



THE APPLICATION OF MENU ENGINEERING TECHNIQUE IN DETERMINING MARKETING STRATEGY AT THE DEN OF KALAHA RESTAURANT JAKARTA

Imam Ardiansyah Universitas Bunda Mulia Original Research Received 6 February 2020 Revised 9 March 2020 Accepted 12 April 2020

Abstract

This research was conducted to determine the classification of menu at The Den of Kalaha restaurant in Jakarta and evaluate the marketing strategies to increase the restaurant's profit using the menu engineering technique. The research approach is qualitative using descriptive analysis with menu engineering analysis methods. The object of this study is all food menus at The Den of Kalaha restaurant which were sold in between July and December 2019. The results of the research were obtained from food menu in all categories. Out of the 74 menu items, 14 falls into the *star* group (18.92%), 22 in the *plowhorse* group (29.73%), 22 in the *puzzle* group (29.73%), and 16 in the *dog* group (21.62%). Suggestions for management is to periodically implement the menu engineering technique, where the benefits are that management to be responsive and able to make the right decisions if profits having a decline.

Keywords: menu engineering, popularity index, food menu, contribution margin

Abstrak

Tujuan penelitian ini adalah untuk menentukan klasifikasi menu di restoran The Den of Kalaha di Jakarta dan mengevaluasi strategi pemasaran untuk meningkatkan laba restoran menggunakan teknik *menu engineering*. Metode penelitian adalah kualitatif dengan menggunakan analisis deskriptif dengan analisis rekayasa menu. Objek penelitian ini adalah semua menu makanan di restoran The Den of Kalaha yang terjual antara bulan Juli dan Desember 2019. Hasil penelitian diperoleh dari menu makanan di semua kategori. Dari 74 item menu, 14 masuk ke dalam kelompok *star* (18,92%), 22 dalam kelompok *plowhorse* (29,73%), 22 dalam kelompok *puzzle* (29,73%), dan 16 dalam kelompok *dog* (21,62%). Saran bagi manajemen adalah menerapkan teknik *menu engineering* secara berkala yang manfaatnya menjadikan manajemen lebih responsif dan mampu membuat keputusan yang tepat jika laba mengalami penurunan. *Kata Kunci: menu engineering, index popularitas, menu makanan, margin kontribusi*

Corresponding Author:

iardiansyah@bundamulia.ac.id

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INTRODUCTION

Today's tourism industry is being promoted by the government besides the natural products which has an important role in the Indonesian economy. The development paradigms of several countries are now more oriented towards the development of the service sector and industry, including tourism. Likewise, in Indonesia, tourism sector activities have been encouraged and responded positively by the government in the hope that this sector will help increase foreign exchange reserves and pragmatically will also be able to increase people's income.

One of the facilities that support tourism activities is the service business that provides food and drinks or commonly referred to as restaurants. The definition of restaurant according to Ninemeier and Hayes (2011) is a food service operation that brings profit where the main base includes selling food and drinks to individuals and guests in small groups. The factor that is the main strength for businesses in the restaurant sector is the menu, even the menu can also be the identity of the restaurant. A good menu can be a major source of income for restaurants and can be a capital for a restaurant to last long enough even for years. Therefore, the ability to provide the menu will determine the success of the culinary business. According to Ninemeier (2006), there is a belief in the food service industry that everything starts with the menu. Along with the development of the culinary world today, restaurants are also experiencing quite rapid development, especially in the variety of food and beverage menus.

According to Spears and Gregoire (2012), a menu is a list of food items available for selection by a customer, serves as the primary control of the food service operation and is the core common to all functions of the system. The menu has an important role in restaurant operations because it is a benchmark in starting a restaurant business. Restaurant themes, decor, layout and employee placement all depend on the menu offered. Therefore, the menu is very influential in the success of a restaurant business, especially when viewed from the function side of it, which is a marketing tool of food and beverages for selling and promotion (Suyono, 2004).

As an important factor in supporting the success of a restaurant business to sell food and drinks, a menu must be chosen well, in terms of taste, appearance and price that is attractive to consumers and provide benefits for restaurants. Aside from being a tool offering a product, in a restaurant business a menu also needs to be evaluated. This aims to help the management in planning

the next menu. In addition, with the menu evaluation process, management can find out if there are less popular menus, so that management can immediately take action on the problem.

A good menu can be seen from the level of sales and its ability to provide profits or the level of popularity and profitability. As stated by Ninemeier and Hayes (2011), there are two factors measuring how good the menu is: its popularity and its profitability. The statement shows that those are the two benchmarks of a menu that can be said to be good in terms of popularity and in terms of profits.

The relationship between the two parameters need to be made a comparison that can provide conclusions about the position of each type of food in the offered menu mix so it will get a category about the ability of these food menu items. As expressed by Ninemeier (2006), with these tools from the menu engineering, a manager can evaluate the profitability of the menu items and classify them as either a star, plowhorse, puzzle or dog, so with this classification it will facilitate the marketing strategy related to food menus that will be sold in the restaurant.

Although, at first glance, the menu engineering looks very complex, but it apparently has been widely used in improving managerial effectiveness in manufacturing price, content, design and marketing strategy. As with other economic activities, pressure due to inflation is one of the most troubling obstacles restaurant entrepreneurs, especially the presentation.

To further clarify the point stated previously, the current research shows concerns related to the menu offered by The Den of Kalaha Restaurant Jakarta. The data in Table 1 displays the food sales from July to December in 2018 and 2019.

