Journal of Commerce Management and Tourism Studies, Volume 1 Number 1 (December 2022), pp. 1—13
e-issn xxxx-xxxx
https://ympn.co.id/index.php/JCMTS

Optimizing food costs through menu engineering, portion control, supplier negotiations, waste reduction, and technology integration

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Abstract - This study examines the implementation of food cost management in the hotel industry, identifying key factors influencing food cost stability and proposing strategies to enhance cost efficiency. Effective food cost control is crucial for maintaining profitability and sustainability in hotel operations. A mixed-methods approach was utilized, incorporating observations, documentation, and structured interviews with key personnel, including the Financial Controller, Cost Controller, Purchasing Manager, and Store Manager. Quantitative descriptive analysis revealed inefficiencies in food cost management, with excessive purchasing and insufficient sales contributing to elevated costs. Qualitative analysis further identified several internal and external factors affecting food cost stability. External influences, such as fluctuations in raw material prices, posed challenges in maintaining consistent food costs. Internally, issues such as equipment malfunctions, poor inventory management, and lack of employee discipline significantly impacted cost efficiency. Findings indicate that ineffective cost control mechanisms hinder the hotel's ability to maintain optimal food cost levels. To address these challenges, the study recommends a series of strategic interventions. Regular adjustments to menu pricing based on market trends and cost analysis can help mitigate external price fluctuations. Strengthening supervision and control over food cost disbursements will enhance accountability and efficiency. Additionally, improving employee discipline through training and performance monitoring can minimize waste and operational inefficiencies. By implementing these measures, hotels can achieve more effective food cost management, reduce unnecessary expenditures, and improve overall financial performance. Optimizing food cost efficiency not only enhances profitability but also contributes to the long-term sustainability of hotel operations. This study underscores the importance of proactive cost management strategies to ensure financial stability and operational success in the hospitality industry.

Keywords: food cost efficiency, hotel industry, cost management, profitability, sustainability

1. Introduction

Tourism is a dynamic and fast-growing sector that plays a crucial role in the global economy. It involves the movement of people from one place to another for a temporary

period, driven by various motivations such as leisure, business, or cultural experiences. According to the United Nations World Tourism Organization (UNWTO, 2020), the tourism industry contributes significantly to GDP and employment worldwide. As tourism flourishes, it drives demand for various facilities and services, particularly accommodation and food services. Hotels serve as essential hospitality establishments that provide temporary lodging and various amenities for travelers. The growth of the hotel industry directly impacts the economic stability of a tourism-driven city (Buhalis & Law, 2018).

One of the primary revenue sources for hotels comes from room sales, contributing approximately 65% of total revenue. Additionally, food and beverage services account for around 30% of the hotel's income (Pizam & Holcomb, 2018). Efficient management of food costs is crucial for the overall profitability and sustainability of the hotel industry. Food costs encompass all expenses incurred in procuring raw ingredients and producing food for sale (Dopson & Hayes, 2021). To ensure financial efficiency, hotels implement control mechanisms to regulate these expenses while maintaining high standards of food quality and customer satisfaction.

However, fluctuations in food costs can present significant challenges. Food cost control is an essential aspect of hospitality management, as inefficiencies in procurement, storage, and preparation can lead to financial losses. Previous studies have indicated that deviations between standard food costs and actual food costs are prevalent in the hotel industry (Baker & Magnini, 2016). If food costs exceed the budgeted standard, it can negatively impact the hotel's overall financial performance. Therefore, understanding the factors influencing food cost stability and implementing effective cost-control measures are essential for maintaining profitability.

Food cost control is a critical issue in the hotel and hospitality industry. A lack of proper cost management can lead to increased operational expenses, reduced profitability, and financial instability. This study is significant for several reasons: **(1) Economic Impact:** The hospitality industry significantly contributes to local and national economies. Efficient food cost control ensures that hotels remain profitable, supporting employment and economic growth (Jones et al., 2017). **(2) Operational Efficiency:** Proper management of food costs improves overall hotel operations, ensuring sustainability and resource optimization (Walker, 2021). **(3) Customer Satisfaction:** While cost control is necessary, maintaining food quality is equally important. Understanding food cost stability helps in balancing affordability with high-quality service (Kimes, 2018). **(4) Sustainability and Waste Reduction:** Implementing cost-control measures leads to reduced food waste and supports environmental sustainability initiatives (Filimonau & Gherbin, 2017). **(5) Managerial Decision-Making:** The study provides valuable insights for hotel managers and policymakers to develop strategies that enhance cost efficiency and profitability.

