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Food Cost Variance Analysis

(Case Study of Novotel Karawang)

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Abstract. *This study researched the food cost variance at Novotel Karawang from July to December 2024 in order to evaluate the effectiveness of food cost management. The study centered on the five top-selling menus by analyzing the actual costs in comparison with standard costs, with a specific focus on the price, quantity, also both joint price and quantity variations. The methodology chosen was quantitative descriptive, leveraging secondary data from the hotel's finance and accounting department. The results showed that actual costs were consistently higher than standard costs, with four out of the five menus showing unfavorable overall variances. Unfavorable prices variations caused on by fluctuating market prices and unfavorable quantity variances caused on by inefficient raw material use were the main causes. Nonetheless, one menu showed a positive overall variance, indicating the possibility of efficient cost management. The research results suggest that in order to reduce cost inefficiencies, Novotel Karawang's management ought to prioritize continuous supervision of purchasing strategies and operational processes top priority. A useful methodology for locating and resolving food cost variations in the hospitality sector is offered by this study.*

Keywords: *Cost Control; Food Cost; Hospitality; Hotel Management; Variance Analysis.*

1. INTRODUCTION

The hospitality industry in Indonesia is currently faced with the demand to provide high-quality services at competitive prices, to compete effectively amidst market dynamics. To respond to these demands, hotel management needs to formulate adaptive business strategies, prioritizing the provision of facilities and services that not only meet desires but also accommodate the essential needs of guests, one of which is through the optimization of Food & Beverage (F&B) services to maintain quality and relevance with contemporary market trends (Sakawati, 2015).

In many countries, the presence of full-service restaurants is a mandatory element in the hotel categorization process. Nevertheless, the general view often places F&B services as merely supplementary elements compared to the main operations of room accommodations (Mun et al., 2021). This attitude arises because, in many cases, the F&B sector has not yet made a significant overall contribution compared to the room sector. Until now, many guests tend to consider hotel F&B services less relevant, especially due to the high restaurant prices. Additionally, the perception that guests do not prioritize F&B when booking accommodations is often caused by the view that F&B services are something that is already expected to be available (Albayrak & Caber, 2015). This factor is exacerbated by the abundance of alternative traditional restaurants that are often located near the hotel. Furthermore, several studies show that F&B is rated relatively low compared to other criteria, such as room cleanliness, location,

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and price, when guests make purchasing decisions. As a result, many hotels began to shift their focus to the room sector and adopt a buffet-style food service format because it has much lower operational costs. This phenomenon even prompted several hotel brands, two decades ago, to stop investing in the F&B sector and strategically relocate facilities or build new independent restaurants (Hemmington & King, 2000).

However, recent changes in the global market indicate a significant shift regarding the importance of the F&B position in the hospitality industry. Although the general view of previous studies often implies that F&B is merely an accessory and less significant (Mun et al., 2021), the data shows a contrasting picture. Analysis of the financial reports of international tourist hotels released by the Taiwan Tourism Bureau for the years 1996–2008, for example, revealed that nearly 60% of hotels significantly recorded and relied on their highest revenue from F&B services. Thus, F&B is no longer just an ancillary service, but rather a substantial revenue contributor and a crucial strategic pillar for the sustainability of hotel businesses (Kim & Lin, 2024). The crucial position of F&B is further confirmed by evidence showing that the true value of F&B can only be seen when the service is absent. This is evidenced by a study on the operational performance of hotels with and without F&B services in New York and California, which clearly shows that full-service hotels perform significantly better than limited-service hotels (Mun et al., 2019). Furthermore, in luxury hotels, the quality of F&B and service has a significant impact on customer loyalty. Guests who are satisfied with the food and beverage experience at the hotel tend to be more generous and show a greater willingness to stay again at the same hotel, even if they choose another restaurant within the hotel (Han & Hyun, 2017). However, it is important to note that the results of previous studies may imply varying outcomes, depending on the size, type of hotel service, and guest market segment.

To ensure optimal financial performance and consider the strategic role and significant contribution of F&B revenue, good cost management becomes a crucial aspect that directly affects operational sustainability. Various management functions, especially planning and control, are essential, particularly in the production process of high-quality food and beverages that meet hospitality standards. Planning involves preparing for all activities that will be carried out in the future, ensuring that the production process aligns with expectations. Meanwhile, control functions to identify deviations from the predetermined plan, as well as to avoid uncontrolled and uncoordinated activities (Fauziah & Razak, 2023), thereby ensuring that every expenditure effectively contributes to the formation of the product's cost of goods sold.