Category	J	ul	A	ug	S	ер	0	ct	N	ov	D	ec	To	tal	Variance
Category	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	variance
Appetizer	1009	862	990	846	1064	950	1012	946	1110	941	1043	940	6228	5485	-7.4336
Salad	165	135	220	176	199	170	196	177	189	160	187	187	1156	1005	-1.5087
Main course	2022	1631	2053	1604	1805	1612	1912	1677	1827	1617	1875	1786	11495	9927	-15.6829
Soup	577	465	537	459	461	412	527	443	535	453	574	517	3211	2749	-4.6165
Pasta	631	509	624	533	638	555	620	579	634	556	640	542	3786	3274	-5.1195
Asian	419	338	364	311	373	333	397	371	444	376	470	398	2466	2127	-3.3924
Kids Menu	268	216	233	199	254	235	236	221	296	251	284	241	1572	1363	-2.085

Table 1. Food Menu Sales Proceeds

Based on the data from each menu category offered for 6 months, the 2019 period has a declining trend compared to 2018 with a difference rate of 2% to 7% per year. From the sales data, the problem lies in the decreasing amount of sales. By this evaluation alone, the management needs to find creative solutions to survive the restaurant industry.

Based on the objectives of this research, the research problems are: (1) What is the classification of food menu of The Den of Kalaha using the technique of menu engineering? (2) What are the suggestions for the marketing strategy at The Den of Kalaha after the menu engineering analysis?

LITERATURE REVIEW

Menu

The menu is a list of food and drinks accompanied by prices and a brief explanation of the processing that is served to guests who come to the restaurant. According to Ninemeier (2006), the menu is the basis for controlling processes in food and beverage operations. As a basis, menu planning controls the core of the beginning of an activity process. A menu can affect the sales of food items, an attractive and appropriate menu arrangement can increase sales.

Kotschevar and Withrow (2008) mentioned that the menu is the central management document around which the whole food service operation revolves. A menu consisting of food and drinks is a product offered by a restaurant with the primary purpose of being sold. Thus, the menu is the basis for the establishment of a restaurant or other food service business which can affect the success or failure of operations.

Menu Engineering

One of the purposes of menu engineering is to measure the ability of the menu to meet the desires of guests, as well as to determine the contribution of profits obtained by the hotel from the sale of food and beverages that can help increase sales targets. Based on Drydale and Aldrich's (2002) study, menu engineering is an approach to evaluating menu prices, design, and decision making for the present and future. According to Ninemeier (2006), menu engineering analysis is an approach used

to evaluate a menu item to determine whether items that have high profits have been sold namely four box analysis. Analysis in the form of four boxes illustrates the category of a menu that has been analyzed from the group rank found in the Mix Menu.

Menu engineering periodically is able to provide the decision to formulate a strategy based on the results of menu sales that have occurred within a certain period of time. Hence, to know the solutions and follow-up that must be done to increase the volume of sales for the next menu.

According to Kasavana and Donald (1982), there are several questions to answer before starting menu engineering: (1) What is the most favorable price for a menu; (2) What are the potential costs for the menu being sold; (3) At the level of prices and mixed models that a restaurant can increase its profits; (4) Which of the current menu materials needs to be rearranged, replaced or repositioned; and (5) How this change can be evaluated.

Popularity Index

Menu evaluation can be done by analyzing the level of popularity and the level of profits obtained by the company from each product sold. Item sales are recorded over an establishment period of time and evaluated on the basis of two major factors: popularity and contribution to sales, to find out how far a menu is popular, which can be done by recording and analyzing the number of sales from the menu offered (Scanlon, 2000).

Sales history is a format for recapitulating sales during a period. A sales history is the systematic recording of all sales achieved during a predetermined time period (Miller et al., 2002). The above understanding can be interpreted that the sales history is a systematic record of all sales results obtained within a certain period.

After knowing the number of sales from the sales history, we will calculate the expected popularity index from each menu. Popularity index can be calculated by dividing the number of servings sold from one menu type by the total servings sold from all menus (Dittmer, 2003).

Menu Mix

Next is to determine the menu mix percentage of each menu. The definition of a mix percentage menu according to Coltman and Jagels (2001) is a menu of mixed percentage is converts the number

sold of each menu item into a percentage of all items sold. The quantity sold of each item is divided by the total of all items sold then multiplied by 100. From this statement, it can be seen that the menu mix percentage is a percentage of the total sales of each menu, which is obtained by dividing the number of portions sold from each menu by the total of all menus sold then multiplied by 100.

According to Coltman and Jagel (2001), the categories of the Menu Mix % are to record either an H (for High) or L (for Low). These definitions are made by comparing each menu item's Menu Mix Percentage with the average popularity of all menu items. If the figure Mix % menu is higher than the average, an H is recorded; and if it is less than average, an L is recorded.

Contribution Margins

Contribution margins are data used to determine the profitability of a menu. In the contribution margin, there are two determining factors, such as food cost and selling price. According to Ninemeier (2006), contribution margins are calculated by subtracting food costs from revenue which can be interpreted as CM which is calculated by subtracting food costs from total income. This is also supported by Suyono's (2004) study that the profitability of food is calculated using the parameters of gross profit (contribution margin) obtained by reducing the cost of ingredients per food (portion cost per portion) of the selling price. According to Dittmer and Keefe (2009), if contribution margin for a given menu item is lower than the average contribution margin, the entry for that item is L for low. If the contribution margin is higher than average, the entry is H for high.

Menu Classification

The menu can be evaluated by analyzing the popularity and ability of each type of food and drink on a menu to contribute to the benefits (Ninemeier, 2006). The menu items can be evaluated in terms of both their popularity and profitability. After a menu has known the level of popularity and profitability, a menu can be entered into a worksheet called a menu engineering worksheet. Each menu is classified into four categories: Star, Plowhorse, Puzzle, and Dog (Jagles & Ralston, 2007). These categories are classified based on popularity level and contribution margin level of a menu.

