



## Consumer behavior to Thai fruit consumption during COVID-19 pandemic in Jakarta, Indonesia

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### ABSTRACT

Indonesia imports fruits from around the world to serve people's demand. Thailand as one of the fruit exporters to Indonesia needs to further explore what influences the consumption of Thai Fruits in Indonesia. Moreover, currently the COVID-19 pandemic likely affects all sectors, including the agriculture sector. This study aims to analyze the relation between socioeconomic characteristics and consumer behavior, particularly the pandemic period, that affects the purchasing decision of Thai Fruits. Using a structured questionnaire, random sampling of 1,736 respondents who shop at 5 All Fresh Supermarket branches were interviewed. The data was analyzed using the chi square test and binary logistic regression. The results found that socioeconomic characteristics such as age, gender, education, occupation, and income had a relation with Thai Fruits purchasing decision. In term of product awareness for instance, quality and taste is the utmost concern for customers. However, during COVID-19 pandemic, the level of customers' consideration for quality and safety is clearly higher. Therefore, a different strategy is needed to convince consumers. The result also found that tasting experience influences purchasing decision significantly. To enhance international economic development, such agricultural products must respond to the customers' needs and mutual cooperation between trading countries.

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### INTRODUCTION

Boasting one of the largest populations in the world, the demand for food and beverage products in Indonesia is very high (European Commission, 2017). Fortunately, Indonesia is an agro-based country with a tropical climate suitable for growing various horticultural crops including tropical fruits and vegetables. Therefore, horticulture products play an

important role in economic development and propelling GDP growth (Firdaus & Gunawan, 2012). The current government issues the self-sufficiency policy, and highly supports the export of agricultural products particularly fruits such as mangosteen, banana, pineapple, salak, and mango. Many kinds of fruits are exported to various countries around the world including Thailand. However, Indonesia also imported fruits from many countries to serve the

needs of the consumers who are becoming more diversified ([Minot et al., 2015](#)).

Nowadays, modern markets likely sell more imported fruits than domestic fruits in terms of variety ([Office of Agricultural Affairs, 2020](#)). Indonesian horticultural commodities have to compete with imported ones, though it is more expensive, especially in big cities ([Ministry of Commerce Thailand, 2019](#)). The structural changes have been undergoing rapidly over recent decades ([Reardon et al., 2015](#)). Therefore, to secure domestic production and to control the imported fruit, the Indonesia government issued special regulations for horticulture product import.

In addition, the level of fruit and vegetable consumption in Indonesia varies widely in different provinces, with the highest level almost twice the lowest one. The average fruit and vegetable consumption in Indonesia is only 173 grams per capita per day, while the recommended dietary allowance (RDA) is 400 grams per capita per day. The low consumption of fruit in Indonesia has motivated the government to increase public awareness in consuming fruit. Previously the government had issued a Presidential Regulation about the national movement for nutrition improvement and tried to increase public awareness of fruit through GERMAS (Healthy Lifestyle Movement) ([Syam et al., 2019](#)).

As a result, Indonesian fruit consumption has a considerably increasing trend for many reasons including rising incomes and growing consumer confidence; growing awareness of healthy lifestyle products; and the shift of consumers towards modern retail stores ([European Commission, 2017](#)). However, one has their own consideration for buying each product, fruits in particular, such as the type of products, product quality, product design, product pricing, service, promotion, motivation, and location. Socioeconomic characteristics such as education, knowledge, age, sex, and income also influence fruit purchasing decision ([Shipp et al., 2019](#); [Bulsara & Trivedi, 2016](#)).

Moreover, consumer behavior focused on how individuals make decisions to spend their available resources (time, money, effort) on consumption related items is also very important for purchasing decision. Consumer behavior includes where they buy it, how often they buy it, how often they use it, how they evaluate it after the purchase, and what is the impact of such evaluation on the future ([Indriani, 2016](#)). Previous research showed that income,

occupation, education, and age affect a person's fruit consumption level. [Drewnowski & Rehm \(2015\)](#) found that fruit consumption is lower in lower-income neighborhoods. [Díaz-Garcés et al. \(2016\)](#) reported that in neighborhoods with a higher education level, there is an intention to increase their consumption of fruits. Furthermore, research from [Hermina & Prihatini \(2016\)](#) showed the lowest proportion of the population who consumed fruit are those who worked in the labor sector. Meanwhile, the population who consume the most fruit are people who work as employees with permanent status. The total consumption of fruit was found to be the least among children under five years old and the most is the elderly group.