Given these factors, this study examines the implementation of food cost stability in the hotel industry, focusing on its impact on financial performance and operational efficiency. Numerous studies have examined the role of food cost control in the hospitality industry. Researchers have explored various aspects, including procurement strategies, inventory management, and food waste reduction.

Dopson and Hayes (2021) emphasize the importance of strategic purchasing, proper inventory management, and portion control as essential measures for maintaining food cost stability. Effective cost management involves close collaboration between the Food & Beverage Department, Purchasing Department, and Cost Control units.

Filimonau and Gherbin (2017) discuss the impact of food waste on financial performance in hotels. The study highlights that poor inventory management and improper storage practices significantly contribute to food waste, leading to increased costs. Baker and Magnini (2016) identify common challenges faced by hotel managers,

including fluctuating food prices, supplier inconsistencies, and employee negligence in following standard procurement procedures.

Advances in technology have improved food cost management. Jones et al. (2017) highlight the role of digital inventory tracking systems and automated procurement software in enhancing cost efficiency.

Despite extensive research on food cost management, gaps remain in understanding how hotels can maintain stable food costs amidst economic fluctuations and operational challenges. This study aims to fill these gaps by analyzing historical data on food costs and identifying key factors affecting food cost efficiency.

Based on the identified gaps in the literature, this study aims to address the following research questions:

(1) What factors contribute to fluctuations in food costs in hotels?

(2) How do procurement and inventory management practices impact food cost efficiency?

(3) What strategies can be implemented to stabilize food costs and improve financial performance in hotels?

The objectives of this study are:

- To analyze historical trends in food cost fluctuations in hotels.
- To assess the effectiveness of current food cost control measures.
- To propose strategic recommendations for improving food cost stability and profitability.

2. Method

This study was conducted over four months in the Finance Department of PBR&V, a five-star hotel located in the Kuta area. The hotel comprises 206 rooms, three swimming pools, a restaurant, a ballroom, a spa, a gym, and a kids' club. Given its prominence in hosting both national and international events, effective food cost management is crucial to maintaining profitability. The research specifically focuses on food cost efficiency to ensure financial sustainability.

The study employs both qualitative and quantitative data to achieve a comprehensive analysis.

- **Qualitative data** includes descriptive information such as the hotel's history, organizational structure, and job descriptions within the finance department. This data is obtained through interviews, observations, and document analysis, and may also include visual evidence such as photographs or video documentation.
- **Quantitative data** involves numerical information, such as food cost reconciliation reports, and is often presented in tables, graphs, or statistical formats. This data helps in identifying cost variances and trends over time.

The sources of data are classified into two categories:

- **Primary data**: Collected directly from interviews with finance department staff, Food & Beverage (F&B) department personnel, and procurement officers.
- **Secondary data**: Gathered from internal reports, financial records, and company documentation related to food cost reconciliation over the period of 2017-2019.

To ensure data accuracy and reliability, multiple data collection techniques were utilized:

(1) Observation: Direct observation was conducted to assess the processes related to food cost management, including procurement, storage, and inventory handling.

(2) Interviews: Structured and semi-structured interviews were carried out with key personnel from the Finance, F&B, and Purchasing departments to gain insights into cost control strategies and challenges.

(3) Documentation Analysis: Company records, financial statements, food cost reports, and inventory records were examined to obtain numerical data on food cost efficiency.

The research employs both **quantitative and qualitative descriptive analysis** to evaluate food cost efficiency and stability. This method involves numerical evaluation of food cost efficiency over the study period. The following key metrics are analyzed:

- **Food Cost Percentage**: This is calculated to determine the proportion of food cost relative to revenue, providing an overview of cost efficiency.
- **Variance Analysis**: The difference between standard food cost and actual food cost is examined to assess the effectiveness of cost control measures. A negative variance indicates inefficiencies, while a positive variance suggests effective cost management.

This approach involves examining non-numerical data to identify factors influencing food cost fluctuations. The analysis includes:

- Evaluating the effectiveness of procurement and inventory management strategies.
- Identifying operational inefficiencies, such as poor stock rotation and unauthorized withdrawals from storage.
- Assessing the impact of employee compliance with standard operating procedures related to food cost control.

By integrating both quantitative and qualitative analyses, this study aims to provide a comprehensive evaluation of food cost stability and offer recommendations for improving cost efficiency within the hotel.

3. Results and Discussion

3.1 Results

In the background discussion, the study presents a comparative analysis between standard food costs and actual food costs over the period of 2017-2019. This comparison serves as an essential tool to determine whether the company's food cost management aligns with established benchmarks or deviates beyond acceptable limits. The food cost percentage is a crucial indicator for assessing the efficiency of food cost management within the Finance and F&B (Food and Beverage) Departments, as well as other relevant hotel divisions. The standard food cost percentage applied in this company is set at **35% of total food sales**. This figure is used as a benchmark to evaluate cost efficiency. The actual food cost percentage is then compared to this standard, and any deviations are analysed to determine whether food production and purchasing strategies are being managed efficiently.