Menus that have a contribution margin that is higher than the average contribution margin and a level of popularity that is higher than the average popularity are classified into the Star category.

The Plowhorse category is a menu that has a contribution margin lower than the average contribution margin and a level of popularity that is higher than the average popularity. While the Puzzle category is a menu that has a contribution margin that is higher than the average contribution margin and a level of popularity that is lower than the average popularity. The last category is the Dog category, which is included in that category is a menu that has a level of contribution margin that is lower than the average popularity that is lower than the average popularity that is lower than the average popularity. The last category is the Dog category, which is included in that category is a menu that has a level of contribution margin that is lower than the average popularity. Below is an image of the menu engineering classification matrix showing the relationship between index popularity and contribution margin based on the explanation above.



Figure 1. Menu Engineering Classification

Tom and Annaraud (2017) expanded the model into 9 quadrants while applying the fuzzy set theory to develop a multi-criteria decision-making model (MCDM). With the use of the fuzzy set theory, this model was able to accept both qualitative and quantitative data to evaluate menu items' position on the quadrants. While these methods do not report menu item of performance-based pure factual and numerical data, it is very practical because it considers a decision maker's intuition in evaluating menu item performance. The use of matrixes possesses high flexibility whereby these approaches are not dependent on the availability of accurate data.

Thinking frameworks are conceptual models of how theories relate to factors that have been identified as important problems. Hence, the framework of thought is described in Figure 2.



Figure 2. Framework Model

RESEARCH METHODOLOGY

Type of research

The type of current research is descriptive qualitative. According to Sugiyono (2013), qualitative research is a research method used to examine the condition of natural objects, where the researcher is the key instrument, data collection techniques are carried out by triangulation. Meanwhile, according to Kusmayadi and Sugiarto (2005), descriptive method is research that seeks to describe the phenomena studied systematically, factually and accurately. In other words the use of descriptive research methods, namely the depiction of the actual problems by searching, recording and analyzing based on the data obtained.

Data Collection Techniques

Collecting data is an important step in research given the importance of the meaning of the data in the study, so in this study the data collection methods used are as follows:

a. Documentation

According to Sugiyono (2013), documents are records of events that have already passed, and they can be in the form of writings, drawings or monumental works of a person.

b. Literature Study

Literature study is a data collection technique that is carried out by searching, gathering, reading and studying and understanding reference literature sourced from books, journals, papers and other sources relevant to the problem being studied in order to get clarity of concepts and theoretical basis related to the discussion.

c. Interview

An interview is a meeting of two people to exchange information and ideas through questions and answers so that it can be constructed of meaning in a particular topic (Sugiyono, 2013). The purpose of an interview is to find problems openly, where the parties invited to the interview are asked for opinions.

Data Analysis Methods

There are several steps in determining the analysis of marketing strategies by applying menu engineering technique in The Den of Kalaha:

1. Menu Items Analysis

This analysis is carried out to evaluate the entire menu by analyzing all items in the food menu. The data required is the sale of each menu, contribution margin, food cost, selling price and menu listing.

2. Menu Mix Analysis

The menu mix analysis functions to classify the menus based on popularity and contribution margin to the company by calculating the % Menu Mix Share and Average Contribution Margin. Menu evaluation can be obtained by analyzing the level of popularity and the level of profits obtained by the company from each product sold. After knowing the number of sales from the sales history, we will calculate the expected popularity index from each menu. Popularity index can be calculated by dividing the number of servings sold from one menu type by the total servings sold from all menus.

3. Menu Engineering Summary

The Menu Engineering Summary is the result of a total summary, average, low price and highest price of income, food cost, CM, and also the food cost percentage of the entire menu to be analyzed.

4. Four Box Analysis

After the data has been analyzed, the next step is to group the data into four box analysis. Each menu that has been analyzed is categorized according to their class. Its function is to make it easier to read the categories from each menu analyzed.

5. Graphic Menu Engineering

Making graphics in menu engineering menu serves to facilitate viewing the menus that have been analyzed in graphical form, see the menu in a clearer position and easily see trends from each menu that has been positioned in the graph.

RESULTS AND DISCUSSION

Calculation of Menu Popularity Index

To get menu evaluation is by analyzing the level of popularity and the level of profits obtained by the company from each product sold. To find out how far a menu is popular, it can be obtained by recording and analyzing the number of sales from the menu offered. Sales history is a format for recapitulating sales during a period. Appendix 1 shows the number of food sales in the period of July-December 2019.

The Den of Kalaha restaurant has 74 items on the menu consisting of 7 categories: Appetizer, Salad, Main course, Soup, Pasta, Asian, and Kids Menu. After knowing the number of sales from the sales history, we can calculate the expected popularity index from each of the menu. Popularity index can be calculated by dividing the number of servings sold from one menu type by the total servings sold from all menus (see Figure 3 for the formula). Table 3 shows the menu popularity index into 7 categories. Table 2 shows the menu popularity index into 7 categories.



Figure 3. Popularity Index Calculation

Next is to determine the menu mix percentage of each menu obtained by dividing the number of portions sold from each menu by the total of all menus sold then multiplied by 100. A menu can be classified in the High category if the mix % of a menu is greater than the average popularity of the entire menu, conversely a menu can be classified in the Low category if the mix % of a menu is lower than the average popularity of the entire menu. Appendix 2 shows the popularity level of each menu for the period of July-December 2019.