Currently, Indonesia and most countries are being imposed by the COVID-19 pandemic (Corona Virus 19). The Indonesian government assumed that the consumption demand for healthy foods including fruit is probably increasing at the household level. Believing that good nutrition and healthy lifestyle factors give a positive impact on immune function, promoting biological and physiological systems and processes that enable humans to resist infection ([Lanham-New et al., 2020](#); [Safitri & Harun, 2021](#)).

Until now, there has been no specific research on the influence of Indonesian socioeconomic characteristics and consumer behavior on the purchasing decision of Thai Fruits particularly during the COVID-19 pandemic. This study aims to analyze the relationship between socioeconomic characteristics and consumer behavior variables that affect the purchasing decision of Thai Fruits in Indonesia. This study will be useful to set up strategic plans and relevant measures to efficiently increase trading promotion. In a hard situation affected by the COVID-19 pandemic, every country needs to survive and thrive out of it. Therefore, it is very advantageous in this pandemic situation to forge further collaboration that can build a better future for agriculture and economic resiliency and sustainability between Indonesia and Thailand (Royal Thai Embassy, Jakarta).

## RESEARCH METHOD

This study was conducted in All Fresh Supermarket branches (3 branches in Jakarta and 2 in border provinces) from July to August 2020. All Fresh Supermarket was chosen as a research location because this supermarket is a modern retail store that

sells both local and imported fruits, including Thai Fruits. Branch selection was carried out to obtain a sample distribution that could represent samples of both Jakarta and the border provinces, as well as large and small branches.

The data were obtained from a random sampling of 1,736 respondents who shopped at supermarkets through face-to-face interviews using a structured questionnaire. However, people below 18 years of age were excluded because they are assumed to have no purchasing power. Total samples from the Jakarta branches were 1,005 (57.89%) and from border provinces were 731 samples (42.11%).

The questionnaire was divided into two sections. In the first section, the respondents were asked about their socioeconomic characteristics (e.g., age, gender, the distance between residence and supermarket, education, occupation, and income). These socioeconomic variables were then hypothesized to influence purchasing decision. The second section contained questions on the consumer behavior such as tasting Thai Fruits experience, Thai Fruits preference, purchasing Thai Fruits experience, and consuming processed Thai Fruits experience (Table 1). These data were analyzed using the chi-square test to find the relationship between socioeconomic variables and consumer behavior.

Binary Logistic Regression was applied to analyze the socioeconomic variables and consumer behavior variables ( $X_n$ ) that affected the Thai Fruits purchasing decision ( $Y$ ). Binary logistic regression seeks to identify whether a relationship exists between a dependent variable ( $Y$ ) associated with the occurrence

or not of an event (dichotomous type) and one or more categorical or continuous independent variables (Díaz-Pérez et al., 2019). In addition, the value of 2 log-likelihood, Cox & Snell  $R^2$ , and Nagelkerke  $R^2$  verify how well a model with a given set of parameters can explain an observed data set (van Opheusden et al., 2020) and how much the independent variable is able to explain and influence the dependent variable. If the Nagelkerke  $R^2$  value is getting closer to 1, the relationship between the dependent and independent variables is getting stronger. Whereas if the value is getting closer to 0, it means that the relationship between the dependent and independent variables is getting weaker (Aridi & Agustina, 2019).

## RESULT AND DISCUSSION

### Respondent Characteristics

In this study, the respondent characteristics include gender, the distance between residence and supermarket, education level, occupation, and monthly income. The samples characteristics are presented in Table 2.

Table 2 shows that the proportion of female was much higher than male. This is likely because women are predominantly responsible for purchasing food in Indonesia. Suripatty & Tantoly (2019) pointed out that 74% of respondents who buy fruit in Ambon, Maluku province, Indonesia are women. Generally, women play a major role in household food management, including food production, food procurement, food processing, and food quality (Purwanto et al., 2016).

