

# THE FACTORS INFLUENCING CONSUMER TO BUY COMBINED FRUITS DURING

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## THE FACTORS INFLUENCING CONSUMER TO BUY COMBINED FRUITS DURING THE COVID-19 PANDEMIC IN PALEMBANG CITY

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### ABSTRACT

Fruit consumption in COVID-19 pandemic is very necessary because fruit is a source of vitamins and minerals for the body's immunity. According to the benefits of fruit, so analyzing the influencing factors of consumption fruits combination in covid-19 pandemic is necessary. This research was conducted in Palembang city. The result of this research showed positive influence factors on the decision to purchase fruit combination are the price, the knowledge of the attributes, the education and the age variables.

### KEY WORDS

Fruit consumption, fruit combination, influencing factors.

During the Covid-19 pandemic, activities are often focused on the new normal. Government directives for people to work from home and social physical distance, as well as some local government regulations to isolate and limit mass movement in some areas, have brought new changes in almost all areas of food supply chain life, including changes in food supply chain patterns (Hirawan & Verselita, 2020).

Palembang City is one of the cities in Indonesia affected by the Covid-19 pandemic. According to BPS 2021 data, the average consumption of local kg fruit per week per capita in Palembang city in 2020 and 2021 is quite high when compared to other districts / cities in South Sumatra, especially for orange, apple and papaya commodities. Although Palembang City for the development area of horticultural commodities is not too broad, but with the existence of markets in the city, of course, the availability of fruit can still be fulfilled from the areas of horticultural commodity centers in neighboring districts and from outside the city.

Covid-19 cases continue to increase, supported by data from the Indonesian Ministry of Health, reaching 6,054,633 people as of May 29, 2022. However, in 2022 the covid-19 pandemic was more relaxed than in 2020 and 2021 because the increase in the covid-19 positive rate went hand in hand with an increase in the cure rate. South Sumatra Province is included in provinces with confirmed cases of the Covid-19 pandemic that are not so high, namely 84,309 people and a cure rate of 77,116 as of May 29, 2022 (Ministry of Health, 2022). From the description above, this research specifically aims to analyze the factors that influence the people of Palembang City to buy fruit combinations during the pandemic.

### METHODS OF RESEARCH

This research was conducted in Palembang City. The location selection was carried out purposively with consideration in 2020 and 2021. Palembang City is included in the red zone category for the spread of covid-19. The method used in this research is the survey method. The number of respondents was 40 samples who were fruit consumers in modern markets and traditional markets.

Furthermore, to answer the research objectives, logistic regression model analysis was used. This regression is considered the most appropriate tool for analyzing the data in this study because the dependent variable is a dichotomous purchasing decision (1 = more than 2 fruit combinations, 0 = 2 fruit combinations). Logistic Regression Analysis logit equation with the following formula:

$$P_i = F(Z_i) = (\beta^0 + \alpha + \beta_1 X_i) = \frac{1}{1 + e^{-Z}} = \frac{1}{1 + e^{-1}(\beta^0 + \beta^1 x)} \quad (1)$$



Where:  $P_i$  = Individual Chance of Taking Decision;  $\beta_0$  = Intercept;  $\beta_1$  = Regression Coefficient;  $X_i$  = Free Variable.

The first estimate is obtained by multiplying both sides of equation (1) by  $1+e^{-z_i}$  to get:

$$(1+e^{-z_i})P_i = 1 \quad (2)$$

Equation (2) divided by  $P_i$  and then subtracted by 1 will result in the equation:

$$e^{-z_i} = \frac{1}{P_i} - 1 = \frac{1 - P_i}{P_i}$$

Or it can be expressed in the form of an equation:

$$e^{z_i} = \frac{P_i}{(1-P_i)} \quad (3)$$

Equation (3) is then transformed into a natural logarithm model resulting in equation:

$$e^{z_i} = \ln \frac{P_i}{(1-P_i)} \quad (4)$$

With  $\ln e^{z_i} = Z_i$ , equation (4) can be written as follows:

$$Z_i = \ln \frac{P_i}{(1-P_i)} = \beta_0 + \beta_1 X_i \quad (5)$$

Equation (5) above is known as the logit model or logistic regression model. So if written in a logit model it becomes:

$$P_i = \ln P_i - P_i = \alpha_0 + \beta X + \beta_{1122} + X\beta X_{33} + \beta X_{44} + \beta X_{55} + \beta X_{66} + \beta X + \beta_{7788} + X\beta X_{99} + u$$