If the variance between the actual food cost percentage and the standard food cost percentage remains minor, it suggests that the departments involved in food cost management are functioning effectively. However, if actual food costs consistently exceed the standard, it indicates inefficiencies that need to be addressed. This study incorporates a **food cost reconciliation report**, which provides insight into the variance between standard and actual food costs over the three-year period.

Table 2 illustrates the fluctuations in actual food cost percentages from 2017 to 2019, highlighting trends and deviations from the standard benchmark of **35%**. Over this period, the data reveals a recurring pattern where actual food costs often exceeded the set standard. The average actual food cost percentage exceeded the **35%** benchmark in all three years: **2017: 39.90%**; **2018: 39.67%** and **2019: 38.74%**

This trend suggests that while there were some improvements in controlling food costs, they remained consistently above the expected percentage, indicating inefficiencies in the food cost control process.

3.2 Trends and Key Findings

2017 Trends

The highest spike in actual food costs occurred in **September 2017**, when the percentage rose to **52.89%**. This surge was largely attributed to the high volume of events hosted by the hotel during the month. Major events included corporate meetings, executive training sessions, and social gatherings, which significantly increased food production demand. Some notable events during this period included:

- **Pacto Surabaya-Pelindo Meeting** (38 attendees)
- **PMPK Direct Hired Executive Batch II 2017** (50 attendees)
- **PMPK Direct Hired Madya Batch II 2017** (60 attendees)
- **Tugu Pratama Meeting** (16 attendees)
- **Pertamina Domestic Gas Meeting** (30 attendees)
- **PCU - High Impact Presentation Skill Training** (21 attendees)
- **Multiple corporate lunches, dinners, and weddings**

These events collectively contributed to the increase in food costs as they required high-quality catering services, additional ingredients, and higher production volumes. The **actual food cost percentage exceeded the standard by 17.89%**, indicating the need for better food cost control mechanisms.

2018 Trends

In **January 2018**, the actual food cost percentage peaked at **45.63%**, surpassing the standard by **10.63%**. The primary factor behind this increase was the significant number of large-scale corporate events hosted at the hotel. These events included:

- **Pertamina's Upstream Directorate Meeting** (20 attendees)
- **Pertamina Marine Region VII Meeting** (17 attendees)
- **Pertamina Gas Meeting** (15 attendees)
- **Pertamina Training & Consulting Event** (25 attendees)
- **Pertamina Processing Event** (50 attendees)
- **Pertamina Corporate University Meeting** (30 attendees)
- **Various corporate luncheons, dinners, and weddings**

As in the previous year, large-scale events placed additional strain on food production, resulting in inefficiencies that led to higher food costs. The **lack of precise cost control strategies and fluctuating ingredient prices** contributed to this spike.

2019 Trends

In **April 2019**, the actual food cost percentage surged to **45.18%**, marking another significant variance from the standard **35%**. Key events that influenced this increase included:

- **President University - International Conference on Family Business and Entrepreneurship** (100 attendees)
- **IMIP / Zero Jiang Meeting** (40 attendees)
- **HKCBEES / Zero Jiang - ICCAI 2019 Conference** (41 attendees)
- **Tugu Pratama Indonesia Meeting** (25 attendees)
- **Pertamina Mor VII/ Gas Meeting** (70 attendees)
- **Pertamina Asset Meeting** (85 attendees)
- **PMPK / Pertamedika Event** (93 attendees)
- **Various business luncheons, dinners, and wedding receptions**

The actual food cost percentage in April 2019 exceeded the standard by **10.18%**, revealing a recurring issue in controlling food costs during peak event seasons. The **Cost Controller of the company confirmed in interviews that the tolerance limit for actual food costs is only 2%**. Therefore, these variations, ranging between **10% to 17%**, significantly surpassed acceptable limits, indicating inefficient cost management practices.

3.2 Discussion

The findings highlight a persistent challenge in controlling food costs, particularly during months with high event volumes. Several key factors contributed to the **increase in actual food costs**:

1. **Fluctuating Ingredient Prices:** a) Seasonal price variations in raw materials increased overall costs. b) Imported goods with fluctuating exchange rates contributed to instability in procurement costs.
2. **Inefficiencies in Procurement and Inventory Management:** a) Poor forecasting of ingredient requirements led to excessive purchasing. B) Inadequate stock rotation resulted in spoilage and wastage.
3. **High Catering Demand During Events:** a) Large-scale events required customized menus and premium-quality ingredients, which increased expenses. b) The need for additional staff and extended working hours contributed to higher labour costs.
4. **Inadequate Cost Control Strategies:** a) The lack of standardized portion control measures led to inconsistencies in food preparation. B) In-efficient monitoring of food waste contributed to avoidable financial losses.