No	Menu Category	Items	Popularity Index (%)
1	Appetizer	17	4.12
2	Salad	4	17.5
3	Main Course	26	2.70
4	Soup	9	7.77
5	Pasta	6	11.67
6	Asian	6	11.67
7	Kids Menu	6	11.67

Table 2. Menu Popularity Index (July-December 2019)

Calculation of Contribution Margin

Contribution margins are data used to determine the profitability of a menu. In the contribution margin there are two determining factors: food cost and selling price. Contribution margins are calculated by subtracting food costs from total revenue. From this understanding can be formulated into:

Contribution Margin = Selling Price - Food Cost per portion



After calculating the contribution margin of each menu, the next step is to calculate the average contribution margin for each menu category, the average contribution margin obtained by dividing the total contribution margin by the total menus sold. So, it can be formulated as follows:

 Avg. Contribution Margin
 =
 Total Contribution Margin

 Total Number of Items Sold

Figure 5. Average Contribution Margin Calculation

The results of the Item Contribution Margin will be compared with the Average Contribution Margin to see the high or low level of contribution of a menu item. Which can be interpreted, if the contribution margin of an item is lower than the average margin contribution, then it can be recorded or marked with L as low conversely if the margin contribution of an item is higher than the average margin contribution, then it can be indicated by H as high. Appendix 3 shows the contribution margins of the menu.

Menu Classification

Following the level of popularity and profitability, a menu can be logged into the menu engineering worksheet. Each menu is classified into four categories, i.e. Star, Plowhorse, Puzzle, and Dog. These categories are classified based on popularity level and contribution margin level of a menu. Menus that have a contribution margin that is higher than the average contribution margin and a level of popularity that is higher than the average popularity are classified into the Star category. The Plowhorse category is a menu that has a contribution margin lower than the average contribution margin and a level of popularity that is higher than the average popularity. While the Puzzle category is a menu that has a contribution margin that is higher than the average popularity. While the Puzzle category is a menu that has a contribution margin that is higher than the average contribution margin and a level of popularity that is lower than the average popularity. The last category is the Dog category, which is included in that category is a menu that has a level of contribution margin that is lower than the average popularity that is lower than the average popularity.

Based on the calculated data analysis, it can be seen of the 74 menu items at The Den of Kalaha Restaurant Jakarta, 14 items fall into the Star group or 18.91%, 22 items in the Plowhorse group (29.72%), 22 in the Puzzle group (29.72%), and 16 in the Dog group (21.62%). Appendix 4 shows the summary of menu classification by category.

After evaluating with the engineering menu technique, it can be seen that the 14 items in the Star menu category (18.91%) boasts high profit level and high popularity level, followed by the 22 popular but less profitable items in the Plowhorse menu (29.72%), 16 unpopular and unprofitable items in the Dog menu (21.62%), and 22 low popularity yet high profit items in the Puzzle menu (29.72%).

CONCLUSION AND RECOMMENDATIONS

Conclusion

Based on the results of the analysis of the popularity index of the menu, it can be concluded that out of the 74 food items, 36 items (48.64%) are in the category that has a high popularity index, while 38 items (51.35%) are in the category that has a low popularity index. Based on the results of the analysis of the contribution margin of the menu, it can be concluded that out of the 74 food items, 36 items (48.64%) are in the category with high contribution margins, while 38 items (51.35%) fall into the category of low contribution margins. From the overall category, 14 items are included in the Star group (18.91%) 22 in the Plowhorse group (29.72%), 22 in the Puzzle group (29.72%), and 16 in the Dog group (21.62%).

Recommendations

The research results provide restaurant managers with significant insights. The management is suggested to monitor the performance of the existing menus and pay attention to the main indicators of the relationship with the popularity index and contribution margin to ensure that the expectations to increase profits can be continuously achieved.

The management may also be well advised to consider evaluating the menus periodically by implementing menu engineering technique to improve better decision making in the event of

unintended consequences to happen, e.g. a low inventory turnover, decreasing profit margins in the restaurant.

The marketing strategies for the Star category shows that the management is able to maintain and improve the quality of the food and the appearance so that it remains accepted by consumers. By using the highest quality ingredients, the taste of the food will be maintained in accordance with existing standard recipe. The price of raw materials needs to be reviewed so that if there is an increase can be gradual without overly burdening consumers. The management is advised to conduct a comparative study to a competitor's restaurant to see a comparison of price, appearance and taste to be able to innovate the menus.

For the Plowhorse category shows that the management may want to evaluate the costs incurred because this menu is included in the menu which does not provide a maximum contribution margin for the company. The supervision needs to be extra strict in terms of ordering raw materials, processing and forms of food serving patterns so that the expected profit results can be realized. The management is advised to carry out a gradual process in an effort to increase selling prices so that if this happens there is slowly improvement and there is progress, then these menus will be a star menu category.

For the Puzzle category, it seems that there is a need for a management review by paying attention to the selling price by lowering it so that it can be well accepted by consumers. Providing discounted prices of the menu may increase sales while promoting them on all lines of marketing media. It is also advised to limit the quantity the menu items by removing or repositioning them to avoid overloading the restaurant cost.

For the Dog category, the management needs to review whether some of the menu items to be replaced with fresher and interesting ones. To change the names in the menu is also advised. To enhance the taste and appearance, the management needs to supervise the menu. The staff needs to be well educated by providing information for suggestive selling so the popularity level of the menu will increase. Substitution of food ingredients at lower prices without reducing the taste and appearance of the food is also advisable.

This research suffers from certain limitations that merit mention. The research did not analyze the entire restaurant menu, as beverages, desserts and promotions were excluded from the analysis. It means that it was not possible to evaluate the entire establishment, providing only a partial view of the restaurant. The suggestion for future research is to apply this menu engineering technique to other restaurant types located in different geographical areas to validate the approach and evaluate the efficiency of this techniques over the time.