Budgeting can be an effective cost control tool as a means of information to communicate planning results at all levels of management (Dwi & Desipradani, 2021; Fauziah & Razak, 2023) The budget not only serves as a representation of formal financial planning but also as a primary control tool, especially for production costs. Through the budget, management sets cost estimates for various future activities, both short-term and long-term, and coordinates activities to achieve the company's goals. The budget allows for the identification and prediction of production process costs, including raw materials, labor, and factory overhead, to avoid excess or shortage of production components, thereby enabling simpler cost performance measurement (Septiani & Herawati, 2020). However, managing volatile production activities in the F&B industry requires a more responsive approach to any sudden changes. For that reason, a flexible budget integrated into the establishment of standard costs is needed, allowing adjustments to varying production volumes without losing control. By implementing this flexible budget, the effectiveness of departmental management performance in the production process can be measured, helping to prevent cost overruns and ensuring profit management aligns with performance forecasts (Dwi & Desipradani, 2021).

Standard cost is an essential benchmark in controlling the production costs of a product, including food products. Fundamentally, standard cost is the amount of cost that should be incurred in operations, which has been predetermined at the outset based on careful calculations, unlike actual cost, which is the total expenditure that has been realized (Willson et al., 1981). To achieve the determined cost targets, management needs to consider using standard measures as benchmarks for monitoring the cost of goods sold to ensure they remain in line with the established standards (Schmidgall, 2004). Thus, standard costs serve as a guideline for actual expenditure costs set in percentage, and if there is a deviation from actual costs, it is the standard costs that are considered the benchmark of truth (Mulyadi, 1990). In the context of food products, the formation of standard cost is supported by the interaction of various specific standard measures, such as recipes, measurements, specifications of food and beverage ingredients, and standard yield (Wiyasha, 2023). These elements are directly related to food cost, which refers to all the costs of food raw materials incurred or used in the production process to prepare or process a single portion of food so that it is ready to be served to guests (Dopson & Hayes, 2016; Douglas, 2009; Suarsana, 2007). Food Cost is one of the main cost components, and in many cases, it becomes the largest or second-largest expense in the F&B department that needs to be managed strictly due to its significant impact on hotel profitability.

Controlling food cost is one of the most important cost aspects that must be closely monitored, as it can limit waste and be key to operational efficiency (Onyeocha et al., 2015). Effective food cost management involves monitoring the consumption of raw materials against established standards. This is intended so that food cost expenditures align with standards to prevent losses (Wijaya & Widhiastuty, 2021) and to enable any deviations to be identified and analyzed for corrective actions.

Hotels generally have a Cost Control responsible for overseeing operational costs to minimize deviations. Furthermore, the cost control department functions to carry out cost control tasks and record the inventory of food and beverage raw materials (Kapidin, 2017). Therefore, to keep cost usage stable, supervision by a cost controller and the role of managers in each related hotel department are necessary. The cost controller, along with the agreement of the general manager, financial controller, and executive chef, establishes the Standard Food Cost as a benchmark to determine the expected profit percentage from the hotel's food menu sales. This standard food cost is agreed upon by considering the food menu sold and the raw materials needed.

However, the reality is that the costs incurred by the hotel often differ from the established standards. Therefore, it is important to observe and investigate the causes of these discrepancies, particularly why the actual costs can exceed the established standards, and how effective food cost control strategies can be implemented.

This research was conducted at Novotel Karawang due to several relevant academic considerations. As a 4-star hotel with a solid reputation on independent review platforms, this hotel serves both business and leisure segments with 172 spacious rooms and strategic access to the industrial area and the center of Karawang City. Novotel Karawang has a dynamic and complex F&B operation, supported by the 'Nuance' restaurant which offers a variety of international to traditional dishes, as well as open service to both hotel guests and the general public. These characteristics indicate a high volume of transactions and menu diversification, which is crucial for providing rich and varied operational data, essential for comprehensive food costing analysis. Therefore, the operational atmosphere, business scale, and credibility of the Novotel Karawang hotel make it an ideal place to analyze food costing management efficiently and empirically identify potential cost discrepancies.

The following is the percentage comparison between the actual and standard food cost at Novotel Karawang for the period of July–December 2024, as shown in Table 1 below.