3.2.1 Implications for Cost Management

To improve cost efficiency, the company should implement the following strategies: a) **Enhance Procurement Strategies:** Develop long-term contracts with suppliers to secure stable pricing. b) **Improve Inventory Management:** Implement digital tracking systems to optimize stock rotation and reduce wastage. c) **Standardize Portion Control:** Establish strict guidelines for portion sizes to minimize excess food production. d) **Optimize Event Catering Planning:** Introduce more cost-effective menu options and negotiate pricing adjustments for bulk catering. e) **Strengthen Monitoring Systems:** Conduct regular audits and variance analysis to detect discrepancies in food cost percentages.

Table 1 Comparison of the percentage of standard food cost and the actual food cost (2017)

Month	Actual Food Cost	Food Sales	Actual Percentage(%)	Standard Percentage(%)	Variance (%)
Jan	768,587,460	1,986,734,349	38.69	35	3.69
Feb	803,293,628	1,773,629,079	45.29	35	10.29
Mar	654,409,868	1,659,326,780	39.44	35	4.44
Apr	637,065,957	1,867,909,167	34.11	35	-0.89
May	783,871,757	1,842,458,250	42.54	35	7.54
Jun	608,653,142	1,693,451,757	35.94	35	0.94
Jul	743,641,193	2,084,651,262	35.67	35	0.67
Aug	887,363,755	2,535,655,057	35.00	35	0.00
Sep	833,815,328	1,576,646,793	52.89	35	17.89
Oct	683,281,967	1,531,663,417	44.61	35	9.61
Nov	531,215,440	1,467,067,828	36.21	35	1.21
Dec	343,499,230	893,805,179	38.43	35	3.43
Average			39.90	35	4.90
		2018			
Jan	514,384,962	1,127,197,121	45.63	35	10.63
Feb	482,236,984	1,291,243,847	37.35	35	2.35
Mar	601,766,701	1,527,385,305	39.40	35	4.40
Apr	670,173,584	1,632,369,045	41.06	35	6.06
May	656,487,761	1,667,779,083	39.36	35	4.36
Jun	600,700,415	1,424,235,882	42.18	35	7.18
Jul	789,772,671	1,954,273,498	40.41	35	5.41
Aug	759,323,895	2,169,282,313	35.00	35	0.00
Sep	862,668,138	2,094,161,039	41.19	35	6.19
Oct	1,032,059,927	2,817,349,401	36.63	35	1.63
Nov	565,385,653	1,610,236,438	35.11	35	0.11
Dec	871,118,740	2,041,804,779	42.66	35	7.66
Average			39.67	35	4.67
		2019			
Jan	546,129,918	1,227,086,983	44.51	35	9.51
Feb	635,937,193	1,622,846,364	39.19	35	4.19
Mar	845,992,282	2,168,505,013	39.01	35	4.01
Apr	571,600,106	1,265,103,864	45.18	35	10.18
May	419,679,880	1,006,232,038	41.71	35	6.71
Jun	655,982,692	2,080,598,421	31.53	35	-3.47
Jul	668,111,936	1,595,022,999	41.89	35	6.89
Aug	705,927,457	1,928,026,198	36.61	35	1.61
Sep	776,638,296	2,304,540,530	33.70	35	-1.30
Oct	1,013,895,838	2,869,813,396	35.33	35	0.33
Nov	870,432,226	2,799,837,847	31.09	35	-3.91
Dec	768,889,936	1,705,029,871	45.10	35	10.10
Average			38.74	35	3.74

Table 2 Comparison of actual food costs (August and September 2017)

Explanation	**August**		**September**		**Variance**
	RP	**%**	**RP**	**%**	**%**
Opening/stock	338,817,911	13.36	307,533,803	19.51	6.14
Purchase	1,563,109,388	61.65	794,633,507	50.40	-11.24
Transfer in/out	1,594,393,496	62.88	833,815,328	52.89	-9.99
Ending/balance	307,533,803	12.13	268,351,982	17.02	4.89
Total cost	887,363,755	35.00	833,815,328	52.89	17.89
Total sales	2,535,655,057	100.00	1,576,646,793	100.00	0.00
FCP		35.00		52.89	17.89

Journal of Commerce Management and Tourism Studies, Vol.1 No.1 (December 2022), pp. 1—13
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Based on Table 3, it can be seen the comparison of the percentage of food cost in 2017 in August and September where in August the percentage of food cost was in accordance with the standard set by management by 35% while in September the percentage of food cost exceeded the specified standard of 52.89%. The increase in the percentage of food cost in September was due to an increase in Opening stock by 6.14% to 19.51% where the August figure was 13.36% and Ending/balance increased by 4.89% to 17.02%. From the Table 3, the percentage in September was due to low food sales and high food costs.

