



Operational Management Practices of Public Elementary and Secondary School Canteens in Rosario, La Union

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Abstract

This study examined the operational management practices of public elementary and secondary school canteens in Rosario, La Union. It focused on canteen profile, planning, organizing, budgeting, controlling, operational challenges, and the relationship between profile variables and management practices. A quantitative descriptive-correlational design was used. Total enumeration was applied to include 19 public school canteens composed of 14 elementary and five secondary school canteens. Data were collected through a validated researcher-made questionnaire and analyzed using frequency, percentage, weighted mean, and Pearson correlation. Findings showed that most canteens were located in public elementary schools, had operated for one to three years, had one to two personnel, had working capital below Php10,000, and generated daily average sales of Php1,001 to Php3,000. Operational management practices were often implemented, with controlling receiving the highest mean and organizing receiving the lowest mean. Operational challenges were rarely encountered overall, although inadequate working capital, weak customer feedback mechanisms, and improper financial statement reconciliation were sometimes encountered. Correlation results showed no significant relationship between most profile variables and operational management practices. However, daily average operational expenses had a significant negative relationship with planning. The study recommends a practical action plan focused on working capital management, customer feedback, financial reconciliation, and operational risk planning to strengthen sustainable school canteen operations.

Keywords: Budgeting, Controlling, Operational Management, Planning, Public School Canteens

1. Introduction

School canteens are part of the school food environment. They provide access to meals and snacks during the school day. They also support nutrition education, food safety, and learner welfare. The Food and Agriculture Organization emphasized that school food and nutrition programmes support the rights of children to food, education, and health. These programmes may also strengthen local food systems when food sourcing, menu planning, and nutrition education are properly coordinated (Food and Agriculture Organization [FAO], 2019). Recent global evidence still shows the need for strong school-based food systems. In 2024, about 673 million people experienced hunger, and 2.6 billion people could not afford a healthy diet (FAO, International Fund for Agricultural Development [IFAD], United Nations Children's Fund [UNICEF], World Food Programme [WFP], & World Health Organization [WHO], 2025). This condition makes school food services important in settings where learners depend on low-cost and accessible food.

In the Philippines, school canteens operate within a policy environment that places service, nutrition, transparency, and accountability above profit. DepEd Order No. 8, s. 2007 states that public school canteens should help eliminate malnutrition, develop desirable eating habits, serve as a laboratory for food planning and





preparation, and maintain transparent accounting of proceeds (Department of Education [DepEd], 2007). DepEd Order No. 13, s. 2017 further provides guidelines on healthy food and beverage choices in schools and DepEd offices. It requires healthier, nutritious, and affordable menu choices and a food classification system that guides selling, marketing, and purchasing of food in schools (DepEd, 2017). Republic Act No. 11037 also institutionalized a national feeding programme for undernourished children in public day care, kindergarten, and elementary schools (Republic Act No. 11037, 2018).

Recent literature confirms that healthy school food environments require more than menu rules. Monitoring, policy enforcement, infrastructure, staff capacity, and financial controls are also needed. WHO (2025) noted that coordinated school food policies should cover direct food provision, nutrition standards for food served or sold in schools, and nudging interventions that promote healthy food choices. In the Philippine context, Goloso-Gubat et al. (2025) reported that public schools have strong policy foundations, but implementation, monitoring, and evaluation gaps remain. Li and Lee (2024) also showed that school foodservice research has increasingly focused on food quality, food safety, sustainability, operational models, and policy implementation.

Despite these policy directions, local school canteens may still experience practical constraints. These may include limited working capital, small staffing patterns, weak documentation, limited customer feedback, and gaps in financial reconciliation. These conditions may affect how canteens plan menus, assign tasks, allocate funds, and control daily operations. For this reason, localized evidence is needed. The present study examined the operational management practices of public elementary and secondary school canteens in Rosario, La Union. It aimed to provide practical evidence for improving canteen sustainability, accountability, and service quality.

Theoretical Framework

This study was anchored on three management theories: Fayol's Administrative Theory, Resource-Based View Theory, and Contingency Theory. These theories provided the basis for examining the operational management practices of public elementary and secondary school canteens in Rosario, La Union, particularly in terms of planning, organizing, budgeting, and controlling.

Fayol's Administrative Theory served as the main foundation of the study. Fayol identified key management functions, including planning, organizing, commanding, coordinating, and controlling, which remain useful in analyzing how organizations direct and regulate their operations (Fayol, 1949). In this study, the theory was applied to school canteen operations because canteen managers are expected to prepare operational plans, assign tasks, coordinate personnel, manage food and financial resources, and monitor compliance with school canteen policies. Thus, the four management areas used in the study—planning, organizing, budgeting, and controlling—were drawn from the classical view that effective operations depend on clear managerial functions and systematic administrative processes (Fayol, 1949).

The Resource-Based View Theory also supported the study. This theory explains that organizational performance is influenced by the way available resources are acquired, developed, and utilized (Barney, 1991). In the context of public school canteens, these resources include capitalization, daily average sales, number of personnel, staff competence, available facilities, and financial records. Canteens with adequate financial and human resources may be more capable of preparing menus, purchasing supplies, assigning work, controlling expenses, and sustaining daily food service operations. Hence, the Resource-Based View Theory was used to explain how the profile of the canteen may affect the quality of its operational management practices (Barney, 1991).



Contingency Theory further strengthened the framework of the study. The theory states that there is no single best way to manage an organization because effective management depends on the situation, environment, structure, and available resources (Fiedler, 1964). This theory was relevant because public elementary and secondary school canteens may differ in terms of school type, years of operation, number of personnel, capitalization, and daily average sales. These differences may require different management responses. For instance, a small elementary school canteen with limited capital may need simpler budgeting and staffing arrangements, while a larger secondary school canteen may require more structured planning, inventory control, and personnel assignment. Therefore, Contingency Theory explained why canteen management practices should be examined in relation to the actual profile and operating conditions of each school canteen (Fiedler, 1964).

