JIPOWER JOURNAL OF INTELLECTUAL POWER
E-ISSN : 3048-3646

THE EFFECT OF EMPLOYEE WORK MOTIVATION AND LEADERSHIP SUPERVISION ON THE QUALITY OF NUTRITION SERVICES AT XYZ NUTRITION SERVICE AND FULFILLMENT UNIT

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ABSTRACT

This study examines the effects of employee work motivation and leadership supervision on the quality of nutrition services at the XYZ Nutrition Service and Fulfillment Unit (Satuan Pelayanan Pemenuhan Gizi/SPPG), which operates within Indonesia's Free Nutritious Meals (Makan Bergizi Gratis/MBG) program. A quantitative cross-sectional survey was conducted using a census of 47 personnel consisting of employees and volunteers. Primary data were collected through a self-administered questionnaire and analyzed using descriptive statistics, classical assumption testing, multiple linear regression, partial t-tests, and a simultaneous F-test with JASP. Work motivation was measured through intrinsic and extrinsic motivation, leadership supervision through proactive, knowledgeable, supportive, and perseverant leadership dimensions, and nutrition service quality through the SERVQUAL dimensions of tangibles, reliability, responsiveness, assurance, and empathy. Descriptively, work motivation reached 89.10%, leadership supervision 86.66%, and nutrition service quality 87.13%, all categorized as very high in the source study. The inferential results reported significant positive partial effects of work motivation and leadership supervision on nutrition service quality, with leadership supervision showing the stronger statistical contribution. The simultaneous model also indicated a significant joint effect, and the study reported that the predictors explained 63.4% of variation in service quality. These findings underline the importance of supportive, proactive, and technically informed supervision alongside strong employee motivation in sustaining the operational quality of nutrition services.

Keywords: work motivation; leadership supervision; nutrition service quality; SPPG; SERVQUAL; Free Nutritious Meals

A. INTRODUCTION

Human resources are a strategic asset in service organizations because service quality depends not only on systems and facilities but also on the competence, motivation, discipline, and coordination of the people who deliver the service. In public-service settings, this issue becomes especially important because organizational success is reflected in the quality experienced by beneficiaries. Nutrition services are among the public services that require consistent standards, reliable operations, and close coordination because they directly affect basic community needs.

Indonesia's Free Nutritious Meals (MBG) program places strong operational demands on Nutrition Service and Fulfillment Units (SPPG). The service process involves daily food preparation and distribution, standardized menus and portions, quality control, documentation, monitoring, and coordination among employees and volunteers. These operational characteristics make human resource management, employee motivation, and leadership supervision highly relevant to the sustainability of service quality.

Work motivation can influence the willingness of personnel to maintain effort, responsibility, and commitment. Intrinsic motivation relates to the meaningfulness and attractiveness of the work itself, while extrinsic motivation is associated with recognition, incentives, and organizational rewards (Kuvaas et al., 2017). In parallel, leadership supervision ensures that operational procedures are followed while also providing guidance, support, feedback, and problem solving. Effective supervision is therefore not limited to administrative control; it also functions as mentoring, coaching, and capacity development (Glickman et al., 2017; Seto et al., 2023).

Based on these considerations, this study analyzes the partial and simultaneous effects of employee work motivation and leadership supervision on the quality of nutrition services at XYZ SPPG. The study also describes the levels of motivation, supervision, and service quality perceived by the personnel involved in daily operations.

B. LITERATURE REVIEW

Human resource management is a strategic and coherent approach to managing people who individually and collectively contribute to organizational objectives (Armstrong & Taylor, 2023). In an operational service unit such as SPPG, human resource management is closely connected with the ability to maintain procedures, coordinate tasks, respond to changing demands, and sustain service standards. The Job Demands-Resources perspective also suggests that increasing work demands need to be balanced by adequate resources and organizational support in order to protect service outcomes (Bakker & Demerouti, 2017).

Work motivation in this study consists of intrinsic and extrinsic dimensions. Intrinsic motivation refers to motivation generated by the work itself, including perceived meaning and interest in the work. Extrinsic motivation concerns the effect of recognition, incentives, compensation, and other organizational rewards. Kuvaas et al. (2017) emphasize that intrinsic and extrinsic motivation may relate differently to employee outcomes, but both remain relevant for understanding effort and performance in organizational settings.