Table 1. Research Variables

No	Variable	Unit
1	Age ( $X_1$ )	Year
2	Gender ( $X_2$ )	Male (0), Female (1)
3	Community type ( $X_3$ )	Rural (0), City (1)
4	Residence Distance ( $X_4$ )	<1 km (1), 1-2 km. (2), 3-5 km. (3), 6-10 km. (4), >10 km. (5)
5	Education ( $X_5$ )	Not studying (1), elementary school (2), junior high school (3), senior high school (4), above senior high school (5).
6	Occupation ( $X_6$ )	Employee (1), Student / Unemployed / Independent Entrepreneur / Business Owner / Civil Servant / Housewife / Retirement / Others (0)
7	Income ( $X_7$ )	<3 million rupiahs (1), 3 million-5 million rupiahs (2), 5 million-10 million rupiahs (3), 10 million-20 million rupiahs (4), >20 million rupiahs (5).
8	Have you tasted Thai Fruits? ( $X_8$ )	Never (0), Ever (1)
9	Do you like Thai Fruits? ( $X_9$ )	Dislike (0), Like (1)
10	Do you know if there is processed Thai Fruits? ( $X_{10}$ )	Unknown (0), Know (1)

Table 2. Socioeconomic Characteristics of Respondent

Variable	Percentage %	Variable	Percentage %
Gender		Occupation	
Male	36.1	Student	2.4
Female	63.9	Unemployed	1.7
Distance of Residence		Employee	39.9
<1 km	10.2	Entrepreneur	12.8
1-2 km	19.6	Businessmen	4.6
2-5 km	31.6	Government Employees	9.3
5-10 km	21.4	Housewife	21.1
>10 km	17.1	Retired	4.3
Education Level		Other	3.9
Uneducated	0.3	Monthly Income (rupiah)	
Primary School	0.9	<3 million rupiahs	11.2
Junior High School	3.1	3 million-5 million rupiahs	16.3
Senior High School	17.4	5 million-10 million rupiahs	25.1
Higher education	78.3	10 million-20 million rupiahs	22.7
		>20 million rupiahs	24.7

The average age of the samples was 43 years old. A large proportion of respondents went shopping near their own residences, which was approximately 2-5 km. About 78.3% of respondents attained higher education, which is above the average of Indonesians' education level. According to [Indonesian Statistics \(2020\)](#), the education level of the Indonesian population is dominated by senior high school level because since 2015 the Indonesian government has made a 12-year Compulsory Education Program or equivalent to the Senior High School level. Previous research shows that people with a high education level tend to shop in modern markets because they have a high-quality products ([Dewi et al., 2017](#)). In addition, people prefer shopping in modern markets because of the good quality of fruit, tidier fruit packaging and convenience in shopping ([Trisna, 2017](#)).

The average income level of employees in Indonesia depends on the level of education. For education levels above senior high school, the average income is above 4.2 million rupiahs per month ([Indonesian Statistics, 2020](#)). Whereas, the minimum wage for DKI Jakarta workers in 2020 is 4.2 million per month (USD 304). The result shows that the large proportion of respondents' income was in the range of 5-10 million per month (USD 350-700) as company employees. On average, respondents' income was above the standard income of residents in Jakarta. Although products in supermarkets have higher prices than those in traditional markets, supermarkets provide more convenience for customers. As a result, people with higher income prefer shopping in

supermarkets than in traditional markets. This is in line with the research by [Dwicahyani & Muttaqin \(2019\)](#) and [Vermila \(2016\)](#), which stated that the modern market is dominated by people with incomes more than 5 million rupiahs per month.

### Consumer Behavior

Consumer behavior focuses on how individuals decide to spend their available resources on consumption-related items ([Indriani, 2016](#)). Consumer behavior discussed in this paper includes tasting Thai Fruits experience, Thai Fruits preference, purchasing Thai Fruits experience and consuming processed Thai Fruits experience. The result shows that more than 80% of respondents have already tried Thai Fruits. This is likely that Thai Fruits has an interesting visual appearance, uniform shape, bigger size than local fruit, clean appearance, and attractive color. Fruit quality can be categorized into external quality (shape, size, color, and defects) and internal quality (flavor, texture, nutrition, and safety). [Yani \(2014\)](#) stated that imported fruit has a good look, texture, color and relatively large size that can attract buyers. Currently, many imported fruits are sold in supermarkets, even in traditional markets because of the high demand. Since the government policy on FDI (Free Domestic Trade) in 1998, many supermarkets in Indonesia have sold imported fruit ([Yosini, 2011](#)).