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No.	Appetizer	Jul	Aug	Sep	Oct	Nov	Dec	Total
1	Onion Rings	97	84	102	88	91	95	557
2	French Fries	125	112	126	119	132	128	742
3	Spring Rolls	62	75	52	72	75	64	400
4	Chicken Wings	43	51	55	62	58	59	328
5	Escargot	27	25	32	22	21	34	161
6	Mozzarella Croquette	45	51	63	54	44	60	317
7	Beef Croquette	32	25	22	30	19	24	152
8	Crab Croquette	15	17	18	21	22	25	118
9	Fried Cheese	87	74	95	112	124	114	606
10	Bitterbalen	30	24	66	25	21	28	194
11	Quiche Lorraine	64	55	54	71	53	55	352
12	Nachos	60	61	52	63	75	59	370
13	Foie Gras	12	15	21	16	22	26	112
14	Calamari	61	68	74	59	49	51	362
15	Fish Fingers	31	41	45	55	57	49	278
16	Seafood Platter	26	31	22	21	19	17	136
17	Mixed Platter	45	37	51	56	59	52	300
							Total	5,485
No.	Salad	Jul	Aug	Sep	Oct	Nov	Dec	Total

Appendix 1. Sales History of Food Products (July - December 2019)

No.	Salad	Jul	Aug	Sep	Oct	Nov	Dec	Total
18	House Salad	13	15	10	17	21	25	101
19	Vegetarian Salad	25	31	36	31	29	24	176
20	Chicken Caesar Salad	62	89	78	71	59	91	450
21	Smoked Duck Salad	35	41	46	58	51	47	278
							Total	1.005

No.	Main Course	Jul	Aug	Sep	Oct	Nov	Dec	Total
22	Classic Burger	154	146	132	112	96	125	765
23	Hot Dog	125	112	126	120	132	128	743
24	Sausage Curry Calzone	61	65	54	48	71	75	374
25	Cheesy Meaty Pizza	62	75	52	72	75	64	400
26	Hamburger Steak	64	55	54	71	53	55	352
27	Bamboo Charcoal Pizza	81	85	90	78	91	75	500
28	Tenderloin Steak	32	49	26	48	61	70	286
29	Fish n Chips	30	24	66	25	21	28	194
30	Pan Fried John Dory	35	25	19	33	35	42	189
31	Pan Seared Salmon	32	19	20	15	17	19	122
32	Seafood Paella	12	15	21	16	22	26	112
33	Teriyaki Burger	27	25	32	32	25	22	163
34	Oz Burger	43	51	55	62	58	59	328
35	Valencian Paella	15	17	18	21	22	25	118
36	Mixed Paella	34	35	41	42	39	40	231
37	Volcano Shrimps	24	25	31	40	33	32	185
38	Chicken Diablo	75	74	80	79	69	88	465
39	Chicken Roll	62	89	78	71	59	91	450
40	Croque - Monsieur	19	18	22	30	12	14	115
41	Croque - Madame	17	14	21	22	26	29	129
42	Pork and Mushroom Risotto	22	23	24	26	35	29	159
43	Smoked Pork Loin	33	20	15	19	29	33	149
44	Pan Fried Pork Medallions	26	31	32	41	20	23	173
45	BBQ Pork Ribs	41	20	33	35	26	31	186
46	Riso Con Carne	19	21	35	51	20	31	177
47	Vegetable Paella	21	12	23	25	17	15	113
	-						Total	7,178

No.	Soup	Jul	Aug	Sep	Oct	Nov	Dec	Total
48	Green Peas Soup	17	14	21	22	26	29	129
49	Consome Soup	33	20	15	19	29	33	149
50	Minestrone Soup	12	15	21	16	22	26	112
51	Claim Cowder	15	17	18	21	22	25	118
52	Mushroom Soup	120	119	105	139	130	125	738
53	Seafood Soup	80	79	65	71	76	89	460
54	Lobster Bisque	26	18	17	11	22	14	108
55	Oxtail Soup	131	145	132	121	110	151	790
56	Irish Stew	31	32	18	23	16	25	145
							Total	2,749
No.	Pasta	Jul	Aug	Sep	Oct	Nov	Dec	Total
57	Spaghetti Aglio Olio	142	134	122	158	162	144	862
58	Spaghetti Bolognaese	122	131	145	149	112	135	794
59	Spaghetti Carbonara	80	110	115	109	95	97	606
60	Spaghetti Chicken Alfredo	81	84	89	80	94	79	507
61	Farfalle Tuna	62	53	64	55	61	58	353
62	Fetuccine Salmon	22	21	20	28	32	29	152
							Total	3274
No.	Asian	Jul	Aug	Sep	Oct	Nov	Dec	Total
63	Wok Roasted Rice	120	119	105	120	132	128	724
64	Beef Cubes in Black Soup	17	14	21	22	26	29	129
65	Ox Tounge Stew	24	25	31	40	33	32	185
66	Fried Rice	125	112	126	119	136	145	763
67	Curry Rice	33	20	15	19	29	33	149
68	Cutlet Curry Rice	19	21	35	51	20	31	177
	-						Total	2,127
No.	Kid's Menu	Jul	Aug	Sep	Oct	Nov	Dec	Total
69	Chicken Finger	26	31	22	21	22	29	151
70	Kids Burger	60	47	55	63	75	59	359
71	Kids Corndog	17	14	21	22	26	17	117
72	Chicken Nugget	74	65	84	77	82	76	458
73	Kids Pasta	27	25	32	22	21	34	161
74	Fish in the Basket	12	17	21	16	25	26	117
							Total	1,363
		Grand	Total					23,181