Table 1. Comparison between Standard and Actual Food Cost at Novotel Karawang July-December 2024.

Month	Net Sales	Standard		Actual		Variance	
		Amount	%	Amount	%	Amount	%
Jul	651,398,662	179,134,632	27.5	184,278,702	28.3	(5,144,070)	(0.8)
Aug	403,831,510	111,053,665	27.5	113,534,992	28.1	(2,481,327)	(0.6)
Sep	443,038,466	121,835,578	27.5	125,786,958	28.4	(3,951,380)	(0.9)
Oct	576,652,987	158,579,571	27.5	162,108,822	28.1	(3,529,251)	(0.6)
Nov	591,063,472	162,542,455	27.5	167,132,226	28.3	(4,589,771)	(0.8)
Dec	894,421,607	245,965,942	27.5	269,801,864	30.2	(23,835,922)	(2.7)
TOTAL	**3,560,406,704**	**979,111,844**		**1,022,643,564**		**(43,531,720)**	**(6.4)**
AVERAGE	**593,401,117**	**163,185,307**	**27.5**	**170,440,594**	**28.6**	**(7,255,287)**	**(1.1)**

Source: Internal Data Novotel Karawang Proceed, 2025.

Based on Table 1, the comparison between standard food cost and actual food cost at Novotel Karawang during the period from July to December 2024 shows a significant difference, both in nominal and percentage terms. The average standard cost set is IDR 163,185,307, but the actual cost incurred reached IDR 1,204,211,496, with a difference of IDR 7,255,287.

Various factors can cause the difference between standard costs and actual costs. Cengiz (2018) states that several factors can cause high food costs, so strict supervision of the purchasing, receiving, storage, and issuing departments is very important. This view is in line with Dittmer (2009), who also explains that errors in the operational aspects of purchasing, receiving, storing, and issuing can impact food costs. Previous research also shows that these factors are closely related to the inventory management cycle, including the stages of purchasing, receiving, storing, and issuing goods (Putra et al., 2022). At the stage of purchasing goods, standardization is necessary in supplier selection, ensuring availability, and negotiating the best price. Furthermore, the receipt of goods becomes crucial, with a focus on quality and quantity that must match the agreed price. The aspect of storing goods involves maintaining temperature, cleanliness, preventing damage, organizing neatly for easy retrieval, and dating to avoid expiration. Finally, the issuance of goods must be based on a detailed form that includes the name, quantity, reason for the request, and approval from the department head.

The management of Novotel Karawang has set the food cost percentage at 27.5%, with an additional tolerance limit of 2.5%. However, the average actual food cost percentage is 28.56%, indicating a difference of 1.06%. Although this difference is below the 2.5% tolerance limit set by management, the discrepancy between the standard and reality still indicates the need for continuous monitoring to identify the causes and take corrective actions to maintain cost efficiency.

This research aims to analyze the food cost variance at Novotel Karawang, focusing on the comparison between actual and standard costs. This study will specifically identify and analyze price variances, quantity variances, and both joint price and quantity variances that occur in the five best-selling menus during the period from July to December 2024. This analysis is expected to provide an in-depth evaluation of the efficiency of food cost control, specifically applicable to the five best-selling menus.

The results of this research are expected to provide significant practical contributions. For the management of Novotel Karawang, these findings can serve as a concrete reference in identifying areas of inefficiency in food cost management, particularly related to price variations and the quantity of raw materials in the best-selling menus. This information is crucial for formulating improvement strategies and making more precise decisions to optimize profitability. For the hospitality industry in general, this research is expected to provide additional insights and comparisons regarding the implementation of food cost variance analysis, as well as enrich the literature on cost management practices in the F&B sector.

2. METHODS

This research uses a descriptive quantitative approach with a case study method at Novotel Karawang. This study focuses on the analysis of food costs during the period from July to December 2024. The sample of this study consists of the five best-selling menus from Novotel Karawang, selected using a purposive sampling technique. This selection is based on the assumption that the best-selling menus represent the main contributors to revenue and raw material usage in the F&B department, so the cost variance analysis on these menus will provide the most relevant picture of efficiency and have the most significant impact on the hotel's profitability. This approach allows for an in-depth and focused evaluation of cost efficiency on the most popular and operationally crucial items.

The data used is secondary, including Cost of Food reports, menu sales data, raw material purchase reports, and standard recipes. This data is obtained from the Finance and Accounting Department, particularly the Cost Control department of Novotel Karawang, through documentation techniques.