Leadership supervision is operationalized through leadership behavior in directing, guiding, supporting, and sustaining personnel performance. The study draws on the Implementation Leadership Scale framework of Aarons et al. (2016), covering proactive, knowledgeable, supportive, and perseverant leadership. In the SPPG context, these dimensions are reflected in planning, problem solving, setting standards, technical understanding, giving appropriate direction, recognizing contributions, supporting skill development, and maintaining persistence when operational challenges emerge.

Nutrition service quality is assessed using the SERVQUAL framework, which includes tangibles, reliability, responsiveness, assurance, and empathy. In this study, tangibles refer to the adequacy of facilities, transportation, and

equipment; reliability concerns timeliness, competence, and compliance with procedures; responsiveness refers to speed and willingness to help; assurance concerns professionalism, safety, and knowledge; and empathy refers to attentiveness toward team and beneficiary needs. The instrument follows the service-quality dimensions applied by Pekkaya et al. (2017).

C. METHOD

The study used a quantitative explanatory design with a cross-sectional survey. Data were collected at one point in time without intervention. The population consisted of all 47 personnel working in nutrition-service operations at XYZ SPPG. Because the population was fewer than 100 persons, the study used saturated sampling (census), so all personnel were included as respondents. The source document describes the participants as employees and volunteers, including nutrition, accounting, supervisory, production, preparation, portioning, cleaning, distribution, packaging, maintenance, HSE/security, and related operational roles.

The independent variables were employee work motivation (X1) and leadership supervision (X2), while nutrition service quality (Y) was the dependent variable. Work motivation was measured through intrinsic and extrinsic motivation. Leadership supervision was measured through proactive, knowledgeable, supportive, and perseverant leadership. Nutrition service quality was measured through the five SERVQUAL dimensions. Responses used a Likert scale. Data processing included editing, coding, tabulation, validity and reliability testing, descriptive analysis, classical assumption testing, multiple linear regression, partial t-tests, and a simultaneous F-test using JASP. The significance level was 5% (alpha = 0.05).

Table 1. Operationalization of the main variables

Variable	Dimensions	Main indicators
Work Motivation (X1)	Intrinsic; Extrinsic	Meaningfulness and interest in work; recognition; incentives; compensation and rewards
Leadership Supervision (X2)	Proactive; Knowledgeable; Supportive; Perseverant	Planning; problem solving; work standards; technical understanding; direction; appreciation; support; persistence
Nutrition Service Quality (Y)	Tangibles; Reliability; Responsiveness; Assurance; Empathy	Facilities and equipment; timeliness and procedures; speed and willingness to help; professionalism and safety; concern for team and beneficiary needs

D. RESULTS AND DISCUSSION

The 47 respondents represented a broad range of operational positions. The largest groups were the dishwashing team (25.5%), portioning team (19.1%), preparation team (14.9%), and distribution team (10.6%). Other respondents

represented cooking, quality and production supervision, food procurement, delivery supervision, maintenance, processing, cleaning, packaging, and HSE/security roles. This distribution indicates that the survey captured personnel involved in multiple stages of the daily nutrition-service process.

Table 2. Respondent distribution by selected operational position

Position/Division	n	%
Production & Quality Supervisor / Nutritionist	1	2.1
Food Procurement Supervisor / Accountant	1	2.1
Cook	1	2.1
Delivery Supervisor	1	2.1
Maintenance Supervisor	1	2.1
Preparation Team	7	14.9
Processing Team	4	8.5
Portioning Team	8	19.1
Dishwashing Team	12	25.5
Distribution Team	5	10.6
Cleaning Team	3	6.4
Packaging Team	1	2.1
HSE & Security Team	2	4.3

The descriptive results show consistently high perceptions across all three study variables. Intrinsic motivation reached 88.65% and extrinsic motivation 89.54%, producing an overall work-motivation score of 89.10%. Leadership supervision obtained an overall score of 86.66%; among its dimensions, supportive leadership was the highest at 87.77%. Nutrition service quality reached 87.13%, with reliability and assurance both at 88.30%. Under the continuum categories used in the source study, all of these scores were classified as very high.