No	Appetizer	Unit Sold	Menu Mix (%)	MM Category
1	Onion Rings	557	10.15	High
2	French Fries	742	13.53	High
3	Spring Rolls	400	7.29	High
4	Chicken Wings	328	5.98	High
5	Escargot	161	2.94	Low
6	Mozzarella Croquette	317	5.78	High
7	Beef Croquette	152	2.77	Low
8	Crab Croquette	118	2.15	Low
9	Fried Cheese	606	11.05	High
10	Bitterbalen	194	3.54	Low
11	Quiche Lorraine	352	6.42	High
12	Nachos	370	6.75	High
13	Foie Gras	112	2.04	Low
14	Calamari	362	6.60	High
15	Fish Fingers	278	5.07	High
16	Seafood Platter	136	2.48	Low
17	Mixed Platter	300	5.47	High
	Total	5485		
	Popularity Index	4.12		

Appendix 2. The Menu Mix Category (July-December 2019)

No	Salad	Unit Sold	Menu Mix (%)	MM Category
1	House Salad	101	10.05	Low
2	Vegetarian Salad	176	17.51	High
3	Chicken Caesar Salad	450	44.78	High
4	Smoked Duck Salad	278	27.66	High
	Total	1005		-
	Popularity Index	17.50		

No	Main Course	Unit Sold	Menu Mix (%)	MM Category
1	Classic Burger	765	10.66	High
2	Hot Dog	743	10.35	High
3	Sausage Curry Calzone	374	5.21	High
4	Cheesy Meaty Pizza	400	5.57	High
5	Hamburger Steak	352	4.90	High
6	Bamboo Charcoal Pizza	500	6.97	High
7	Tenderloin Steak	286	3.98	High
8	Fish n Chips	194	2.70	Low
9	Pan Fried John Dory	189	2.63	Low
10	Pan Seared Salmon	122	1.70	Low
11	Seafood Paella	112	1.56	Low
12	Teriyaki Burger	163	2.27	Low
13	Oz Burger	328	4.57	High
14	Valencian Paella	118	1.64	Low
15	Mixed Paella	231	3.22	High
16	Volcano Shrimps	185	2.58	Low
17	Chicken Diablo	465	6.48	High
18	Chicken Roll	450	6.27	High
19	Croque - Monsieur	115	1.60	Low
20	Croque - Madame	129	1.80	Low
21	Pork and Mushroom Risotto	159	2.22	Low
22	Smoked Pork Loin	149	2.08	Low
23	Pan Fried Pork Medallions	173	2.41	Low
24	BBQ Pork Ribs	186	2.59	Low
25	Riso Con Carne	177	2.47	Low
26	Vegetable Paella	113	1.57	Low
	Total	7178		
	Popularity Index	2.70		

No	Soup	Unit Sold	Menu Mix (%)	MM Category
1	Green Peas Soup	129	4.69	Low
2	Consome Soup	149	5.42	Low
3	Minestrone Soup	112	4.07	Low
4	Claim Cowder	118	4.29	Low
5	Mushroom Soup	738	26.85	High
6	Seafood Soup	460	16.73	High
7	Lobster Bisque	108	3.93	Low
8	Oxtail Soup	790	28.74	High
9	Irish Stew	145	5.27	Low
	Total	2749		
	Popularity Index	7.77		

No	Pasta	Unit Sold	Menu Mix (%)	MM Category
1	Spaghetti Aglio Olio	862	26.33	High
2	Spaghetti Bolognaese	794	24.25	High
3	Spaghetti Carbonara	606	18.51	High
4	Spaghetti Chicken Alfredo	507	15.49	High
5	Farfalle Tuna	353	10.78	Low
6	Fetuccine Salmon	152	4.64	Low
	Total	3274		
	Popularity Index	11.67		

No.	Asian	Unit Sold	Menu Mix (%)	MM Category
1	Wok Roasted Rice	724	34.04	High
2	Beef Cubes in Black Soup	129	6.06	Low
3	Ox Tounge Stew	185	8.70	Low
4	Fried Rice	763	35.87	High
5	Curry Rice	149	7.01	Low
6	Cutlet Curry Rice	177	8.32	Low
	Total	2127		
	Popularit Index	11.67		

No.	Kids Menu	Unit Sold	Menu Mix (%)	MM Category
1	Chicken Finger	151	11.08	Low
2	Kids Burger	359	26.34	High
3	Kids Corndog	117	8.58	Low
4	Chicken Nugget	458	33.60	High
5	Kids Pasta	161	11.81	Low
6	Fish in the Basket	117	8.58	Low
	Total	1363		
	Popularity Index	11.67		

No.	Appetizer	Unit Sold (MM)	Item Cost (IDR)	Selling Price (IDR)	Item CM (IDR)	Menu Cost (IDR)	Revenue (IDR)	Menu CM (IDR)	CM Category
1	Onion Rings	557	16,800	42,000	25,200	9,357,600	23,394,000	14,036,400	Low
2	French Fries	742	22,800	57,000	34,200	16,917,600	42,294,000	25,376,400	Low
3	Spring Rolls	400	20,800	52,000	31,200	8,320,000	20,800,000	12,480,000	Low
4	Chicken Wings	328	25,200	63,000	37,800	8,265,600	20,664,000	12,398,400	Low
5	Escargot	161	37,600	94,000	56,400	6,053,600	15,134,000	9,080,400	Hi
6	Mozzarella Croquette	317	22,800	57,000	34,200	7,227,600	18,069,000	10,841,400	Low
7	Beef Croquette	152	25,200	63,000	37,800	3,830,400	9,576,000	5,745,600	Low
8	Crab Croquette	118	25,200	63,000	37,800	2,973,600	7,434,000	4,460,400	Low
9	Fried Cheese	606	16,800	42,000	25,200	10,180,800	25,452,000	15,271,200	Low
10	Bitterbalen	194	25,200	63,000	37,800	4,888,800	12,222,000	7,333,200	Low
11	Quiche Lorraine	352	27,200	68,000	40,800	9,574,400	23,936,000	14,361,600	High
12	Nachos	370	29,200	73,000	43,800	10,804,000	27,010,000	16,206,000	High
13	Foie Gras	112	104,800	262,000	157,200	11,737,600	29,344,000	17,606,400	High
14	Calamari	362	25,200	63,000	37,800	9,122,400	22,806,000	13,683,600	Low
15	Fish Fingers	278	27,200	68,000	40,800	7,561,600	18,904,000	11,342,400	High
16	Seafood Platter	136	75,600	189,000	113,400	10,281,600	25,704,000	15,422,400	High
17	Mixed Platter	300	35,600	89,000	53,400	10,680,000	26,700,000	16,020,000	High
	Total	5,485				147,777,200	369,443,000	221,665,800	•
	Average CM							40,413	