Taken together, these theories provided the conceptual basis of the study. Fayol’s Administrative Theory explained the core management functions used in assessing canteen operations. Resource-Based View Theory explained the role of financial, human, and operational resources in shaping canteen performance. Contingency Theory explained the need to adapt management practices to the specific conditions of each school canteen. These theories guided the analysis of the relationship between the school canteen profile and the level of operational management practices in public elementary and secondary school canteens in Rosario, La Union.

Conceptual Framework

Conceptual Framework of the Study

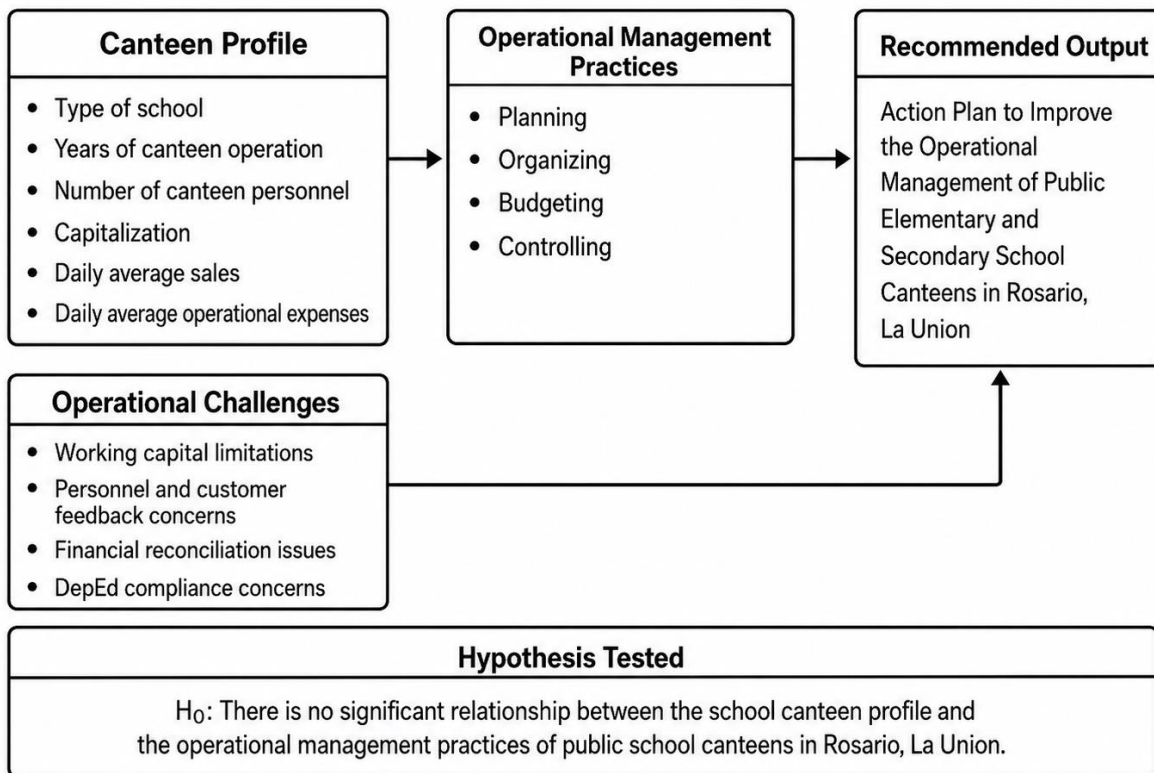


Figure 1. Conceptual Framework of the Study



Figure 1 presents the conceptual framework of the study. It shows that the canteen profile, consisting of type of school, years of canteen operation, number of canteen personnel, capitalization, daily average sales, and daily average operational expenses, may be related to the operational management practices of public elementary and secondary school canteens in Rosario, La Union. These practices are examined in terms of planning, organizing, budgeting, and controlling.

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The figure also identifies operational challenges, including working capital limitations, personnel and customer feedback concerns, financial reconciliation issues, and DepEd compliance concerns. These challenges are considered because they may affect the efficiency, accountability, and sustainability of school canteen operations. The framework further shows that the findings on canteen profile, management practices, and operational challenges serve as the basis for the recommended action plan to improve the operational management of public elementary and secondary school canteens in Rosario, La Union.

The bottom portion of the framework presents the null hypothesis tested in the study, which states that there is no significant relationship between the school canteen profile and the operational management practices of public school canteens in Rosario, La Union.

Aim of the Study

This study aimed to determine the operational management practices of public elementary and secondary school canteens in Rosario, La Union. Specifically, it examined the canteen profile in terms of type of school, years of canteen operation, number of canteen personnel, capitalization, daily average sales, and daily average operational expenses; the level of operational management practices in terms of planning, organizing, budgeting, and controlling; the operational challenges encountered; the relationship between canteen profile and operational management practices; and the action plan that may be recommended to improve canteen operations.

Statement of the Problem

This study sought to answer the following questions:

1. What is the canteen profile of public elementary and secondary schools in Rosario, La Union, in terms of type of school, years of canteen operation, number of canteen personnel, capitalization, daily average sales, and daily average operational expenses?
2. What is the level of operational management practices in the public school canteens in Rosario, La Union, in terms of planning, organizing, budgeting, and controlling?
3. What operational challenges are encountered by public elementary and secondary school canteens in Rosario, La Union in relation to financial management, staffing, documentation, customer feedback, and compliance with DepEd guidelines?
4. Is there a significant relationship between the public schools' canteen profile and their level of operational management practices?
5. Based on the findings, what action plan can be recommended to improve the operational management of public elementary and secondary school canteens in Rosario, La Union?

Research Hypothesis

Null Hypothesis (H₀): Null Hypothesis (H₀): There is no significant relationship between the school canteen profile, in terms of type of school, years of canteen operation, number of canteen personnel, capitalization, daily average





sales, and daily average operational expenses, and the operational management practices of public elementary and secondary school canteens in Rosario, La Union.