Data analysis was conducted using the variance analysis method, which includes the calculation of price variance, quantity variance, and joint variance according to Mulyadi (2015), as follows:

Price Variance (PV)

$$PV = (SP - AP) \times AQ$$

The Price Variance (PV) measures the difference between the Standard Price (SP) that should have been paid and the Actual Price (AP) that was paid for materials. This calculation is then multiplied by the Actual Quantity (AQ) of materials used to show the impact of price changes on the total cost.

Quantity Variance (QV)

$$QV = (SQ - AQ) \times SP$$

The Quantity Variance (QV) measures the difference between the Standard Quantity (SQ) of materials that should have been used and the Actual Quantity (AQ) that was consumed in production. The resulting quantity difference is then multiplied by the Standard Price (SP) per unit of material to demonstrate the impact of efficiency or inefficiency in material usage on the total cost.

Joint Price-Quantity Variance (PQV)

$$PQV = (SP - AP) \times (SQ - AQ)$$

The Joint Price-Quantity Variance measures the interaction between changes in both material price and quantity. This shows the combined impact when the actual price differs from the standard price, and at the same time, the actual quantity also differs from the standard quantity. This variance is crucial for understanding the total effect of deviations from both factors.

The results of the analysis will then be described in the form of tables and narratives to evaluate the efficiency of food cost control for the five menus.

3. RESULT AND DISCUSSION

To determine the nature of the food cost variance that occurred from July to December 2024, which was analyzed by comparing and reconciling the cost of food reports between standard costs and actual costs. From this comparison, the components causing the variance between actual food cost and the established standard food cost can be identified. The cost comparison between standard costs and actual costs from July to December 2024 was conducted using Mulyadi's variance analysis formula with the 3-variance model, and the actual raw material cost calculation conditions for the 5 best-selling menus at Novotel Karawang were presented using variance analysis theory.

The analysis of the five best-selling menus at Novotel Karawang from July to December 2024 reveals varying trends in cost control efficiency, as summarized in Table 2. Broadly, the majority of the menus experienced an unfavorable total variance, indicating that actual operational costs exceeded the established standards. However, a unique finding was observed in the Nuance Special Fried Rice, which stood out as the only menu with a positive financial performance.

Table 2. 5 Best Selling Menu at Novotel Karawang's Variance Analysis.

No	Menu	Price Variance (PV) IDR	Quantity Variance (QV) IDR	Joint Price-Quantity Variance (PQV) IDR	Total Variances IDR
1	Oxtail Fried Rice	238,254.00	(782,939.00)	(17,746.00)	(562,431.00)
2	Nuance Special Fried Rice	1,317,000.00	(428,575.00)	(59,621.00)	828,804.00
3	Beef Rib Soup	(4,296,740.00)	(970,603.00)	(177,327.00)	(5,444,670.00)
4	Caesar Salad	(221,697.00)	(258,769.00)	(29,246.00)	(509,712.00)
5	Nuance Beef Burger	(1,039,100.00)	(279,456.00)	(43,025.00)	(1,361,581.00)

Source: Internal Data Novotel Karawang Proceed, 2025.

The Only Favorable Menu, Nuance Special Fried Rice

According to Table 3, the comparison between standard and actual costs for this menu shows a favorable variance of IDR 828,804. This success was driven by a sales volume of 746 portions, which exceeded the standard target of 710 portions. Furthermore, the actual cost per portion of IDR 11,865 proved to be lower than the standard budget of IDR 13,630, resulting in a cost efficiency per portion of IDR 1,765.

Table 3. Comparison of Standard (Targeted) & Actual Costs per Portion for Nuance Special Fried Rice.

	Portions Sold	Cost Per Portion IDR	Total Cost IDR
Standard (Target)	710	13,630	9,680,094
Actual	746	11,865	8,851,290
Variance	-36	1,765	828,804

Source: Internal Data Novotel Karawang Proceed, 2025

A further examination of the price variance in Table 4 shows that this menu recorded a favorable price variance of IDR 1,317,000. This was achieved by successfully maintaining actual purchase prices below the standard for several key ingredients, such as Chicken, which had a positive price variance of IDR 1,413.61 per portion, and Garlic at IDR 343.83 per portion. Although some ingredients like White Pepper Powder experienced price hikes, the efficiency gained from primary protein sources was sufficient to offset these increases.