Appendix 3. Contribution Margins (July-December 2019)

No.	Salad	Unit Sold (MM)	Item Cost (IDR)	Selling Price (IDR)	Item CM (IDR)	Menu Cost (IDR)	Revenue (IDR)	Menu CM (IDR)	CM Category
18	House Salad	101	16,800	42,000	25,200	1,696,800	4,242,000	2,545,200	Low
19	Vegetarian Salad	176	18,800	47,000	28,200	3,308,800	8,272,000	4,963,200	Low
20	Chicken Caesar Salad	450	22,800	57,000	34,200	10,260,000	25,650,000	15,390,000	Low
21	Smoked Duck Salad	278	31,200	78,000	46,800	8,673,600	21,684,000	13,010,400	High
	Total	1,005				23,939,200	59,848,000	35,908,800	-
	Average CM							35,730	

No.	Main Course	Unit Sold (MM)	Item Cost (IDR)	Selling Price (IDR)	Item CM (IDR)	Menu Cost (IDR)	Revenue (IDR)	Menu CM (IDR)	CM Category
22	Classic Burger	765	27,200	68,000	40,800	20,808,000	52,020,000	31,212,000	Low
23	Hot Dog	743	27,200	68,000	40,800	20,209,600	50,524,000	30,314,400	Low
24	Sausage Curry Calzone	374	29,200	73,000	43,800	10,920,800	27,302,000	16,381,200	Low
25	Cheesy Meaty Pizza	400	35,600	89,000	53,400	14,240,000	35,600,000	21,360,000	Low
26	Hamburger Steak	352	35,600	89,000	53,400	12,531,200	31,328,000	18,796,800	Low
27	Bamboo Charcoal Pizza	500	42,000	105,000	63,000	21,000,000	52,500,000	31,500,000	High
28	Tenderloin Steak	286	67,200	168,000	100,800	19,219,200	48,048,000	28,828,800	High
29	Fish n Chips	194	39,600	99,000	59,400	7,682,400	19,206,000	11,523,600	High
30	Pan Fried John Dory	189	33,600	84,000	50,400	6,350,400	15,876,000	9,525,600	Low
31	Pan Seared Salmon	122	48,000	120,000	72,000	5,856,000	14,640,000	8,784,000	High
32	Seafood Paella	112	62,800	157,000	94,200	7,033,600	17,584,000	10,550,400	High
33	Teriyaki Burger	163	27,200	68,000	40,800	4,433,600	11,084,000	6,650,400	Low
34	Oz Burger	328	37,600	94,000	56,400	12,332,800	30,832,000	18,499,200	Low
35	Valencian Paella	118	54,400	136,000	81,600	6,419,200	16,048,000	9,628,800	High
36	Mixed Paella	231	62,800	157,000	94,200	14,506,800	36,267,000	21,760,200	High
37	Volcano Shrimps	185	46,000	115,000	69,000	8,510,000	21,275,000	12,765,000	High
38	Chicken Diablo	465	31,200	78,000	46,800	14,508,000	36,270,000	21,762,000	Low
39	Chicken Roll	450	35,600	89,000	53,400	16,020,000	40,050,000	24,030,000	High
40	Croque - Monsieur	115	29,200	73,000	43,800	3,358,000	8,395,000	5,037,000	Low
41	Croque - Madame	129	31,200	78,000	46,800	4,024,800	10,062,000	6,037,200	Low
42	Pork and Mushroom Risotto	159	33,600	84,000	50,400	5,342,400	13,356,000	8,013,600	High
43	Smoked Pork Loin	149	54,400	136,000	81,600	8,105,600	20,264,000	12,158,400	High
44	Pan Fried Pork Medallions	173	60,800	152,000	91,200	10,518,400	26,296,000	15,777,600	High
45	BBQ Pork Ribs	186	67,200	168,000	100,800	12,499,200	31,248,000	18,748,800	High
46	Riso Con Carne	<u>1</u> 77	27,200	68,000	40,800	4,814,400	12,036,000	7,221,600	Low

47	Vegetable Paella	113	46.000	115.000	69.000	5,198,000	12,995,000	7,797,000	High
	Total	7,178		- ,	,	276,442,400	691,106,000	414,663,600	0
	Average CM							57,769	

No.	Soup	Unit Sold (MM)	Item Cost (IDR)	Selling Price (IDR)	Item CM (IDR)	Menu Cost (IDR)	Revenue (IDR)	Menu CM (IDR)	CM Category
48	Green Peas Soup	129	16,800	42,000	25,200	2,167,200	5,418,000	3,250,800	Low
49	Consome Soup	149	18,800	47,000	28,200	2,801,200	7,003,000	4,201,800	Low
50	Minestrone Soup	112	18,800	47,000	28,200	2,105,600	5,264,000	3,158,400	Low
51	Claim Cowder	118	46,000	115,000	69,000	5,428,000	13,570,000	8,142,000	High
52	Mushroom Soup	738	20,800	52,000	31,200	15,350,400	38,376,000	23,025,600	Low
53	Seafood Soup	460	33,600	84,000	50,400	15,456,000	38,640,000	23,184,000	High
54	Lobster Bisque	108	39,600	99,000	59,400	4,276,800	10,692,000	6,415,200	High
55	Oxtail Soup	790	46,000	115,000	69,000	36,340,000	90,850,000	54,510,000	High
56	Irish Stew	145	40,000	100,000	60,000	5,800,000	14,500,000	8,700,000	High
	Total	2,749				89,725,200	224,313,000	134,587,800	
	Average CM							48 959	

