research is to explore how the government can leverage diverse sources of supply to maximize the value of government spending so that the program can run more efficiently and be on target. It is hoped that this research can contribute new insights into the management of nutritious feeding programs in a more efficient way. In addition, it is also expected to explain how the government can integrate technology and best practices in supply chain management to support the achievement of program objectives. Thus, the main objective of this research is to analyze the best strategies and techniques in demand and supply matching, as well as effective inventory management for free nutritional feeding programs, ensuring that these programs can provide maximum benefits to the people who need them.

Method

In this research, the method chosen is a qualitative approach, which means that the research focuses on an in-depth understanding of social phenomena or behavior, not numerical or statistical measurements. According to Haven and Van Grootel (2019), qualitative research aims to answer questions such as “how”, “why”, and “what” related to certain phenomena. This approach seeks to reveal the perspective of the subject that is the focus of the research. This research applies an “emergent design,” which means there is an iterative process of integrating data analysis, preliminary data examination, and data collection. This flexibility in emergent design can strengthen and deepen the accuracy and validity of qualitative studies, not the other way around.

Furthermore, the data collection technique used is a literature study, which analyzes various relevant documents and publications. This technique helps gather information from various sources, including books, journal articles, research reports, and official documents. Literature studies help researchers understand and identify gaps in research, as well as strengthen arguments or findings with evidence from previous studies (Sutton & Austin, 2015). Then after the data has been collected, the next step is to analyze it. This analysis process includes three stages: filtering the data or selecting and identifying the most relevant information. Furthermore, the selected data will be presented in a structured manner, both in the form of narratives and tables, to facilitate understanding and observation of existing patterns or findings. The final stage is conclusion drawing, where the researcher formulates the results of the analysis and provides an interpretation of the meaning of the data that has been presented.

Results and Discussion

The Free Nutritious Meal Programme is one of the flagship initiatives designed by President Prabowo to improve the nutrition of Indonesian people. The program will be implemented starting in 2025 and has been budgeted at IDR 71 trillion. The program not only school children at all levels of education but also pregnant women, nursing mothers, and toddlers (Widyastuti, 2024). The aim is to address the malnutrition problem that many Indonesian families still face, which affects children's ability to compete both nationally and internationally. Prabowo emphasized that the program is strategic to save

the nation's future, as malnutrition can adversely affect the quality of human resources. The program is a major investment in building a healthier and stronger generation (Vanti et al., 2024).

Leveraging diverse sources of supply is an important strategy in maximizing the value of government spending on programs such as free nutritious meals. Demand-supply matching is an economic concept that describes the interaction between the goods or services demanded by consumers (demand) and the amount offered by producers (supply) in a market. This process aims to achieve equilibrium, where the amount of goods offered matches the amount of goods demanded at a certain price (Al-Ghussain et al., 2021).

In an ideal situation, when demand and supply are balanced, the market is efficient: consumers get the goods at the desired price, and producers sell the goods in the appropriate quantity (Bodin et al., 2021). However, if there is an imbalance, such as demand that is higher than supply (excess demand), or supply that is higher than demand (excess supply), then there will be a change in price or quantity of production until the market reaches equilibrium. In modern business and technology, demand-supply matching is also used in supply chain management, where companies seek to adjust production and distribution to market needs to avoid shortages or overstock (Häckel et al., 2020).

Diversification of supply sources ensures that the government is not overly dependent on one type of supplier or region, thereby reducing the risk of supply instability that could affect the smooth running of the program (Zhu et al., 2020). By sourcing from a variety of local, regional, and international suppliers, the government can choose the source that offers the best price, suitable quality, and resilience to supply chain disruptions, resulting in more efficient and effective spending, meaning that every dollar spent in the program delivers maximum benefits (Hoek & Dobrzykowski, 2021).

Integrating supplies from local farmers is one effective way to reduce costs and support local economies. Transport and distribution costs can be reduced when the government works with farmers in certain areas, as food does not need to be transported from distant places (Marpaung & Simanjuntak, 2024). In addition, by supporting local farmers, the government helps to create economic stability in rural areas, which in turn improves the welfare of local people. Another advantage of using local supplies is the flexibility in adjusting to demand and the availability of fresher products (Hidayat, 2023).