Table 4. Nuance Special Fried Rice Price Variance.

No.	Ingredients	Std Price (SP) IDR	Actual Price (AP) IDR	SP - AP (1 - 2) IDR	Std Quantity (SQ) Kg	Variance (SP-AP) x SQ IDR
		1	2	3	4	3x4
1	White Rice	7,719.30	7,375.47	343.83	0.25000	85.96
2	Garlic	42,000.00	43,294.03	(1,294.03)	0.00200	(2.59)
3	Red Powder 100gr	4,500.00	6,000.00	(1,500.00)	0.00200	(30.00)
4	Egg Chicken	32,000.00	29,859.11	2,140.89	0.12000	256.91
5	Sweet Soy Sauce 6L	144,300.00	154,400.00	(10,100.00)	0.00600	(10.10)
6	Red Chili	65,000.00	41,493.92	23,506.08	0.00050	11.75
7	Leek	18,000.00	23,657.88	(5,657.88)	0.00010	(0.57)
8	Chicken	43,000.00	33,575.92	9,424.08	0.15000	1,413.61
9	Salt 500g	11,000.00	10,394.08	605.92	0.00100	0.61
10	Knorr Chicken	88,300.00	73,552.32	14,747.68	0.00500	73.74
11	White Pepper Powder	95,000.00	146,805.56	(51,805.56)	0.00100	(51.81)
12	Red Tomato	12,000.00	13,208.58	(1,208.58)	0.00500	(6.04)
13	Kyuri	15,000.00	20,169.54	(5,169.54)	0.00300	(15.51)
14	Lettuce Green Curly	25,000.00	24,698.27	301.73	0.00100	0.30
15	Pickle	22,000.00	20,170.00	1,830.00	0.00500	9.15
16	Kerupuk	45,000.00	40,000.00	5,000.00	0.00600	30.00
TOTAL VARIANCE						**1,765.42**
PORTIONS SOLD JULY - DECEMBER						**746.00**
TOTAL PRICE VARIANCE						**1,316,999.79**

Source: Internal Data Novotel Karawang Proceed, 2025

Nevertheless, the operational side still faces challenges regarding quantity inefficiency. As presented in Table 5, there was an unfavorable quantity variance of IDR 428,575. This occurred because the actual usage of raw materials, particularly white rice and chicken, exceeded the set quantity standards. This inefficiency likely stems from operational factors such as measurement errors or waste during the preparation process in the kitchen.

Table 5. Nuance Special Fried Rice Quantity Variance.

No.	Ingredients	Std Quantity (SQ) Kg	Actual Quantity (AQ) Kg	SQ - AQ (1 - 2) Kg	Std Price (SP) IDR	Variance (SQ-AQ) x SP IDR
		1	2	3	4	3x4
1	White Rice	0.25000	0.26000	(0.01000)	7,719.30	(77.19)
2	Garlic	0.00200	0.00208	(0.00008)	42,000.00	(3.36)
3	Red Powder 100gr	0.00200	0.00208	(0.00008)	4,500.00	(3.60)
4	Egg Chicken	0.12000	0.12480	(0.00480)	32,000.00	(153.60)
5	Sweet Soy Sauce 6L	0.00600	0.00624	(0.00024)	144,300.00	(34.63)
6	Red Chili	0.00050	0.00052	(0.00002)	65,000.00	(1.30)
7	Leek	0.00010	0.00010	(0.00000)	18,000.00	(0.07)
8	Chicken	0.15000	0.15600	(0.00600)	43,000.00	(258.00)
9	Salt 500g	0.00100	0.00104	(0.00004)	11,000.00	(0.88)
10	Knorr Chicken	0.00500	0.00520	(0.00020)	88,300.00	(17.66)
11	White Pepper Powder	0.00100	0.00104	(0.00004)	95,000.00	(3.80)
12	Red Tomato	0.00500	0.00520	(0.00020)	12,000.00	(2.40)
13	Kyuri	0.00300	0.00312	(0.00012)	15,000.00	(1.80)
14	Lettuce Green Curly	0.00100	0.00104	(0.00004)	25,000.00	(1.00)
15	Pickle	0.00500	0.00520	(0.00020)	22,000.00	(4.40)
16	Kerupuk	0.00600	0.00624	(0.00024)	45,000.00	(10.80)
TOTAL VARIANCE						**(574.50)**
PORTIONS SOLD JULY - DECEMBER						**746.00**
TOTAL QUANTITY VARIANCE						**(428,574.75)**

Source: Internal Data Novotel Karawang Proceed, 2025

Finally, the joint variance analysis in Table 6 recorded an unfavorable value of IDR 59,621. This value reflects the interaction between price fluctuations and deviations in material usage quantities. Despite the unfavorable joint and quantity variances, the substantial gains from price efficiency make the Nuance Special Fried Rice the most effective model for cost control among the best-selling menus.