No.	Pasta	Unit Sold (MM)	Item Cost (IDR)	Selling Price (IDR)	Item CM (IDR)	Menu Cost (IDR)	Revenue (IDR)	Menu CM (IDR)	CM Category
57	Spaghetti Aglio Olio	862	25,200	63,000	37,800	21,722,400	54,306,000	32,583,600	Low
58	Spaghetti Bolognaese	794	25,200	63,000	37,800	20,008,800	50,022,000	30,013,200	Low
59	Spaghetti Carbonara	606	29,200	73,000	43,800	17,695,200	44,238,000	26,542,800	High
60	Spaghetti Chicken Alfredo	507	29,200	73,000	43,800	14,804,400	37,011,000	22,206,600	High
61	Farfalle Tuna	353	29,200	73,000	43,800	10,307,600	25,769,000	15,461,400	High
62	Fetuccine Salmon	152	31,200	78,000	46,800	4,742,400	11,856,000	7,113,600	High
	Total	3,274				89,280,800	223,202,000	133,921,200	
	Average CM							40,904	

No.	Asian	Unit Sold (MM)	Item Cost (IDR)	Selling Price (IDR)	Item CM (IDR)	Menu Cost (IDR)	Revenue (IDR)	Menu CM (IDR)	CM Category
63	Wok Roasted Rice	724	18,800	47,000	28,200	13,611,200	34,028,000	20,416,800	Low
64	Beef Cubes in Black Soup	129	22,800	57,000	34,200	2,941,200	7,353,000	4,411,800	Low
65	Ox Tounge Stew	185	31,200	78,000	46,800	5,772,000	14,430,000	8,658,000	High
66	Fried Rice	763	27,200	68,000	40,800	20,753,600	51,884,000	31,130,400	High
67	Curry Rice	149	29,200	73,000	43,800	4,350,800	10,877,000	6,526,200	High
68	Cutlet Curry Rice	177	29,200	73,000	43,800	5,168,400	12,921,000	7,752,600	High
	Total	2,127				52,597,200	131,493,000	78,895,800	
	Average CM							37,093	

No.	Kid's Menu	Unit Sold (MM)	Item Cost (IDR)	Selling Price (IDR)	Item CM (IDR)	Menu Cost (IDR)	Revenue (IDR)	Menu CM (IDR)	CM Category
69	Chicken Finger	151	16,800	42,000	25,200	2,536,800	6,342,000	3,805,200	Low
70	Kids Burger	359	16,800	42,000	25,200	6,031,200	15,078,000	9,046,800	Low
71	Kids Corndog	117	16,800	42,000	25,200	1,965,600	4,914,000	2,948,400	Low
72	Chicken Nugget	458	16,800	42,000	25,200	7,694,400	19,236,000	11,541,600	Low
73	Kids Pasta	161	16,800	42,000	25,200	2,704,800	6,762,000	4,057,200	Low
74	Fish in the Basket	117	18,800	47,000	28,200	2,199,600	5,499,000	3,299,400	High
	Total	1,363				23,132,400	57,831,000	34,698,600	-
	Average CM							25,458	

Star (14 items)	Plowhorses (22 items)	
Quiche Lorraine	Onion Rings	Hamburger Steak
Nachos	French Fries	Oz Burger
Fish Fingers	Spring Rolls	Chicken Diablo
Mixed Platter	Chicken Wings	Mushroom Soup
Smoked Duck Salad	Mozzarella Croquette	Spaghetti Aglio Olio
Bamboo Charcoal Pizza	Fried Cheese	Spaghetti Bolognaese
Tenderloin Steak	Calamari	Wok Roasted Rice
Mixed Paella	Vegetarian Salad	Kids Burger
Chicken Roll	Chicken Caesar Salad	Chicken Nugget
Seafood Soup	Classic Burger	Oz Burger
Oxtail Soup	Hot Dog	Chicken Diablo
Spaghetti Carbonara	Sausage Curry Calzone	Mushroom Soup
Spaghetti Chicken Alfredo	Cheesy Meaty Pizza	Spaghetti Aglio Olio
Fried Rice	Hamburger Steak	Spaghetti Bolognese
	Kids Burger	Wok Roasted Rice
	Chicken Nugget	
Puzzles (22 items)	Dogs (16 items)	
Escargot	Beef Croquette	
Foie Gras	Crab Croquette	
Seafood Platter	Bitterbalen	
Fish n Chips	House Salad	
Pan Seared Salmon	Pan Fried John Dory	
Seafood Paella	Teriyaki Burger	
Valencian Paella	Croque - Monsieur	
Volcano Shrimps	Croque - Madame	
Pork and Mushroom Risotto	Riso Con Carne	
Smoked Pork Loin	Green Peas Soup	
Pan Fried Pork Medallions	Consome Soup	
BBQ Pork Ribs	Minestrone Soup	
Vegetable Paella	Beef Cubes in Black	
Claim Cowder	Soup	
Lobster Bisque	Chicken Finger	
Irish Stew	Kids Corndog	
Farfalle Tuna	Kids Pasta	
Fetuccine Salmon		
Ox Tounge Stew		
Curry Rice		
Cutlet Curry Rice		
Fish in the Basket		

Appendix 4. Menu Classification Summary (July-December 2019)