2. Literature Review

School canteens form part of the wider school food environment, which influences learners' access to food, nutrition practices, health behavior, and daily welfare. In this sense, canteen management should not be viewed merely as a small income-generating activity but as a school-based service function linked to nutrition, accountability, and learner support. The FAO School Food and Nutrition Framework emphasizes that school food systems should support nutrition, education, local food systems, and community development by aligning food provision, nutrition education, and institutional coordination (Food and Agriculture Organization [FAO], 2019). Similarly, the World Health Organization [WHO] (2025) explains that healthy school food environments require policies and interventions covering food provision, nutrition standards for foods sold or served in schools, and strategies that encourage healthier food choices. These perspectives show that school canteen operations require structured management practices because menu planning, food procurement, sanitation, financial control, and compliance monitoring directly affect the quality and sustainability of food services in schools.

The management of school canteens is strongly related to classical administrative functions. Fayol's Administrative Theory explains that effective management involves planning, organizing, commanding, coordinating, and controlling (Fayol, 1949). These functions remain relevant in school canteen operations because canteen managers must plan menus and procurement schedules, organize personnel and work areas, coordinate the use of resources, and control inventory, cash flow, food quality, and sanitation. In the present study, the operational management practices of school canteens were examined in terms of planning, organizing, budgeting, and controlling. Planning is reflected in menu preparation, procurement forecasting, financial projection, and contingency preparation. Organizing is reflected in task assignment, role designation, workflow arrangement, hygiene practices, and inventory organization. Budgeting is reflected in procurement costing, financial recording, profit allocation, price monitoring, and emergency fund maintenance. Controlling is reflected in daily inventory checking, food quality inspection, sanitary auditing, customer feedback, and cash reconciliation. Thus, Fayol's theory provides a direct conceptual basis for assessing the operational practices of public elementary and secondary school canteens.

School canteen operations also depend on the availability and use of resources. The Resource-Based View Theory explains that organizational performance is influenced by how resources are acquired, organized, and utilized (Barney, 1991). In public school canteens, these resources include working capital, daily sales, personnel, food supplies, facilities, records, and managerial competence. Canteens with adequate capitalization and trained personnel may have better capacity to prepare menus, purchase supplies, monitor inventory, maintain records, and comply with school food standards. However, resource limitations may restrict menu variety, reduce purchasing flexibility, weaken financial control, and increase the burden on limited personnel. This theoretical lens is important to the present study because the canteen profile variables, such as capitalization, daily sales, operational expenses, and number of personnel, may shape how planning, organizing, budgeting, and controlling are practiced in actual school settings.

The need to examine canteen profile in relation to operational management is further supported by Contingency Theory. Fiedler's (1964) contingency perspective argues that there is no single best way to manage an organization because effective management depends on the situation, structure, environment, and available resources. Applied to school canteens, this means that the management practices of a small elementary school canteen with one or





two personnel and limited capital may differ from those of a larger secondary school canteen with higher sales and more complex operations. A canteen with low capitalization may require stricter budgeting and simpler procurement systems, while a canteen with higher daily sales may require stronger cash reconciliation, inventory control, and customer feedback mechanisms. This theory supports the present study's examination of whether profile variables are significantly related to operational management practices.

In the Philippine context, school canteens operate within policy standards that emphasize nutrition, service orientation, transparency, and accountability. DepEd Order No. 8, s. 2007 provides the revised implementing guidelines for the operation and management of school canteens in public elementary and secondary schools. The policy recognizes school canteens as mechanisms for addressing malnutrition, developing desirable eating habits, supporting instruction in food planning and preparation, and maintaining transparent accounting of proceeds (Department of Education [DepEd], 2007). DepEd Order No. 13, s. 2017 further strengthens the nutrition function of schools by requiring healthier, nutritious, and affordable food and beverage choices and by guiding the selling, marketing, and purchasing of foods in schools and DepEd offices (DepEd, 2017). Republic Act No. 11037, or the Masustansyang Pagkain para sa Batang Pilipino Act, also institutionalized a national feeding program for undernourished children in public day care, kindergarten, and elementary schools, reinforcing the state's concern for school-based nutrition interventions (Republic Act No. 11037, 2018). Together, these policies show that school canteen management must balance operational efficiency with nutrition, affordability, learner welfare, and public accountability.

Recent international and local literature also indicates that school food systems require more than policy issuance. Effective implementation depends on monitoring, infrastructure, human resources, food safety, financial systems, and school-level compliance. Li and Lee (2024), in their bibliometric analysis of school foodservice research, found that recent research trends increasingly focus on food quality, food safety, food waste, operational models, sustainability, and policy implementation. This suggests that contemporary school foodservice research has moved beyond menu provision and now emphasizes broader operational and governance concerns. Durão et al. (2024) similarly reviewed interventions affecting the school food environment and highlighted the role of policies and school-based measures in improving children's health and non-health outcomes. These findings support the present study's focus on operational management because canteen sustainability depends not only on what food is sold but also on how the canteen is planned, organized, budgeted, monitored, and improved.

In the Philippines, evidence on school food environments likewise points to the importance of school-level implementation and monitoring. Goloso-Gubat et al. (2025) examined selected public schools in Region IV-A and noted that schools are important settings for shaping learners' dietary and physical activity behaviors, while also emphasizing the need for evidence on actual school nutrition environments. This is relevant to the present study because national policies may prescribe healthy food choices, but local schools still differ in resources, management capacity, monitoring practices, and compliance conditions. Therefore, localized studies are needed to determine whether canteens are able to translate policy requirements into daily operational routines.

The literature further suggests that financial management is central to canteen sustainability. School canteens must maintain affordable food prices while covering the costs of ingredients, supplies, sanitation materials, labor arrangements, and operational contingencies. When working capital is insufficient, planned menus may change abruptly, procurement may become reactive, and inventory control may weaken. Budgeting therefore becomes a critical function because it connects procurement decisions, price monitoring, sales recording, emergency fund allocation, and profit use. In the present study, this issue is particularly relevant because many canteens operated with limited capitalization. The inclusion of budgeting as one operational management dimension allows the study





to examine how school canteens manage limited financial resources while maintaining service continuity and compliance with DepEd expectations.

