

BMF CP78: National and international capacities in supply chain management of School Meals Program

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“... he finally has a proper mansion. One that even has a food inventory.”

–In “Mansion”; [The Kingfisher Story Collection](#).

[COLLABORATIVE PROJECT]

1. Project Description

1.1. Background

The school meals program is a government initiative and community-driven effort to combat food insecurity among school-aged children. This program aims to address multiple objectives, including education, nutrition, and value transfer [1]. However, evidence indicates that only one of these objectives has been achieved, with efforts to improve food production and nutrition education not being prioritized [2]. To ensure the attainment of these goals, Total Quality Management (TQM) has been implemented in the school meals program.

Conceptually, TQM involves the ongoing process of detecting, reducing, or eliminating errors [3]. School principals and nutrition coordinators play key roles in managing this program and are actively involved in TQM [4]. Its implementation in school feeding

schemes includes tracking products, services, and procedures to maximize productivity, minimize waste, and incorporate feedback from schools to enhance these schemes [5]. Supply chain issues pose significant challenges to TQM implementation in the school meals program.

Recent shifts by the World Bank and the World Food Programme emphasize long-term, sustainable solutions that leverage local resources, capacity, and community participation [1]. Effective supply chain management, crucial to program delivery, is vital for developing a sustainable approach to school feeding [1]. This study aims to examine national and international capacities in supply chain management by analyzing the food items delivered through the school meals program.

1.2. Materials

The granular interaction thinking of mindsponge theory [6] was used in study conceptualization, and Bayesian Mindsponge Framework (BMF) analytics was employed in statistical analysis on a dataset of 126 Ministry officers who managed large-scale school meal programs in 126 countries. This dataset originated from the 2021 Global Surveys, which can be accessed publicly at the GCNF Global Survey of School Meal Programs database [7]. The bayesvl package, aided by the Markov chain Monte Carlo (MCMC) algorithm, was employed in statistical analysis [8]. For more information on BMF analytics, portal users can refer to the following documents [9]. Data and code snippets of this initial analysis were deposited at <https://zenodo.org/records/13252985>.

1.3. Main Findings

Preliminary analysis revealed that the method of obtaining supplies, whether through in-kind donations from local, regional, national sources, or national food reserves and purchasing from neighboring or distant countries, significantly affected the food items included in school meals or snacks (see Figure 1). Conversely, purchasing supplies from local, regional, or national food reserves had an ambiguous impact on the food items delivered through the school meals program. Additionally, obtaining supplies in-kind from neighboring or distant countries had a significant negative impact on the food items served to students. These results underscore the importance of supporting the World Bank and World Food Programme's recommendation to rely more on local resources and capacities. Enhancing supply chain management at the national level is crucial for developing a long-term and sustainable school meals program.

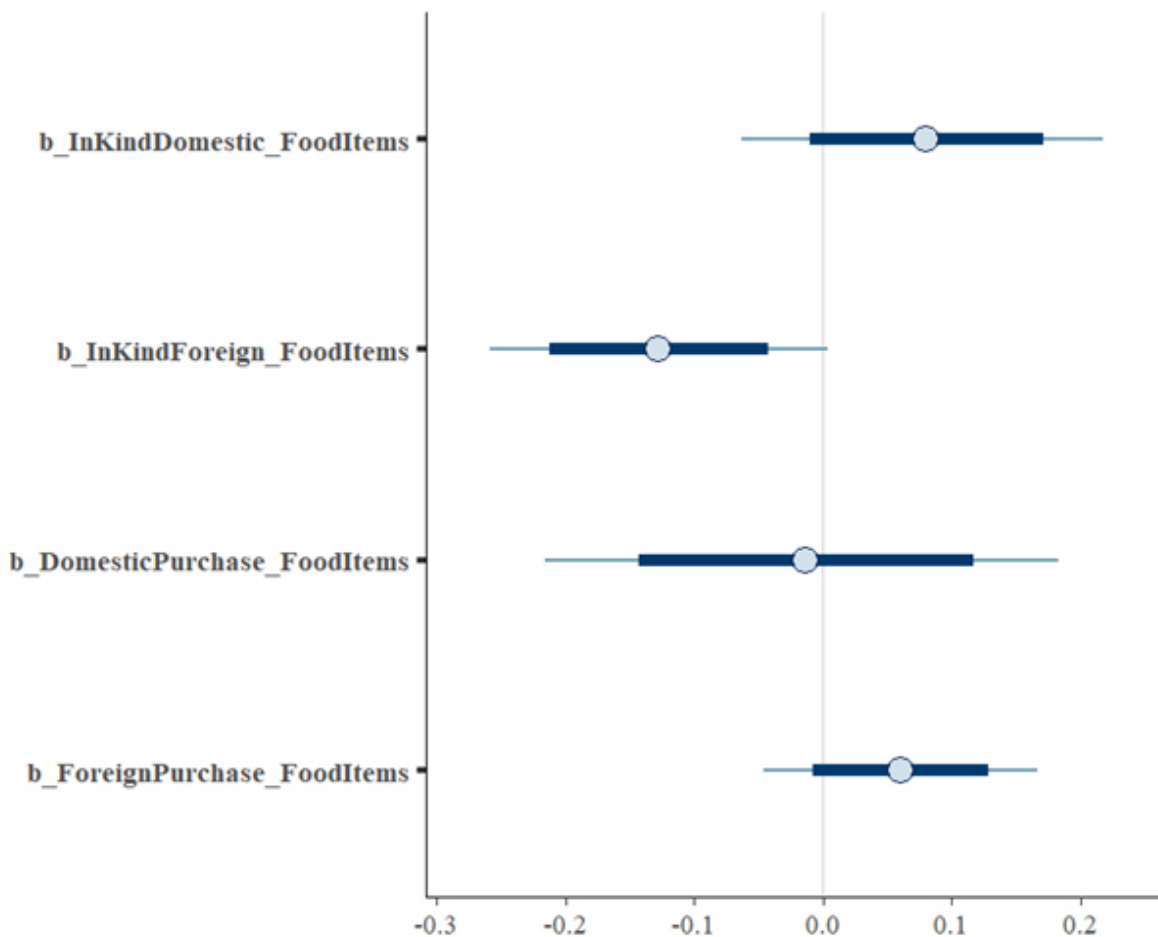


Figure 1: Estimated coefficients

2. Collaboration procedure

Portal users should follow these steps for registering to participate in this research project:

1. Create an account on the website (preferably using an institution email).
2. Comment on your name, affiliation, and desired role in the project below this post.
3. Patiently wait for the AISDL mentor to give the formal agreement on the project.

If you have further inquiries, please get in touch with us at aisdl_team@mindsponge.info.

If you have been invited to join the project by an AISDL member, you are still encouraged to follow the above formal steps.

All the resources for conducting and writing the research manuscript will be distributed upon project participation.

Project coordinator/mentor: ***Ni Putu Wulan Purnama Sari***.

Other members who have joined this project: Minh-Hoang Nguyen, Quan-Hoang Vuong.

The research project strictly adheres to scientific integrity standards, including authorship rights and obligations, without incurring an economic burden at participants' expenses. Our philosophy embraces the fostering of humanistic values in conducting empirical investigations for sustainable and feasible solutions to real-world problems.

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