Table 4 Comparison of actual food costs in August and September 2018

No	Explanation	August		September		Variance
		RP	%	RP	%	%
1	Opening/stock	276,204,108	12.73	342,259,992	16.34	3.61
2	Purchase	1,446,651,600	66.69	1,500,662,224	71.66	4.97
3	Transfer in/out	1,380,595,716	63.64	1,492,625,559	71.28	7.63
4	Ending/balance	342,259,992	15.78	350,296,657	16.73	0.95
5	Total cost	759,323,895	35.00	862,668,138	41.19	6.19
6	Total sales	2,169,282,313	100.00	2,094,161,039	100.00	0.00
	FCP		35.00		41.19	6.19

An increase in the percentage of food cost in 2018 was one of which occurred in September by 41.19%, in contrast to the previous month which adjusted the percentage to 35%, the difference between August and September was 6.19%.The increase was caused by Opening stock which increased by 3.61% from the previous month to 16.34%, Purchase increased by 4.97% to 71.66%, Transfers increased by 7.63% to 71.28%, and Ending increased by 0.95% from the previous month 15.78% to 16.73 %.From this table in 2018 we can see the percentage of food cost in September because the total cost incurred is higher than the total cost that has been set.

Table 3 Comparison of actual food costs (November and December 2019)

No	Explanation	2019				
		November		December		Variance
		RP	%	RP	%	%
1	Opening/stock	258,345,674	9.23	291,097,171	17.07	7.85
2	Purchase	1,469,059,504	52.47	1,168,016,271	68.50	16.03
3	Transfer in/out	1,436,308,007	51.30	1,140,178,830	66.87	15.57
4	Ending/balance	291,097,171	10.40	318,934,612	18.71	8.31
5	Total cost	870,432,226	31.09	768,889,936	45.10	14.01
6	Total sales	2,799,837,847	100.00	1,705,029,871	100.00	0.00
	FCP		31.09		45.10	14.01

The increase in food cost percentage in 2019 was in December by 45.10%, the difference in percentage between November and December was 14.01% where in November the food cost percentage was 31.09%, although the November percentage below 35% was included in the efficient category because according to the cost controller of the company the smaller the percentage of what has been set, the more efficient the food cost will be. The increase in December was caused by an increase in Opening stock by 7.85% to 17.07%, Purchases increased by 16.03% to 68.50%, Transfers increased by 15.57%, and Ending/balance increased by 8.31% to 18.71%. The large percentage of food costs in December 2019 is due to decreased total sales and increased total cost.

Based on the above explanation, the percentage increase is due to high purchases but low sales, so the costs incurred are quite high, in addition there are several events held

which are one of the causes of rising and falling food costs in August and September 2017 (Appendix 6), months August and September 2018 (Appendix 7), and November and December 2019 (Appendix 8). Many factors are the cause of the high cost such as the price of raw materials such as fruits and vegetables which become high in a certain period which makes these materials difficult to obtain and the price of ingredients in the market jumps up. Second, there is often damage to the chiller so that the stored food becomes damaged and cannot be processed, then the cost that comes out becomes high without the sales process.

The third is the lack of applying the First In First Out (FIFO) theory to the goods in the store so that the goods that first enter the store are not issued first but the newly arrived items that are released, so the items that are first entered become not fresh and not suitable for use because the storage limit is too long and makes the material must be disposed. The last cause is that many employees who take goods at the store without using a request so that many items that go out are not recorded in the bin-card or in the system. Of the several causes that have been explained, of course, the impact will be felt by the hotel, the impact that will be seen is the reduced profit or profit that will be obtained by the hotel or its Net Operating Profit After Tax (NOPAT).Net operating profit after tax (NOPAT) is a financial measure that shows how well a company is performing through its core operations, net of taxes, NOPAT provides a more accurate picture of a company's profitability and operational efficiency. So if food costs are high and sales are low, the profit will be reduced by the company.