Organizing is another important operational concern because school canteens often function with limited personnel. Clear task assignment, hygiene routines, authority designation, inventory arrangement, and food preparation workflow are necessary to prevent confusion, duplication of tasks, sanitation lapses, and weak accountability. When only one or two personnel handle multiple functions, organizing becomes more challenging because the same individuals may be responsible for food preparation, selling, cleaning, inventory monitoring, and recordkeeping. This is directly connected to the present study because the profile of canteens includes the number of personnel, while the operational management indicators include specialized role assignment, hygienic attire, workflow arrangement, authority designation, and inventory organization.

Controlling practices are also essential in school canteen operations because they safeguard food quality, financial accountability, and compliance. Daily inventory checking, food quality inspection, sanitary audits, feedback mechanisms, and cash reconciliation help ensure that canteen operations remain transparent and responsive. These practices are consistent with the accountability requirements of DepEd Order No. 8, s. 2007 and the nutrition-oriented direction of DepEd Order No. 13, s. 2017. They are also consistent with WHO's emphasis on coordinated school food policies and implementation mechanisms (WHO, 2025). In the present study, controlling is examined as a major dimension because school canteens must protect both learner welfare and public trust.

Despite the existence of policy guidelines and growing research on school food environments, a gap remains in localized operational evidence. Many studies and policy documents explain what school food systems should provide, but fewer studies examine how public school canteens actually manage planning, organizing, budgeting, and controlling under local conditions. This gap is important because public school canteens vary in school type, years of operation, number of personnel, capitalization, daily sales, and operational expenses. These variations may influence operational management practices and the challenges encountered. The present study addresses this gap by generating municipal-level evidence from public elementary and secondary school canteens in Rosario, La Union. By linking canteen profile, operational practices, operational challenges, and a proposed action plan, the study contributes practical evidence for improving school canteen sustainability, accountability, and service quality.

3. Methodology

Research Design

A quantitative descriptive-correlational design was used. The descriptive component was used to determine the profile, level of operational management practices, and operational challenges of public-school canteens. The correlational component was used to test the relationship between canteen profile variables and operational management practices.

Participants and Locale

The study was conducted in public elementary and secondary schools in Rosario, La Union. Total enumeration was used because the study included all public-school canteens in the locality. The respondents were 19 canteen managers or designated canteen personnel who were directly involved in the daily operation and management of the public school canteens. These consisted of 14 public elementary school canteens and five public secondary school canteens.





Instrument

A researcher-made questionnaire was used as the main data-gathering instrument. It consisted of three parts. Part I gathered the canteen profile. Part II measured operational management practices in terms of planning, organizing, budgeting, and controlling. Part III measured operational challenges related to finance, staffing, documentation, customer feedback, and compliance.

The responses were measured using a five-point Likert scale: 4.51–5.00 = Always, 3.51–4.50 = Often, 2.51–3.50 = Sometimes, 1.51–2.50 = Rarely, and 1.00–1.50 = Never. The questionnaire was developed based on related literature, DepEd school canteen guidelines, and the four management functions used in the study.

The instrument was content-validated by three experts and obtained a “Highly Valid” rating. It was also pilot-tested with selected canteen personnel and a school administrator to check clarity, relevance, and item interpretation. The reliability test yielded a Cronbach’s alpha of .87, indicating good internal consistency.

Data Collection Procedure

Permission was secured from the appropriate school authority before data collection. The researcher coordinated with school heads and canteen managers to schedule the administration of the questionnaire. Before answering the instrument, the respondents were informed about the purpose of the study, the voluntary nature of their participation, and the confidentiality of their responses. After informed consent was obtained, the questionnaires were administered, retrieved, checked for completeness, encoded, and prepared for statistical analysis.

Data Analysis

The data were analyzed using descriptive and inferential statistics. Frequency and percentage were used to describe the canteen profile. Weighted mean was used to determine the level of operational management practices and the extent of operational challenges encountered. Pearson product-moment correlation was used to test the relationship between the canteen profile variables and operational management practices. The level of significance was set at 0.05.

Ethical Considerations

The study observed ethical principles in research involving human participants. Participation was voluntary, and informed consent was obtained before data collection. Respondents were assured that their identities, school affiliations, and individual responses would remain confidential and would not be disclosed in the manuscript. The data gathered were used solely for research purposes, and results were reported only in aggregate form.

4. Results and Discussion

Table 1. Profile of Public School Canteens in Rosario, La Union

Variable	Indicator	f	%
Type of school	Public elementary	14	73.68
	Public secondary	5	26.31



Variable	Indicator	f	%
Years of operation	Less than 1 year	1	5.26
	1-3 years	12	63.16
	4-6 years	4	21.05
	Above 6 years	2	10.53
Number of personnel	1-2	18	94.74
	3-4	1	5.26
	5-6	0	0.00
	More than 6	0	0.00
Capitalization	Below Php10,000	13	68.42
	Php10,001-Php20,000	6	31.58
	Php20,001-Php30,000	0	0.00
	Above Php30,000	0	0.00
Daily average sales	Below Php1,000	0	0.00
	Php1,001-Php3,000	15	78.95
	Php3,001-Php5,000	3	15.79
	Above Php5,001	1	5.26
Daily average operational expenses	Below Php1,000	18	94.74
	Php1,001-Php3,000	1	5.26
	Php3,001-Php5,000	0	0.00
	Above Php5,001	0	0.00

Table 1 presents the profile of the 19 public elementary and secondary school canteens in Rosario, La Union. In terms of school type, most of the canteens were from public elementary schools, with 14 canteens or 73.68%, while five canteens or 26.31% were from public secondary schools. This shows that elementary school canteens constituted the majority of the study sites, which may be attributed to the larger number of elementary schools in the locality.

For years of operation, most canteens had been operating for one to three years, with 12 canteens or 63.16%. Four canteens or 21.05% had operated for four to six years, two canteens or 10.53% had operated for more than six years, and only one canteen or 5.26% had operated for less than one year. This implies that most school canteens had relatively recent operational experience, which may affect the maturity of their systems in planning, budgeting, documentation, and financial control.