Table 3. Summary of descriptive results

Variable / Dimension	Percentage	Category
Intrinsic Motivation	88.65%	Very High
Extrinsic Motivation	89.54%	Very High
Overall Work Motivation (X1)	89.10%	Very High
Proactive Leadership	85.99%	Very High
Knowledgeable Leadership	86.88%	Very High
Supportive Leadership	87.77%	Very High
Perseverant Leadership	85.99%	Very High
Overall Leadership Supervision (X2)	86.66%	Very High
Tangibles	84.93%	Very High
Reliability	88.30%	Very High
Responsiveness	87.41%	Very High
Assurance	88.30%	Very High
Empathy	86.70%	Very High
Overall Nutrition Service Quality (Y)	87.13%	Very High

The partial hypothesis tests reported that both work motivation and leadership supervision had positive and statistically significant effects on nutrition service quality. For work motivation, the source reports a positive regression coefficient and a t-value of 6.560 with $p < 0.001$. For leadership supervision, the reported t-value was 8.078 with $p < 0.001$. The larger t-value for leadership supervision indicates that, within the source study's reported results, supervision provided the stronger partial statistical contribution to service quality. This finding supports the practical importance of direct leadership behavior in a service environment that requires daily coordination, standard compliance, and rapid problem solving.

The simultaneous F-test also reported a statistically significant joint effect of the predictors on nutrition service quality ($F = 24.84$; $p < 0.001$). The study conclusion reports a simultaneous contribution of 63.4%. Taken together, the results suggest that high-quality nutrition service is associated not only with personnel who are internally and externally motivated, but also with leadership that plans proactively, understands operational work, provides support, and remains persistent when problems arise.

Table 4. Main inferential findings reported in the source study

Test / Relationship	Reported statistic	Significance	Interpretation
Work Motivation -> Nutrition Service Quality	t = 6.560	p < 0.001	Positive and significant partial effect
Leadership Supervision -> Nutrition Service Quality	t = 8.078	p < 0.001	Positive and significant partial effect; stronger partial contribution
Simultaneous model	F = 24.84	p < 0.001	Predictors jointly affect nutrition service quality
Model contribution	63.4%	Reported in conclusion	Substantial proportion of service-quality variation explained by the study model

The descriptive patterns help explain the inferential findings. Personnel reported that their work was meaningful and socially beneficial, and they also valued recognition, incentives, and better compensation. At the leadership level, respondents perceived clear planning, relevant technical understanding, appropriate direction, appreciation, skill-development support, and persistence in solving operational problems. These conditions are important in a nutrition-service unit because food preparation and distribution involve tightly connected tasks, and weaknesses in one stage may affect the timeliness and quality of the entire service process.

The findings also align conceptually with the Implementation Leadership Scale perspective (Aarons et al., 2016). Proactive leadership can reduce uncertainty by clarifying plans and standards; knowledgeable leadership helps personnel obtain timely operational guidance; supportive leadership strengthens confidence and skill development; and perseverant leadership helps maintain service continuity during difficulties. In the source study, supportive leadership received the highest descriptive score among the leadership dimensions, suggesting that recognition and practical support were especially visible to respondents.

From a service-quality perspective, reliability and assurance were the strongest dimensions. This reflects high perceived compliance with schedules and procedures as well as confidence, professionalism, and knowledge in carrying out nutrition-service tasks. Tangibles recorded the lowest score among the SERVQUAL dimensions, although it remained in the very-high category. This pattern implies that facilities, transportation, and modern equipment remain areas where operational improvements could further reinforce overall service quality.

E. CONCLUSION AND RECOMMENDATION

This study concludes that employee work motivation and leadership supervision are positively associated with the quality of nutrition services at XYZ SPPG. Both variables were reported to have significant partial effects, while the simultaneous model was also significant. Leadership supervision showed the stronger partial statistical contribution. Descriptively, work motivation, leadership supervision, and nutrition service quality were all rated very high by respondents. The study therefore emphasizes that sustaining nutrition-service quality requires both motivated personnel and leadership capable of providing clear direction, technical support, recognition, problem solving, and consistent supervision.

Managerially, SPPG leadership is recommended to move beyond purely administrative supervision toward more supportive and empowering leadership. Regular leadership development should strengthen delegation, coaching, feedback, recognition, and staff autonomy while maintaining clear operational standards. The study also recommends that future research examine mediating variables such as psychological empowerment and organizational commitment and use more advanced structural models. Because the design is cross-sectional, future longitudinal or multi-site studies may help explain how motivation, supervision, and service quality evolve over time and across different SPPG units.

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