Long-term contracts with large suppliers, both national and international, allow the government to secure consistent prices and product quality, especially for food commodities that cannot be produced locally. The government can obtain lower prices through bulk purchasing strategies due to the large volume of purchases (Akmalia & Kurniaty, 2024). In addition, long-term contracts help reduce price fluctuations that usually occur in the market, thereby minimizing the risk of unexpected expenditures and ensuring the sustainability of the nutritious food supply in the long run (Saputra et al., 2024).

Diversification of supply sources also allows governments to be more flexible in the face of various market conditions and natural disasters that could disrupt supply chains. If one source is disrupted due to natural disasters or price spikes, governments can

quickly turn to alternative suppliers already in their network (Lin et al., 2021). This way, the risk of nutritional food shortages is minimized, and expenditure remains efficient. Overall, utilizing diverse sources of supply allows the government to balance quality, quantity and cost, maximizing the program's spending value (Dubey et al., 2023).

Good supply and demand matching practices are key in ensuring the efficiency and effectiveness of free nutritious feeding programs, especially when implemented nationally (Chen & Hu, 2020). Proper matching allows the government to meet the community's nutritional needs with the optimal amount of food, avoiding oversupply or shortages. It is, therefore, important to understand exactly how much food is needed in each region based on demographic data, consumption levels, and local economic conditions. This data-driven approach ensures proper distribution, reduces wastage, and keeps food stocks fresh and available (Janvry & Sadoulet, 2020).

To achieve optimal matching of demand and supply, the program should adopt a responsive demand planning system, which allows for quick adjustments to community needs or demand changes. Technologies such as predictive analytics and real-time data-driven supply chain management can be used to monitor demand and ensure food availability according to the needs of each region (Zhao et al., 2020). By correctly predicting demand fluctuations, governments can prepare just the right amount of nutritious food offerings, thus avoiding shortages that could jeopardize the smooth running of the program or surpluses that could result in wasted resources (Yang et al., 2020).

In addition, matching supply with demand also requires diversifying sources of supply. Governments can work with local, regional and international suppliers to ensure that food supplies remain stable despite disruptions such as natural disasters or price fluctuations in the global market. Utilizing supplies from local farmers, for example, can help reduce distribution costs and support local food security (Béné, 2020). Meanwhile, long-term contracts with large suppliers can provide more stable price certainty and avoid unexpected cost spikes. By combining these different sources of supply, governments can minimize risks and ensure food quality is maintained (Boyacı-Gündüz et al., 2021).

Good supply and demand matching plays a role in improving government budget efficiency. The government can maximize every dollar spent on the program by ensuring that the food purchased matches people's needs (Zhang et al., 2021). This more effective use of resources also allows for more appropriate budget allocation to other parts of the program, such as logistics and distribution, which ultimately supports the success of the free nutritious feeding program. When demand and supply are well managed, the program can achieve its goal of improving community welfare and maintaining long-term sustainability (Ilzetzki, 2024).

In inventory management and supply-demand matching in free nutritious feeding programmes, effective strategies focus on efficiently meeting people's nutritional needs, especially under the leadership of President Prabowo or a new cabinet. The best techniques involve using just-in-time methods to ensure that food stocks match actual needs, reducing waste and storage costs. In addition, data-driven demand planning is essential to predict daily, weekly or monthly needs based on factors such as demographics

and local consumption trends. In the context of good supply and demand matching, the programme can utilize diverse supply sources from local farmers, regional suppliers, to imported products, with the aim of maximizing the value of each government expenditure. This diversification of supply sources not only ensures stable availability, but also helps maintain quality and competitive prices, thus improving the efficiency and effectiveness of the programme. As such, a proper inventory management strategy plays a role in balancing supplies with real demand, avoiding overstocks or food shortages, and minimizing programme operational costs.

Conclusion

The results show that effective inventory management and supply-demand matching are important factors in the success of free nutritious feeding programs. Some of the strategies and techniques identified include careful planning to understand food consumption patterns, seasonality and other factors that affect demand. In addition, the use of robust information systems is necessary to gain a comprehensive picture of demand, efficient supply chain management and good inventory management techniques. Diversifying sources of supply is also important, by purchasing ingredients directly from local farmers to support the local economy and ensure product quality. The research also highlights the importance of utilizing NGO networks to reach remote areas, as well as working with private companies to secure food donations or logistical assistance. Diversifying supply sources can help the government reduce costs, improve food quality, support local economies and strengthen national food security. By implementing these strategies, the government can ensure that the free nutritious feeding program is efficient and effective and provides maximum benefits to the community.

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