The results show that about 82.31% of respondents liked Thai Fruits because of its good taste and quality. Thailand focuses on making food, including fruit, that has a good taste and good quality

(Harmayani et al., 2019). In Thailand, aspects such as taste, texture, color, and use of ingredients with medicinal benefits and good flavor are vital in culinary traditions. The outward appearance and freshness of fruit are some of the attributes that highly influence decisions at the time of purchase (Yosini, 2011; Massaglia et al., 2019). Generally, the imported fruits have a good appearance and the consumers have the perception that appearance is related to good quality (Widyadana et al., 2013). The kinds of Thai Fruits available in Indonesia are Durian, Mango, Longan, Rose Apple, Lychee, and Sweet Tamarind. Almost a half of the respondents liked Durian (45.34%), then longan (21.76%) and mango (17.35%). Durian is the most popular seasonal fruit in Indonesia and Thailand (Cornelia et al., 2015; Yuniastuti et al., 2018). The economy of Thailand is majorly based on the exporting of durian to other related countries, including Indonesia (Sittisom et al., 2020).

Most of the sample groups had prior experience of purchasing Thai Fruits, about 80.58%. The top three of Thai Fruits most bought were durian (43.53%), longan (23.65%), and mango (15.93%) which occupied more than 80% of purchasing. More than 70% of respondents bought Thai Fruits ranging from every 1-2 weeks to 1-2 months. If consumers are satisfied with a product that has been tried, they will buy the product more often (Bayu et al., 2020). Iqir et al. (2018) stated that product quality is one of the most important factors in a purchasing decision. The same reason for fruit, quality dominantly affects consumers' willingness to buy (Wei et al., 2018).

The primary reason why respondents did not buy Thai Fruits was that they were not easily found in the market. One of the reasons why Thai Fruits is currently not easy to find is because there are restrictions on importing several types of fresh Thai Fruits, one of which is Fresh Durian and Mango. The demand for imported fruit is always increasing in Indonesia, which identifies that the community prefers importing fruit than local fruit (Sari, 2018). Indonesia's import policy is often complained by trading partner countries, in terms of clarity and repealing of import policy (Zubaedah et al., 2015). Indonesia needs an appropriate trade strategy to compete internationally, including by increasing domestic fruit production (Lubis, 2018) along with improving quality and taste.

The second reason why respondents did not buy Thai Fruits was because of the expensive price. The good quality and the shipping costs of imported fruit

make the price of Thai Fruits higher than local fruit. The higher the quality, the price of the fruit will be increased (Wei et al., 2018). Higher prices likely indicate greater guarantees of overall quality (Massaglia et al., 2019). As such, the seller must provide a price and quality that is comparable and in accordance with market demand. Though imported fruit has a higher price than local food, the unique color, usability and freshness of imported fruit make customers want to buy it (Yosini, 2011).

About 74% of respondents knew that there are processed Thai Fruits, not only fresh ones. The preferred type of processed Thai Fruits were Mango (25.82%), Durian (22.69%), and Longan (22.30%). Thai Mango became the main exported fruit of Thailand in 2011 (Tiwong et al., 2012). Thai Mango fast-food drinks are very popular among Indonesians (Christian, 2018).

Based on the results above regarding consumer behavior, most Indonesians have tried and liked Thai Fruits because of its good taste and quality. However, some cannot find Thai Fruits in the market. The reason is due to the non-tariff barrier policy by the Indonesian government including the prohibition of certain types of fruit, the quota system, and others in order to protect domestic producers (Sari et al., 2014). Indonesia tries to boost the export value and reduce the import value. Product access is administered by a large set of regulations and requirements which must be met by the exporter (UNCTAD, 2018). This can increase trade costs and pressure small exporters (Virginia & Novianti, 2020). Therefore, the governments of Indonesia and Thailand are expected to make fair and profitable policies to increase economic and sustainable agriculture development in both countries.