The implementation of food cost is carried out to increase cost efficiency at company by updating the selling price on a regular basis in accordance with the standard cost that has been set so that the company will continue to benefit, selecting suppliers with the best quality at a price comparison which is small compared to the market and can deliver groceries based on time. Checking goods when receiving goods based on quality and quantity ordered and checking the expiration date on food ingredients, as well as storing food items neatly and regularly to avoid damage and spoilage. Always take care of the store to keep it clean and sterile to maintain the cleanliness and health of food ingredients, and apply the theory of First In First Out to the collection of food ingredients.

3.2. Factors determine the stability of food cost

In achieving cost efficiency, it requires food costs that are always stable, so there are factors that need to be maintained so that food costs remain stable and the percentage of food costs always matches the set standards. Factors that determine the stability of food costs consist of external factors and internal factors, external factors are factors that come from outside the company while internal factors are factors that originate from within the company which greatly influences the high food cost.

A. External Factors

(1) Supplier Selection

Supplier selection is one of the external factors in determining food cost stability with several processes that must be passed, namely:

a. Purchasing, Cost Controller and Executive Chef conduct a market survey at the end of each month to determine the market price of each ingredient so that the hotel has a benchmark in determining prices on contract prices and in selecting suppliers.
b. Vegetable suppliers will come to the hotel to offer some food by providing a price list to the Purchasing. Purchasing provides the price list to the Cost Controller to compare it with the market survey price. Purchasing and Cost Controller will choose several suppliers whose prices are equivalent or below the market survey price.
c. Purchasing will make an offer so the price can be even lower but the supplier still gets a profit and will sort out suppliers who agree with the final price agreed on by both parties and will decide which supplier to use.

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In the selection of suppliers there are factors that must be considered such as the price offered by the supplier is a price lower than the market survey, the quality and standard of raw materials offered by the supplier must be fresh and clean, and the delivery process of food is timely. Currently there are four (4) vegetable suppliers working with the company where suppliers will take turns every day according to the schedule set by Purchasing in the delivery of vegetables and fruit.

(2) Market Price

Market prices are the prices that become a benchmark for suppliers and hotels in providing prices on each ingredient, market prices always change according to the season and natural conditions. When foodstuffs begin to be difficult to obtain, the prices for these ingredients will slowly start to high, for example, frequent price increases in small chilli, onions, and eggs so that it will affect the food cost at the hotel, therefore the hotel must make a contract price to stabilize prices -the market price is always up and down. Market price is a factor that influences the high food cost therefore, market price is a matter that must always be considered by conducting more frequent market surveys and coordinating with suppliers regarding changes in prices of materials included in the contract price or not included.

Table 6 Contract rate Period: January 2020

Num	Items	Unit Size	Last Price	New Price	Market Survey	Difference	%
	Fruit						
1	Apple Local	KG	40,000	38,000	35,000	3,000	8.57
2	Apple Red Import	KG	40,000	38,000	35,000	3,000	8.57
3	Avocado	KG	28,000	25,000	30,000	-5,000	-16.67
4	Banana Kepok	KG	18,000	18,000	20,000	-2,000	-10.00
5	Banana Mas	SS	15,000	15,000	20,000	-5,000	-25.00
6	Banana Raja	KG	20,000	20,000	25,000	-5,000	-20.00
7	Belimbing	KG	18,000	18,000	20,000	-2,000	-10.00
8	Bengkuang	KG	9,500	9,500	12,000	-2,500	-20.83
9	Coconut Gading	Bj	7,000	7,000	7,000	0	-
10	Coconut Young	Bj	12,000	9,000	15,000	-6,000	-40.00
11	Grape Black Lokal	KG	25,000	20,000	30,000	-10,000	-33.33
12	Honeydew Melon Green	KG	12,000	13,000	14,000	-1,000	-7.14
13	Honeydew Melon Red	KG	14,000	15,000	15,000	0	-
14	Jack Fruit Ripe Clean	KG	55,000	50,000	60,000	-10,000	-16.67
15	Jambu Air	KG	17,000	17,000	25,000	-8,000	-32.00
16	Kedondong	KG	14,000	14,000	25,000	-11,000	-44.00
17	Lime Green	KG	20,000	20,000	20,000	0	-
18	Mango Green (Muda)	KG	18,000	18,000	20,000	-2,000	-10.00
19	Mango Harum Manis	KG	25,000	25,000	25,000	0	-
20	Mango Manalagi	KG	32,000	25,000	25,000	0	-
21	Mangostine	KG	45,000	45,000	50,000	-5,000	-10.00
22	Orange Lokal	KG	13,000	13,000	15,000	-2,000	-13.33
23	Orange Mandarin	KG	65,000	65,000	60,000	5,000	8.33
24	Orange Pomelo	pcs	17,000	17,000	25,000	-8,000	-32.00
25	Orange Sunkist	KG	45,000	35,000	35,000	0	-
26	Papaya Mengkel	KG	6,500	6,500	8,000	-1,500	-18.75
27	Papaya Sayur	KG	6,500	5,500	8,000	-2,500	-31.25