Table 6. Nuance Special Fried Rice Joint Price-Quantity Variance

No.	Ingredients	Std Price – Actual Price (SP - AP) IDR	Std Quantity - Actual Quantity (SQ - AQ) Kg	Variance (SP-AP) x (SQ-AQ) IDR
		1	2	1x2
1	White Rice	343.83	(0.01000)	(3.44)
2	Garlic	(1,294.03)	(0.00008)	(0.10)
3	Red Powder 100gr	(1,500.00)	(0.00008)	(1.20)
4	Egg Chicken	2,140.89	(0.00480)	(10.28)
5	Sweet Soy Sauce 6L	(10,100.00)	(0.00024)	(0.40)
6	Red Chili	23,506.08	(0.00002)	(0.47)
7	Leek	(5,657.88)	(0.00000)	(0.02)
8	Chicken	9,424.08	(0.00600)	(56.54)
9	Salt 500g	605.92	(0.00004)	(0.00)
10	Knorr Chicken	14,747.68	(0.00020)	(2.95)
11	White Pepper Powder	(51,805.56)	(0.00004)	(2.07)
12	Red Tomato	(1,208.58)	(0.00020)	(0.24)
13	Kyuri	(5,169.54)	(0.00012)	(0.62)
14	Lettuce Green Curly	301.73	(0.00004)	(0.01)
15	Pickle	1,830.00	(0.00020)	(0.37)
16	Kerupuk	5,000.00	(0.00024)	(1.20)
TOTAL VARIANCE				**(79.92)**
PORTIONS SOLD JULY - DECEMBER				**746.00**
TOTAL JOINT PRICE-QUANTITY VARIANCE				**(59,621.25)**

Source: Internal Data Novotel Karawang Proceed, 2025.

The Biggest Unfavorable Menu, Beef Rib Soup

In stark contrast, other menus faced more severe cost pressures. For instance, the Beef Rib Soup experienced the highest total unfavorable variance, largely driven by a massive price variance of IDR 4,296,740. As shown in Table 7, the comparison between standard and actual costs for the Beef Rib Soup menu reveals an unfavorable variance of IDR 5,444,670. Although the actual sales volume reached 597 portions exceeding the standard target of 569 portions the positive revenue from increased sales was insufficient to offset the rise in production costs. The primary cause for this discrepancy was the actual cost per portion, which rose to IDR 48,745, significantly exceeding the budgeted standard of IDR 41,548. This per-portion cost increase of IDR 7,197 highlights a critical challenge in managing both raw material prices and usage efficiency for this specific menu item.

Table 7. Comparison of Standard (Targeted) & Actual Costs per Portion for Beef Rib Soup.

	Portions Sold	Cost Per Portion IDR	Total Cost IDR
Standard (Target)	569	41,548	23,656,095
Actual	597	48,745	29,100,765
Variance	(28)	(7,197)	(5,444,670)

Source: Internal Data Novotel Karawang Proceed, 2025.

The price variance analysis detailed in Table 8 confirms that purchasing costs were the largest contributor to the menu's losses, resulting in a total unfavorable price variance of IDR 4,296,740.12. This unfavorable result indicates that the actual purchase prices for several key ingredients were substantially higher than the established standards. Major price hikes were observed in essential items such as Beef Rib/Iga 12cm, which cost IDR 19,489.03 more per kg than budgeted, and White Pepper Powder, which saw an actual price increase of IDR 51,805.56 per kg over the standard. While a few ingredients like Knorr Chicken and Salt showed favorable price differences, their impact was too minimal to compensate for the significant cost increases of the main proteins and spices.

Table 8. Beef Rib Soup Price Variance.