In terms of number of personnel, almost all canteens had only one to two personnel, representing 18 canteens or 94.74%. Only one canteen or 5.26% had three to four personnel, while none had five or more personnel. This indicates that the public school canteens were generally small-scale operations with limited manpower. The implication is that personnel may need to perform multiple functions, including food preparation, selling, inventory monitoring, sanitation, and recordkeeping. This may also explain why organizing emerged as the lowest-rated operational management practice in the study.

For capitalization, 13 canteens or 68.42% had working capital below Php10,000, while six canteens or 31.58% had capitalization ranging from Php10,001 to Php20,000. No canteen reported capitalization above Php20,000. This suggests that most canteens operated with limited financial resources. Such limited capitalization may restrict



menu variety, bulk purchasing, emergency procurement, equipment improvement, and the ability to respond to price increases or supply shortages.

In terms of daily average sales, 15 canteens or 78.95% generated Php1,001 to Php3,000 daily, three canteens or 15.79% generated Php3,001 to Php5,000, and only one canteen or 5.26% generated above Php5,001. No canteen reported daily sales below Php1,000. This indicates that most canteens had moderate daily sales, suggesting that they were operationally active but not highly revenue-generating. The implication is that canteen income may be sufficient for routine operations but may not be enough to support major improvements without careful budgeting and financial planning.

For daily average operational expenses, 18 canteens or 94.74% spent below Php1,000 daily, while only one canteen or 5.26% spent Php1,001 to Php3,000. No canteen reported expenses above Php3,000. This shows that most canteens maintained low daily operating expenses, which may reflect cost-conscious management. However, very low expenses may also indicate limited menu offerings, small inventory levels, minimal staffing, or restricted operational capacity.

Overall, the profile shows that public school canteens in Rosario, La Union were mostly elementary-based, relatively small, lightly staffed, and operated with limited capitalization and low daily expenses. These conditions imply that their operational management practices must be practical, cost-efficient, and suited to small-scale school-based food service operations. The findings also point to the need for stronger working capital management, personnel role assignment, financial monitoring, and operational planning to sustain canteen services and improve compliance with school canteen standards.

Table 2. Operational Management Practices of Public School Canteens

Dimension	Indicator	WM	Interpretation
Planning	Menu is planned weekly/monthly and follows DepEd Order No. 13, s. 2017 nutritional standards.	4.58	Always
Planning	Procurement schedules are planned based on inventory forecasts.	4.32	Often
Planning	Financial projections are established before the school year or quarter.	4.16	Often
Planning	Contingency plans are in place for price increases, supply shortages, or equipment failure.	4.00	Often
Planning	Specific operational goals are set and communicated.	4.53	Always
Planning average		4.32	Often
Organizing	Personnel are assigned specialized roles.	4.00	Often
Organizing	Hygienic attire is required.	3.95	Often
Organizing	Workstations and storage areas follow a clean-to-dirty flow.	4.37	Often
Organizing	A clear organizational chart or authority designation is followed.	4.37	Often
Organizing	Inventory is organized using FIFO.	4.05	Often
Organizing average		4.15	Often
Budgeting	A zero-based approach is used for ingredient procurement.	4.00	Often
Budgeting	Detailed records of income, expenses, and profit allocation are maintained.	4.11	Often
Budgeting	Canteen profits are allocated according to DepEd Order No. 8, s. 2007.	4.37	Often





Dimension	Indicator	WM	Interpretation
Budgeting	Raw ingredient price fluctuations are monitored.	4.37	Often
Budgeting	An emergency or revolving fund is maintained.	4.58	Always
Budgeting average		4.28	Often
Controlling	Daily inventory is checked against sales.	4.79	Always
Controlling	Food quality is checked before service.	4.21	Often
Controlling	Customer feedback mechanism is used.	4.16	Often
Controlling	Sanitary audits are conducted.	4.26	Often
Controlling	Cash flow is reconciled daily.	4.53	Always
Controlling average		4.39	Often
Overall mean		4.29	Often

Table 2 presents the level of operational management practices of public elementary and secondary school canteens in Rosario, La Union in terms of planning, organizing, budgeting, and controlling. The overall mean was 4.29, interpreted as Often, indicating that the school canteens generally implemented the major operational management practices on a regular basis.

For planning, the average weighted mean was 4.32, interpreted as Often. The highest-rated planning indicator was that the menu is planned weekly or monthly and follows DepEd Order No. 13, s. 2017 nutritional standards, with a weighted mean of 4.58, interpreted as Always. This was followed by the setting and communication of specific operational goals, with a weighted mean of 4.53, also interpreted as Always. These results imply that school canteens give strong attention to menu planning, nutritional compliance, and goal-setting. However, contingency planning for price increases, supply shortages, or equipment failure obtained the lowest mean under planning at 4.00, although still interpreted as Often. This suggests the need to strengthen risk-preparedness systems so that canteens can maintain stable operations during cost changes or supply disruptions.

For organizing, the average weighted mean was 4.15, interpreted as Often. The highest-rated indicators were the observance of clean-to-dirty workflow in workstations and storage areas and the use of a clear organizational chart or authority designation, both with weighted means of 4.37. These findings suggest that canteens generally observe orderly work arrangements and authority structures. However, hygienic attire received the lowest mean at 3.95, while assignment of specialized roles obtained 4.00. Although both were interpreted as Often, these results imply that organizing remains the weakest among the four management dimensions. This may be connected to the limited number of canteen personnel shown in Table 1, where almost all canteens had only one to two personnel. Thus, role specialization, hygiene monitoring, and task delegation may require further improvement.

For budgeting, the average weighted mean was 4.28, interpreted as Often. The highest-rated budgeting indicator was the maintenance of an emergency or revolving fund, with a weighted mean of 4.58, interpreted as Always. This indicates that canteens recognize the importance of having available funds for continuing daily operations. The allocation of canteen profits according to DepEd Order No. 8, s. 2007 and the monitoring of raw ingredient price fluctuations both received weighted means of 4.37, interpreted as Often. These results imply that budgeting practices are generally aligned with accountability, cost monitoring, and policy compliance. However, the zero-



based approach to ingredient procurement had the lowest mean under this dimension at 4.00, suggesting that procurement planning may still be improved through more systematic costing and needs-based purchasing.