28	Papaya Th	KG	7,000	7,500	8,000	-500	-6.25
29	Passion Fruit	KG	45,000	65,000	70,000	-5,000	-7.14
30	Pear Yally	KG	25,000	-	25,000	-25,000	-100.00
31	Pear Sweet	KG	40,000	40,000	35,000	5,000	14.29
32	Pineapple	KG	9,000	9,000	8,000	1,000	12.50
33	Rambutan	KG	20,000	17,000	30,000	-13,000	-43.33
34	Salak Super	KG	20,000	18,000	25,000	-7,000	-28.00
35	Sawo	KG	20,000	20,000	30,000	-10,000	-33.33
36	Strawberry	KG	65,000	70,000	80,000	-10,000	-12.50
37	Tangerine	KG	26,000	26,000	25,000	1,000	4.00
38	Water Melon Non Seed	KG	9,000	9,000	8,000	1,000	12.50
39	Water Melon Yellow	KG	11,000	11,000	15,000	-4,000	-26.67

A contract price is applied to goods that must be purchased in large quantities, ensuring price stability throughout the contract period unless both parties agree to modifications. Table 6 provides an example of a contract price set in January 2020. The contract price includes key details such as the material name, the unit of measurement, the last recorded price from the previous month (December 2019), the newly agreed price based on supplier negotiations, and the market price survey conducted at the end of each month by the Purchasing Department, Cost Controller, and Executive Chef.

The contract price serves as a reference for Purchasing to verify supplier invoices. If any discrepancies arise between the contract price and the invoiced price, Purchasing must coordinate with the supplier to ensure compliance with the agreed-upon rate. For instance, if the contract price for baby corn in January 2020 is Rp. 28,500, but the supplier's invoice states Rp. 30,000, the invoice price must be adjusted to match the contract price. Similarly, if the supplier offers a lower price than the contract rate, Purchasing is required to maintain the agreed price of Rp. 28,500, ensuring consistency and adherence to the contract terms, regardless of market fluctuations. This structured pricing approach helps maintain budget control and prevents unexpected cost variations.

(3) Internal Factors

a) Ordering and Purchasing Goods

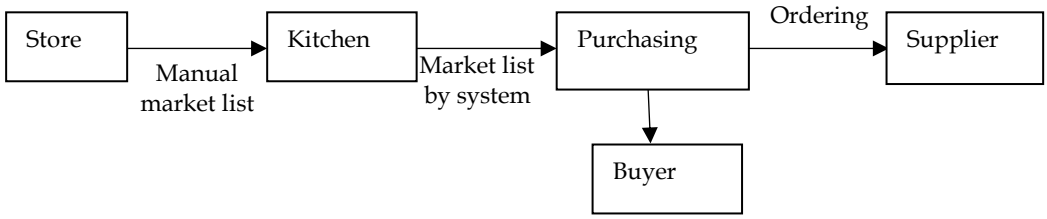

Figure 1 The Process of Ordering and Purchasing groceries
(Source: Finance Dept. of the company, 2020)

As illustrated in Figure 2, the process of ordering and purchasing foodstuffs begins with the Store Clerk manually preparing a market list. This list is based on the current stock in the store and the expected deliveries for the day, making it easier for the user (Chef or Sous Chef) to determine the necessary items and order the required quantities.

In the purchasing process, two types of Purchase Orders (POs) are involved. The first PO is used for receiving, ensuring that the delivered goods match the order, while the second PO is for the payment process. The payment PO undergoes a series of verifications, including inspections by Cost Control, the Purchasing Manager, the Finance Controller,

Journal of Commerce Management and Tourism Studies, Vol.1 No.1 (December 2022), pp. 1—13
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and the General Manager. Once all approvals are secured, the Accounts Payable department processes the payment based on the stated amount.

The Purchase Order provided to the Receiving section helps verify the quantity and brand of the arriving goods. This PO can be adjusted and later returned to the Purchasing Department, where a final Purchase Order is generated for processing.

During the receiving process, the quality of the goods is carefully checked. Freshness is assessed for fruits and vegetables, while expiration dates are verified for grocery items. Receiving may also coordinate with the Food & Beverage Product Department, particularly the butcher, to inspect the quality of meat. Once the goods meet the required standards, Receiving stamps the supplier's invoice with a register number and the recipient's signature as proof of receipt. For example, if the Purchasing Department orders shrimp and mackerel from a supplier, it provides a Purchase Order to Receiving for inspection and acceptance. Upon delivery, receiving contacts the butcher to check the freshness and weight of the seafood. If the items meet the specifications, the invoice is stamped as approved. However, if there are discrepancies, such as excess weight or poor quality, the shrimp and mackerel are returned and replaced as per the user's request. Once the replacement items arrive, receiving coordinates with the butcher for another quality check before stamping the invoice and forwarding it, along with the Purchase Order, to Purchasing for the issuance of a new Purchase Order.