Where:  $P_i$  = Chance of fruit purchase decision by consumers (1 = more than 2 fruit combinations; 0 = 2 fruit combination);  $1-P_i$  = The chance that consumers only buy 2 fruit combinations;  $\alpha_0$  = Intercept;  $\beta_0$  = Regression Coefficient;  $X_1$  = Price (1 = affordable, 0 = not affordable);  $X_2$  = Family Advice (1 = family advice, 0 = own decision);  $X_3$  = Accessibility (1 = easy to reach, 0 = hard to reach);  $X_4$  = Knowledge of attributes (1 = know, 0 = don't know);  $X_5$  = Household income (Rp/month);  $X_6$  = Education (years) (elementary school = 6 years, junior high school = 9 years) years, SMA = 12 years, S1 = 16 years, S2 = 18 years old);  $X_7$  = Age (years);  $X_8$  = Individual experience (1= covid-19 survivor, 0 = not a covid-19 survivor);  $X_9$  = Number of family members (people);  $E$  = Error.

## RESULTS AND DISCUSSION

**Total Fruit Purchases of Palembang City Community during the Covid-19 Pandemic.** The amount of fruit purchased by Palembang city residents during the Covid-19 pandemic in this study was calculated per kg per week, conducted at 4 market locations consisting of 2 traditional markets (sako market and sayangan market) and 2 modern markets (Diamond Supermarket and Farmers Market).

Based on the analysis, there are 8 types of fruit variants consumed by 40 respondents in this study. The average consumption of the most fruit is citrus fruit and watermelon which is 1.50 kg per week and 1.60 kg per week respectively. Then in terms of each market, the highest fruit consumption in traditional markets is citrus fruit which is 1.53 kg per week and in modern markets watermelon is 2.14 kg per week.

**Factors Affecting the Consumption of Combination Fruit in the Era of Covid-19 Pandemic.** The results of the logit regression model analysis for factors influencing the purchase of combination fruits can be seen in Table 2.



Table 1 – The amount of fruit purchased by the people of Palembang City during the Covid-19 Pandemic (kg per week)

No.	Fruit Type	Traditional Market (kg per week)	Modern Market (kg per week)	Average (kg per week)
1	Oranges	1,53	1,46	1,50
2	Papaya	1,28	1,50	1,41
3	Watermelon	1,12	2,14	1,60
4	Avocado	1,00	1,00	1,00
5	Mango	1,10	1,00	1,06
6	Grapes	0,75	0,67	0,70
7	Bananas	1,04	1,34	1,21
8	Apples	1,33	1,12	1,21

Source: Primary Data Analysis (2023).

Table 2 – Logistic Regression Model Analysis Results

	n/n	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	X1	2.947	1.488	3.923	1	.048	19.046
	X2	-1.136	1.085	1.097	1	.295	.321
	X3	1.725	1.258	1.881	1	.170	5.613
	X4	2.087	1.179	3.134	1	.077	8.057
	X5	.000	.000	1.166	1	.280	1.000
	X6	2.270	1.130	4.032	1	.045	9.676
	X7	.077	.041	3.603	1	.058	1.080
	X8	1.735	1.154	2.260	1	.133	5.671
	X9	.114	.349	.107	1	.743	1.121
	Constant	-12.106	5.966	4.118	1	.042	.000

a. Variable(s) entered on step 1: X1, X2, X3, X4, X5, X6, X7, X8, X9.

Based on the calculation results, the logistic regression model equation obtained is:

$$Pi = \ln = -12.10 + 2.94 X1 - 1.13 X2 + 1.72 X3 + 2.08 X4 + 0.0 X5 + 2.27 X6 + 0.07 X7 + 1.73 X8 + 0.11 X9$$

Where: Pi = Chance of fruit purchase decision by consumers; 1-Pi = Chance that consumers only buy; 2 fruit combinations; A0 = Intercept;  $\beta_0$  = Regression Coefficient; X1 = Price; X2 = Family Advice; X3 = Accessibility; X4 = Knowledge of attributes; X5 = Household income (Rp/month); X6 = Education (years); X7 = Age (years); X8 = Individual experience; X9 = Number of family members (people); e = Error.