For controlling, the average weighted mean was 4.39, interpreted as Often, making it the highest-rated operational management dimension. The strongest indicator was checking daily inventory against sales, with a weighted mean of 4.79, interpreted as Always. Cash flow reconciliation also received a high mean of 4.53, interpreted as Always. These results imply that canteen managers give strong attention to inventory control and cash monitoring, which are essential for preventing losses and maintaining financial accountability. However, the use of customer feedback mechanisms obtained the lowest mean under controlling at 4.16, although still interpreted as Often. This suggests that while internal control practices are strong, feedback-based service improvement may still be strengthened.

The results indicate that the public school canteens often implemented operational management practices, with controlling as the strongest area and organizing as the relatively weakest area. The findings imply that the canteens have functional systems for inventory monitoring, cash reconciliation, menu planning, and budgeting. However, improvements are still needed in personnel organization, hygiene reinforcement, contingency planning, procurement systems, and customer feedback mechanisms. Strengthening these areas may improve the efficiency, accountability, and sustainability of school canteen operations.

Table 3. Operational Challenges Encountered by Public School Canteens

Challenge	WM	Interpretation
Inadequate working capital leads to abrupt changes in a planned menu.	2.74	Sometimes
Failure to prepare alternative menu options affects sales projections or forecasts.	2.42	Rarely
Poor purchasing decisions result in poor food supply choices or food spoilage.	2.43	Rarely
No clear-cut job description of canteen personnel.	2.43	Rarely
Canteen personnel lack food safety and security knowledge.	2.11	Rarely
Improper delegation of work assignments occurs when the canteen manager is absent.	2.09	Rarely
Mismatch between projected expenditures and actual expenses undermines projected profit.	2.39	Rarely
Non-transparency of financial records occurs in canteen operations.	2.12	Rarely
Inadequate funding results in supply shortages during price increases.	2.39	Rarely
Lack of documentation policies results in negligence and complacency.	2.30	Rarely
Lack of customer feedback prevents detection of poor employee performance.	2.61	Sometimes
Improper reconciliation of financial statements leads to untracked business loss.	2.53	Sometimes
Overall mean	2.39	Rarely

Table 3 presents the operational challenges encountered by public elementary and secondary school canteens in Rosario, La Union. The overall mean was 2.39, interpreted as Rarely, indicating that the listed operational challenges were generally not frequently experienced by the school canteens. This suggests that the canteens had basic systems in place for managing daily operations, financial records, personnel tasks, food service, and compliance requirements.

Among the indicators, inadequate working capital leading to abrupt changes in a planned menu obtained the highest weighted mean of 2.74, interpreted as Sometimes. This means that limited available funds occasionally

affected menu implementation. The result implies that working capital remains a critical operational concern because insufficient funds may limit procurement, reduce menu consistency, and affect the canteen’s ability to respond to price increases or supply shortages.

The second challenge rated as Sometimes was the lack of customer feedback, with a weighted mean of 2.61. This indicates that some canteens may not have a regular mechanism for gathering feedback from learners, teachers, or other customers. The implication is that service-related problems, food preferences, customer satisfaction concerns, or personnel performance issues may not be detected promptly. Establishing simple feedback systems, such as suggestion boxes, short feedback forms, or periodic consultations, may help improve service quality and accountability.

Improper reconciliation of financial statements also received a weighted mean of 2.53, interpreted as Sometimes. This suggests that some canteens occasionally experience difficulty in matching sales, expenses, receipts, inventory records, and cash balances. The implication is that weak reconciliation practices may lead to inaccurate financial reports, untracked losses, or reduced transparency in canteen operations. This finding supports the need to institutionalize daily or regular financial reconciliation procedures.

The remaining challenges were interpreted as Rarely. These included failure to prepare alternative menu options, poor purchasing decisions, lack of clear job descriptions, insufficient food safety and security knowledge, improper delegation of work assignments, mismatch between projected and actual expenses, non-transparency of financial records, inadequate funding during price increases, and lack of documentation policies. These results suggest that although these issues were not frequently encountered, they should still be monitored because they may affect operational efficiency, compliance, and sustainability if left unaddressed.

Overall, Table 3 shows that the public school canteens rarely encountered major operational challenges. However, working capital limitations, weak customer feedback mechanisms, and improper financial reconciliation emerged as the most notable concerns. These findings imply that the proposed action plan should prioritize financial planning, feedback collection, and record reconciliation to strengthen the accountability, responsiveness, and sustainability of school canteen operations.

Table 4. Relationship Between Canteen Profile and Operational Management Practices

Profile variable	Planning r (p)	Organizing r (p)	Budgeting r (p)	Controlling r (p)
Type of school	0.163 (.504)	0.086 (.727)	-0.175 (.474)	0.108 (.660)
Years of operation	-0.136 (.580)	-0.051 (.836)	-0.115 (.639)	-0.098 (.691)
Number of personnel	-0.033 (.894)	-0.323 (.178)	0.199 (.413)	-0.119 (.628)
Capitalization	0.083 (.737)	-0.312 (.193)	-0.165 (.500)	-0.219 (.367)
Daily average sales	0.089 (.718)	-0.175 (.473)	-0.095 (.698)	-0.300 (.212)
Daily average operational expenses	-.514* (.024)	-0.242 (.319)	-0.202 (.408)	-0.101 (.682)

Note. * Significant at the 0.05 level, two-tailed.

Table 4 presents the relationship between canteen profile variables and the operational management practices of public elementary and secondary school canteens in Rosario, La Union in terms of planning, organizing, budgeting, and controlling. The results show that most profile variables had no significant relationship with the four

dimensions of operational management practices, as indicated by p-values greater than the 0.05 level of significance.