No.	Ingredients	Std Price (SP) IDR	Actual Price (AP) IDR	SP - AP (1 - 2) IDR	Std Quantity (SQ) Kg	Variance (SP-AP) x SQ IDR
		1	2	3	4	3x4
1	Beef Rib/Iga 12cm	105,000.00	124,489.03	(19,489.03)	0.34000	(6,626.27)
2	Stock Oxtail Soup	5.00	5.50	(0.50)	0.30000	(150.00)
3	Leek	18,000.00	23,657.88	(5,657.88)	0.00500	(28.29)
4	Celery	28,000.00	25,895.28	2,104.72	0.00500	10.52
5	Carrot	12,000.00	13,543.19	(1,543.19)	0.02000	(30.86)
6	Potato	17,000.00	19,816.79	(2,816.79)	0.02000	(56.34)
7	Salt 500gr	11,000.00	10,394.08	605.92	0.00500	3.03
8	Knorr Chicken	88,300.00	73,552.32	14,747.68	0.00100	14.75
9	White Pepper Powder	95,000.00	146,805.56	(51,805.56)	0.00500	(259.03)
10	Soto Sambal	29.00	31.90	(2.90)	0.00500	(14.50)
11	White Rice	7,719.30	7,375.47	343.83	0.25000	85.96
12	Emping Goreng	49.00	58.05	(9.05)	0.00500	(45.27)
13	Bawang Goreng 500gr	50,000.00	58,410.46	(8,410.46)	0.00600	(100.93)
TOTAL VARIANCE						**(7,197.22)**
PORTIONS SOLD JULY - DECEMBER						**597.00**
TOTAL PRICE VARIANCE						**(4,296,740.12)**

Source: Internal Data Novotel Karawang Proceed, 2025.

Regarding operational efficiency, Table 9 illustrates an unfavorable quantity variance of IDR 970,602.95. This figure arises because the actual quantity of raw materials used in production consistently exceeded the standard quantities required by the recipe. For instance, the usage of Beef Rib/Iga 12cm was 0.35360 kg per portion instead of the standard 0.34000 kg, and Stock Oxtail Soup usage also surpassed the target. These discrepancies suggest

potential issues within the kitchen's production process, such as errors in ingredient measurement, lack of portion control, or unnecessary waste during preparation.

Table 9. Beef Rib Soup Quantity Variance.

No.	Ingredients	Std Quantity (SQ) Kg 1	Actual Quantity (AQ) Kg 2	SQ - AQ (1 - 2) Kg 3	Std Price (SP) IDR 4	Variance (SQ-AQ) x SP IDR 3x4
1	Beef Rib/Iga 12cm	0.34000	0.35360	(0.01360)	105,000.00	(1,428.00)
2	Stock Oxtail Soup	0.30000	0.31200	(0.01200)	5.00	(0.06)
3	Leek	0.00500	0.00520	(0.00020)	18,000.00	(36.00)
4	Celery	0.00500	0.00520	(0.00020)	28,000.00	(5.60)
5	Carrot	0.02000	0.02080	(0.00080)	12,000.00	(9.60)
6	Potato	0.02000	0.02080	(0.00080)	17,000.00	(13.60)
7	Salt 500gr	0.00500	0.00520	(0.00020)	11,000.00	(2.20)
8	Knorr Chicken	0.00100	0.00104	(0.00004)	88,300.00	(3.53)
9	White Pepper Powder	0.00500	0.00520	(0.00020)	95,000.00	(38.00)
10	Soto Sambal	0.00500	0.00520	(0.00020)	29.00	(0.01)
11	White Rice	0.25000	0.26000	(0.01000)	7,719.30	(77.19)
12	Emping Goreng	0.00500	0.00520	(0.00020)	49.00	(0.01)
13	Bawang Goreng 500gr	0.00600	0.00624	(0.00024)	50,000.00	(12.00)
TOTAL VARIANCE						**(1,625.80)**
PORTIONS SOLD JULY - DECEMBER						**597.00**
TOTAL QUANTITY VARIANCE						**(970,602.95)**

Source: Internal Data Novotel Karawang Proceed, 2025.

Finally, the joint variance analysis in Table 10 shows an unfavorable interaction of IDR 177,326.62. This specific variance measures the simultaneous impact of both price increases and quantity over-usage on the total cost. While the joint variance value is smaller than the individual price and quantity variances, its unfavorable status reinforces the conclusion that the Beef Rib Soup menu suffers from dual efficiency issues. These findings indicate that management must not only negotiate better raw material prices but also implement stricter supervision over the preparation and calibration processes to reduce losses stemming from inefficient material usage.