After inspection, goods are stored in designated areas according to their type and category. Proper storage practices are essential to maintain the quality and longevity of food ingredients. This includes controlling temperature and humidity levels in the chiller and storage areas, organizing items based on their arrival sequence for easy access, and recording stock movements in the bin-card to ensure accurate inventory tracking.

Regular maintenance of storage areas, including both store shelves and chillers, is crucial to preserving food quality and preventing spoilage. The Store Department should conduct thorough cleaning at least once a week, covering both the store area and the inside of the chiller. Frequent chiller malfunctions, often caused by excessively low temperatures leading to frozen doors, should be addressed promptly to ensure smooth operation.

Additionally, the Store Department must routinely check bin-cards to verify that the physical stock matches the recorded inventory in the system. This practice helps prevent discrepancies and ensures efficient stock management.

d) Taking of Goods

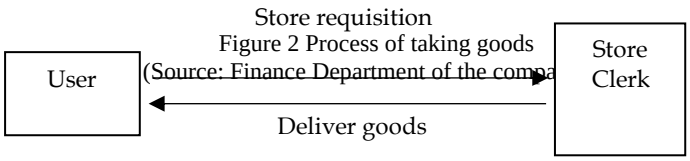

Figure 2 Process of taking goods
(Source: Finance Department of the compa

The process of retrieving goods must follow established procedures to minimize losses and ensure accurate inventory records. Every user, particularly from the Food and Beverage Product Department, must submit a store requisition when requesting items. This requisition must be based on the quantities recorded in the system, and the retrieval process should be conducted under the supervision of store personnel.

A store requisition serves as an official request for goods and contains essential details, including a unique record number that facilitates tracking and retrieval if needed in the future. Additionally, it includes the requesting department, item names, and requested quantities, enabling store clerks to efficiently gather the required goods. The requisition must also bear the signature of the requesting party, managerial approval, and the store clerk's acknowledgment upon item retrieval.

For instance, as illustrated in Figure 4.6, a store requisition from the Food and

Beverage Product Department may request specific quantities of food items, such as 5 kg of Dori fish, 2 kg of frozen peeled shrimp, 2 kg of beef fillet steak, 2 kg of frozen beef rump, and 5 kg of chicken breast. The requisition also includes the total food cost associated with these items. In cases where the inventory system is temporarily inactive or manual requisitioning is necessary, users may submit a handwritten request on plain paper. This document must include the date, the requester's signature, and the required quantities of items based on the market list provided by the store.

To maintain inventory efficiency and minimize waste, the First In, First Out (FIFO) method is strictly applied. This ensures that items with earlier expiration dates are used first, reducing spoilage and preventing unnecessary costs due to expired products. Once the requested items are retrieved, the store clerk must update the bin-card for each item to maintain accurate inventory records. This practice facilitates stock monitoring, improves inventory control, and supports smooth operations within the Food and Beverage Product Department.

4. Conclusion

The actual food cost percentage has consistently exceeded the predetermined 35% standard with a 2% tolerance, averaging 39.90% in 2017, 39.67% in 2018, and 38.74% in 2019. This persistent inefficiency indicates ineffective cost control, impacting profitability. A primary cause is the imbalance between high procurement costs and low sales revenue. Seasonal fluctuations in raw material prices, particularly for fruits and vegetables, further inflate expenses. Additionally, frequent refrigeration failures, especially chiller malfunctions, lead to food spoilage and increased waste. Regular maintenance is essential to mitigate this issue.

Ineffective inventory management also contributes to high costs. Poor adherence to the First In, First Out (FIFO) system results in food spoilage, while untracked stock movements due to the lack of formal requisitions create inventory discrepancies. Strengthening FIFO implementation and enforcing strict inventory tracking can improve efficiency.

Food cost stability is influenced by external and internal factors. Externally, supplier selection and market price fluctuations play a key role. Establishing long-term contracts and conducting regular market surveys can help manage costs. Internally, optimizing ordering, storage, and goods issuance processes is crucial.

Achieving food cost efficiency requires a comprehensive approach that addresses these challenges. Enhancing procurement strategies, enforcing strict inventory control, and maintaining best practices in food handling will help reduce unnecessary costs and improve overall profitability.

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