For type of school, the correlation coefficients with planning, organizing, budgeting, and controlling were all weak and not statistically significant. This means that whether the canteen belonged to an elementary or secondary school was not significantly associated with the level of operational management practices. The implication is that both elementary and secondary school canteens may implement similar management practices regardless of school level.

Years of operation also showed no significant relationship with any of the operational management dimensions. This suggests that longer canteen operation did not necessarily result in stronger planning, organizing, budgeting, or controlling practices. The result implies that operational quality may depend less on the length of operation and more on the presence of clear systems, training, supervision, and consistent implementation of canteen policies.

The number of personnel was likewise not significantly related to planning, organizing, budgeting, or controlling. Although the relationship with organizing was negative and moderate in direction, it was not statistically significant. This indicates that having more personnel did not automatically lead to better organization of canteen operations. The implication is that role clarity, task assignment, and personnel supervision may be more important than the number of personnel alone.

Capitalization and daily average sales also showed no significant relationship with the operational management practices. This means that higher capitalization or higher sales did not necessarily correspond to better planning, organizing, budgeting, or controlling. The implication is that financial resources and sales performance must be supported by sound management procedures to contribute meaningfully to operational efficiency.

The only statistically significant relationship was found between daily average operational expenses and planning, with $r = -.514$ and $p = .024$. This indicates a moderate negative and significant relationship. Since the relationship is negative, canteens with higher daily operational expenses tended to report lower planning scores. This suggests that increased expenses may place pressure on canteen planning, particularly in relation to menu preparation, procurement scheduling, financial projection, and contingency planning.

The null hypothesis was retained for all relationships except the relationship between daily average operational expenses and planning. This finding implies that most profile variables did not significantly influence operational management practices. However, operational expenses require closer attention because they appear to affect planning. Therefore, school heads and canteen managers should strengthen expense monitoring, procurement planning, price tracking, and contingency budgeting to prevent rising operational costs from weakening canteen planning processes.

Table 5. Proposed Action Plan for Improving Public School Canteen Operations

Objective	Basis	Strategy	Persons involved	Time frame	Expected output
Improve financial planning and working capital	Inadequate working capital sometimes caused abrupt menu changes.	Prepare a quarterly budget and procurement plan. Monitor inventory and daily sales. Encourage	School head, canteen manager, treasurer, canteen committee	Quarterly	Stable menu implementation

Objective	Basis	Strategy	Persons involved	Time frame	Expected output
adequacy.		school-community support when allowed.			
Improve customer satisfaction and staff accountability.	Customer feedback mechanisms were sometimes inadequate.	Install suggestion boxes or QR-based feedback forms. Conduct monthly feedback review meetings.	School head, canteen personnel, learner government, PTA	Monthly	Improved service feedback and accountability
Strengthen financial accountability and transparency.	Improper reconciliation of financial statements was sometimes encountered.	Reconcile daily sales, receipts, cash count, and inventory reports. Assign responsible bookkeeping personnel.	School head, treasurer, canteen manager, audit committee	Monthly	More accurate financial records
Minimize operational risks and financial losses.	Planning had a significant negative relationship with operational expenses.	Develop an operational risk plan covering demand forecasting, inventory control, expense monitoring, and emergency fund allocation.	School head, canteen committee, treasurer	Start of school year and periodic review	Reduced operational losses

Table 5 presents the proposed action plan for improving the operational management of public school canteens in Rosario, La Union. The action plan was developed based on the major findings of the study, particularly the operational challenges identified in Table 3 and the significant relationship found in Table 4 between daily average operational expenses and planning.

The first objective focuses on improving financial planning and working capital adequacy. This is based on the finding that inadequate working capital sometimes caused abrupt changes in the planned menu. The proposed strategy is to prepare a quarterly budget and procurement plan, monitor inventory and daily sales, and encourage school-community support when allowed. This implies that canteens need more systematic financial preparation to ensure stable menu implementation, prevent sudden menu changes, and sustain daily operations despite limited capitalization.

The second objective aims to improve customer satisfaction and staff accountability. This responds to the finding that customer feedback mechanisms were sometimes inadequate. The proposed strategies include installing suggestion boxes or QR-based feedback forms and conducting monthly feedback review meetings. This implies that feedback from learners, teachers, and other canteen customers can help identify service concerns, food preferences, and personnel-related issues. A regular feedback system may also improve transparency, responsiveness, and service quality.

The third objective seeks to strengthen financial accountability and transparency. This is based on the finding that improper reconciliation of financial statements was sometimes encountered. The action plan recommends reconciling daily sales, receipts, cash counts, and inventory reports, as well as assigning responsible bookkeeping



personnel. This implies that accurate and regular financial reconciliation is necessary to prevent untracked losses, improve financial reporting, and support transparent canteen operations.

The fourth objective focuses on minimizing operational risks and financial losses. This is directly linked to the finding that planning had a significant negative relationship with operational expenses. The proposed strategy is to develop an operational risk plan covering demand forecasting, inventory control, expense monitoring, and emergency fund allocation. This implies that canteens should not limit planning to menu preparation alone. Planning should also include financial risk management, price monitoring, and contingency measures to reduce operational losses.

Overall, Table 5 provides a practical and findings-based action plan. It prioritizes working capital management, customer feedback, financial reconciliation, and operational risk planning. These areas are important because they directly address the weaknesses and concerns identified in the study. If properly implemented, the action plan may help public school canteens improve menu stability, financial accountability, service responsiveness, and sustainable daily operations.

5. Discussion

The findings indicate that the public elementary and secondary school canteens in Rosario, La Union operated as small-scale, school-based food service units. Most canteens were located in public elementary schools, had been operating for one to three years, employed only one to two personnel, maintained capitalization below Php10,000, generated moderate daily sales, and had daily operational expenses below Php1,000. These results suggest that the canteens functioned under limited human and financial resources. Such conditions have direct implications for operational management because small canteens must maintain food service, inventory monitoring, sanitation, financial recording, and compliance work despite restricted staffing and capitalization.