Table 10. Beef Rib Soup Joint Price-Quantity Variance.

No.	Ingredients	Std Price – Act Price (SP - AP) IDR 1	Std Quantity -Act Quantity (SQ - AQ) Kg 2	Variance (SP-AP) x (SQ-AQ) IDR 1x2
1	Beef Rib/Iga 12cm	(19,489.03)	(0.01360)	(265.05)
2	Stock Oxtail Soup	(0.50)	(0.01200)	(6.00)
3	Leek	(5,657.88)	(0.00020)	(1.13)
4	Celery	2,104.72	(0.00020)	(0.42)
5	Carrot	(1,543.19)	(0.00080)	(1.23)
6	Potato	(2,816.79)	(0.00080)	(2.25)
7	Salt 500gr	605.92	(0.00020)	(0.12)
8	Knorr Chicken	14,747.68	(0.00004)	(0.59)
9	White Pepper Powder	(51,805.56)	(0.00020)	(10.36)
10	Soto Sambal	(2.90)	(0.00020)	(0.58)
11	White Rice	343.83	(0.01000)	(3.44)
12	Emping Goreng	(9.05)	(0.00020)	(1.81)
13	Bawang Goreng 500gr	(8,410.46)	(0.00024)	(4.04)
TOTAL VARIANCE				**(297.03)**
PORTIONS SOLD JULY - DECEMBER				**597.00**
TOTAL JOINT PRICE-QUANTITY VARIANCE				**(177,326.62)**

Source: Internal Data Novotel Karawang Proceed, 2025.

The remaining best-sellers, including Oxtail Fried Rice, Caesar Salad, and the Nuance Beef Burger, consistently showed unfavorable total variances. While the Nasi Goreng categories generally benefited from favorable price variances, the salad and burger menus struggled with both price hikes and portion control issues. These findings suggest that for protein-heavy dishes like Beef Rib Soup, management must urgently re-evaluate purchasing strategies and update standard costs to reflect market volatility, whereas for the Fried Rice categories, the focus should remain on tightening kitchen portioning and reducing waste.

Overall, the results of this study confirm that price and quantity variance analysis is an effective tool for evaluating the performance of food cost control. The discrepancies found are not just numbers, but rather indicators of deeper operational issues. The increase in raw material prices and the inefficiency in quantity usage indicate that management needs to take corrective actions, such as updating standard prices to be more realistic with current market conditions, implementing stricter monitoring of the raw material weighing and measuring processes, and strengthening negotiations with suppliers, or seeking alternative suppliers to obtain more competitive prices.

This discussion is expected to provide a comprehensive understanding of food cost control conditions at Novotel Karawang and serve as a basis for systematic improvements.

4. CONCLUSION

Based on the results of the cost variance analysis for the five best-selling menu items at Novotel Karawang from July to December 2024, this study has successfully achieved its objectives of analyzing food cost variances and evaluating the efficiency of cost control. Specifically, this study successfully identified and analyzed in detail the price variance, quantity variance, and joint price quantity variance for each menu item. The results show that four out of the five menu items studied, namely Oxtail Fried Rice, Beef Rib Soup, Caesar Salad, and Nuance Beef Burger, experienced an unfavorable total variance, indicating that actual costs consistently exceeded the established standards. This unfavorable variance was largely due to a combination of unpredictable raw material price increases and inefficiencies in the use of raw material quantities, indicating weaknesses in the purchasing process and operational control. Conversely, the Nuance Special Fried Rice menu performed positively with a favorable margin, proving that effective cost control is possible and can serve as a model for other menu items.

As a follow-up, this research recommends several things for the management of Novotel Karawang. First, to address the unfavorable price difference, hotels need to review their purchasing strategies, including strengthening negotiations with suppliers or seeking alternative suppliers to obtain more competitive prices. Second, regarding quantity discrepancies, management is advised to increase supervision in the kitchen, such as ensuring raw material portioning aligns with standard recipes and reducing waste. Third, the budget line for each raw material per menu portion also needs to be updated regularly to be more accurate and relevant to the dynamic market conditions. Fourth, the Nuance Special Fried Rice menu can serve as a benchmark or standard for identifying best practices that can be applied to other loss-making menus. By implementing these steps, it is hoped that food cost efficiency can be significantly improved, thereby optimizing the overall profitability of the hotel.

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