Based on Table 2, shows that the results of the analysis there are 4 variables that have a real effect on the purchase of fruit combinations for the people of Palembang city between price variables (X1), variable Knowledge of attributes (X4), variable Education (X6) and variable Age (X7).

Variables that have a Real Effect. In Table 2 the price variable has a significant value of 0.048. This value is smaller than the significance level of 0.1. So it can be concluded that the hypothesis is accepted, namely the price variable has a significant effect on the purchase of fruit combinations.

The price variable has a positive sign (+) indicating that the higher the price size results in consumers having a tendency to buy combination fruit. The odd ratio value is 19.046 which indicate that the higher the price size will increase the tendency of consumers to buy combination fruit by 19.046 times higher than the low price.

In the Covid-19 era, public awareness of vitamin needs has increased compared to before. In the results of this study, the price variable provides a tendency for a positive real effect on the purchase of combination fruit by 19.046 times higher. This is because when the price of one type of fruit increases, consumers will still buy other fruit variations to fulfill their vitamin needs.

In Table 2 the variable knowledge of fruit attributes has a significant value of 0.077. This value is smaller than the significance level of 0.1. So it can be concluded that the hypothesis is accepted, namely the variable knowledge of fruit attributes has a significant effect on the purchase of fruit combinations.



The variable knowledge of fruit attributes is positive (+) indicating that the higher the level of knowledge of fruit attributes results in consumers having a tendency to buy combination fruit. The odd ratio value is 8.057 which indicate that the higher the level of knowledge of fruit attributes will increase the tendency of consumers to buy combination fruit by 8.057 times higher than the low level of knowledge of fruit attributes. Knowledge of fruit attributes owned by consumers is one of the determinants of consumers in buying a variety of fruits. The more consumers think that the fruit attributes are good; the more consumers tend to buy a variety of fruits; attributes such as shape, color, taste and quality of fruit.

In Table 2 the education variable has a significant value of 0.045. This value is smaller than the significance level of 0.1. So it can be concluded that the hypothesis is accepted, namely the education variable has a significant effect on the purchase of fruit combinations.

The education variable is positive (+) indicating that the higher the level of education results in consumers having a tendency to buy fruit combinations. The odd ratio value is 9.676 which indicate that the higher the level of education will increase the tendency of consumers to buy combination fruit by 9.676 times higher than the low level of education.

Education is certainly related to consumer knowledge of the benefits of consuming fruit, especially during the Covid-19 pandemic. The higher a person's level of education, the more knowledge they have, including knowledge of the importance of consuming fruit.

In Table 2 the age variable has a significant value of 0.058. This value is smaller than the significance level of 0.1. So it can be concluded that the hypothesis is accepted, namely the age variable has a significant effect on the purchase of fruit combinations.

The education variable has a positive sign (+) indicating that the higher the age level results in consumers having a tendency to buy combination fruits. The odd ratio value is 1.080 which indicates that the higher the age will increase the tendency of consumers to buy combination fruit by 1.080 times higher than the younger age.

The age variable has a real positive effect on the purchase of fruit combinations. Age is one of the factors that are vulnerable to covid exposure, the higher the age of the consumer, the more vulnerable and easier the consumer is to be exposed to the Covid-19 virus because it is related to the level of endurance and health. This is also in line with the level of fruit consumption, the higher the age of consumers, the more vulnerable they are to exposure to the virus, the higher their level of concern for consuming fruit which ultimately increases the purchase of fruit combinations.

## CONCLUSION

Based on the results of the study, it shows that the highest average amount of fruit purchased by consumers during the Covid-19 pandemic in Palembang City was watermelon and citrus fruits, which amounted to 1.60 kg per week per household and 1.50 kg per week per household, respectively. Then the factors that have a real positive effect on the decision to purchase combination fruit are price variables, knowledge variables of attributes, education variables and age variables.

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