The overall result for operational management practices showed that planning, organizing, budgeting, and controlling were often implemented. This indicates that the canteens had functional management systems for routine operations. Among the four dimensions, controlling obtained the highest mean. This suggests that canteen managers gave strong attention to daily inventory checking, cash flow reconciliation, food quality checking, and sanitary monitoring. These practices are important because school canteens are not only income-generating units but also part of the school food environment where nutrition, learner welfare, food safety, and accountability must be maintained. This result is consistent with DepEd Order No. 8, s. 2007, which emphasizes transparent accounting, proper operation, and service-oriented canteen management, and DepEd Order No. 13, s. 2017, which requires healthier and more appropriate food and beverage choices in schools.

Planning also received a high rating, particularly in menu planning and communication of operational goals. This implies that canteen managers generally plan menus and align food offerings with nutritional standards. However, contingency planning for price increases, supply shortages, or equipment failure obtained the lowest mean under planning. This suggests that while routine planning is practiced, risk-based planning may still be strengthened. This is important because limited capitalization and fluctuating supply costs may affect menu stability, procurement decisions, and daily food availability.

Organizing had the lowest average mean among the four dimensions, although it was still interpreted as Often. This finding may be explained by the profile of the canteens, where almost all had only one to two personnel. With limited manpower, specialized role assignment becomes difficult because the same personnel may perform several





tasks, such as food preparation, selling, cleaning, inventory recording, and cash handling. This implies that improving organization does not necessarily require additional personnel alone; it may also require clearer task designation, simple workflow guides, sanitation routines, and backup arrangements when the canteen manager or assigned personnel are unavailable.

Budgeting was also often implemented, with the highest rating given to the maintenance of an emergency or revolving fund. This suggests that canteen managers recognize the need for financial readiness in sustaining daily operations. However, the relatively lower rating for zero-based ingredient procurement indicates that purchasing decisions may still be improved through more systematic costing, demand forecasting, and needs-based procurement. Given that most canteens operated with capitalization below Php10,000, budgeting practices should focus on maximizing limited funds while maintaining menu quality, affordability, and policy compliance.

The operational challenges were generally rarely encountered, as shown by the overall mean. This suggests that the canteens did not frequently experience major disruptions in staffing, purchasing, documentation, food safety, and transparency. However, three concerns were rated as Sometimes: inadequate working capital, lack of customer feedback, and improper reconciliation of financial statements. These concerns are operationally significant because they directly affect menu continuity, service improvement, and financial accountability. Inadequate working capital may cause abrupt menu changes and limit purchasing flexibility. Weak customer feedback mechanisms may prevent the early identification of food quality, service, or personnel concerns. Improper financial reconciliation may result in inaccurate records, untracked losses, and reduced transparency.

The correlation results further show that most canteen profile variables were not significantly related to operational management practices. Type of school, years of operation, number of personnel, capitalization, and daily average sales did not significantly influence planning, organizing, budgeting, or controlling. This suggests that operational management practices may depend more on the presence of clear procedures, supervision, training, and compliance systems than on profile characteristics alone. In other words, being an elementary or secondary canteen, having operated longer, or having higher sales does not automatically result in better management practices.

The only significant relationship found was between daily average operational expenses and planning. The relationship was moderate, negative, and statistically significant. This means that canteens with higher daily operational expenses tended to report lower planning scores. This finding implies that increasing expenses may weaken planning when canteens respond reactively to daily cost pressures rather than following stable procurement, budgeting, and menu plans. This result highlights the importance of integrating expense monitoring into the planning process. Planning should not be limited to menu preparation; it should also include price monitoring, demand forecasting, procurement scheduling, emergency fund allocation, and contingency planning.

Overall, the discussion shows that public school canteens in Rosario, La Union are generally functional and compliant in their operational management practices. However, their limited capitalization, small staffing patterns, and occasional weaknesses in feedback and financial reconciliation require practical and low-cost interventions. The proposed action plan is therefore appropriate because it directly responds to the findings by focusing on working capital management, customer feedback systems, financial reconciliation, and operational risk planning. Strengthening these areas may improve canteen sustainability, accountability, service quality, and compliance with school canteen standards.

6. Conclusion and Recommendations





Based on the findings, the public elementary and secondary school canteens in Rosario, La Union were generally small-scale operations with limited personnel, modest capitalization, moderate daily sales, and low daily operational expenses. Their operational management practices were often implemented in terms of planning, organizing, budgeting, and controlling, with controlling emerging as the strongest area and organizing as the relatively weakest area. Operational challenges were rarely encountered overall; however, inadequate working capital, weak customer feedback mechanisms, and improper financial reconciliation were identified as concerns that occasionally affected canteen operations. The correlation results further showed that most canteen profile variables were not significantly related to operational management practices, except for daily average operational expenses, which had a significant negative relationship with planning. This indicates that higher operational expenses may weaken planning when cost monitoring, procurement scheduling, and contingency measures are not sufficiently strengthened.

It is recommended that school heads, canteen managers, treasurers, and canteen committees strengthen quarterly budgeting, menu planning, procurement scheduling, and working capital monitoring to ensure stable canteen operations. Public school canteens should also establish simple and regular customer feedback mechanisms, such as suggestion boxes, QR-based forms, or monthly feedback reviews, to improve service responsiveness and staff accountability. Financial reconciliation should be institutionalized through the regular matching of sales, receipts, inventory records, cash counts, and expense reports to improve transparency and prevent untracked losses. In addition, schools should prepare an operational risk plan covering price increases, supply shortages, inventory control, staffing gaps, and emergency fund allocation. Future researchers may conduct a wider study involving other districts or divisions and may include school heads, teachers, learners, parents, and canteen committee members to generate a broader assessment of school canteen operations.

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Irene S. Cinense: Conceptualization, Methodology, Data Collection, Formal Analysis, Writing - Original Draft, and Project Administration. The final version of the manuscript should be reviewed and approved by the author before submission.

Ethical Statement

Informed consent was obtained from the respondents before data collection. The confidentiality and anonymity of the participants were maintained throughout the study. The research complied with applicable ethical and data protection standards.

Declaration of Competing Interest

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