COVID-19 pandemic makes people more concerned about a healthy lifestyle and consuming more fruit and vegetables. This study identifies what Indonesian people consider when purchasing Thai Fruits, including taste, quality and safety, price, selling place, and packaging. Overall, the large proportion of respondents (50%) considered quality and safety aspects at high to very high (52%), whereas taste and reasonable price were about 20% and 11% respectively. It means, most of the respondents consider the quality and safety aspects with a high level of attention. The majority of respondents show a willingness to pay more to reduce food safety risks in this pandemic (Meixner & Katt, 2020; Petrescu et al.,

2019). It should be noted that reasonable prices are considered only 11% at a moderate level (46.51%).

### Relations between Socioeconomic Characteristics and Consumer Behavior

The chi-square test and t-test from the SPSS software program were applied to examine whether there was a relationship between the socioeconomic characteristics variable and consumer behavior. The results are presented in Table 3, Table 4, and Table 5.

Table 3. Socioeconomic Characteristics and Experience to Taste Thai Fruits

Variable	Ever	Never
	..... % .....	
Education Level		
Uneducated	0.2	0.7
Primary School	0.9	1.0
Junior High School	2.8	4.7
Senior High School	15.8	25.0
Higher Education	80.3	68.6
Significant level	0.000**	
Occupation		
Student	1.5	6.8
Unemployed	1.5	2.7
Employee	39.6	41.2
Entrepreneur	13.2	10.8
Businessmen	4.9	2.7
Government Employees	9.2	10.1
Housewife	21.5	19.3
Retired	4.7	2.4
Other	3.8	4.1
Significant level	0.000**	
Monthly Income		
<3 million rupiahs	9.4	19.9
3-5 million rupiahs	15.4	20.6
5-10 million rupiahs	25.3	24.3
10-20 million rupiahs	23.2	20.3
>20 million rupiahs	27.6	14.9
Significant level	0.000**	
Age		
Average	44.0	38.1
Significant level	0.000**	

\*\* and \*denote significance at p 0.01 and 0.05

Table 3 and Table 5 shows that socioeconomic variables (age, education, occupation, and income) had a relation with experience to taste and purchase Thai Fruits. Meanwhile, gender had a relation with the Thai Fruits preference besides age, education, occupation, and income (Table 4). Unlike other consumer behavior, education and income had no relation with tasting processed Thai fruits experience but had a relation with gender, occupation, and age.

In general, tasting and purchasing Thai Fruits was likely done more by older people. When someone gets older, the awareness to adopt a healthy lifestyle will

possibly be higher. They will consume more fruit and try various kinds of fruits. However, [Nurdin & Damayanti \(2017\)](#) argued that the purchase of imported fruit is dominated by the productive age about 24-32 years old. [Effendi et al. \(2019\)](#) found the purchase of imported fruit is dominated by women of productive age, namely 20-40 years. However, environmental conditions and socioeconomic characteristics may influence in different countries. This result also shows that people with higher education levels were more likely to taste and purchase Thai Fruits. [Widyadana et al. \(2013\)](#) found that purchasers' attitude toward imported fruit was influenced by education level. Higher education level has the intention to increase their consumption of fruits ([Díaz-Garcés et al., 2016](#)).

Table 4. Socioeconomic Characteristics and Thai Fruits Preference

Variable	Like	Dislike
	..... % .....	
Gender		
Male	25.0	41.4
Female	65.0	58.6
Significant level	0.035*	
Education Level		
Uneducated	0.1	1.0
Primary School	0.9	1.0
Junior High School	2.8	4.6
Senior High School	15.9	24.4
Higher Education	80.3	69.1
Significant level	0.000**	
Occupation		
Student	1.5	6.5
Unemployed	1.5	2.6
Employee	39.5	41.7
Entrepreneur	13.4	10.1
Businessmen	5.0	2.6
Government Employees	9.1	10.4
Housewife	21.4	19.9
Retired	4.8	2.3
Other	3.8	3.9
Significant level	0.000**	
Monthly Income		
<3 million rupiahs	9.4	19.5
3-5 million rupiahs	15.3	21.2
5-10 million rupiahs	25.2	24.8
10-20 million rupiahs	23.3	19.9
>20 million rupiahs	26.8	14.7
Significant level	0.000**	
Age		
Average	44.0	38.3
Significant level	0.000**	

\*\* and \*denote significance at p 0.01 and 0.05

More than 75% of respondents with income more than 5 million rupiahs per month (350 USD/month) have tried and purchased Thai Fruits. The higher the

family income is, the higher the level of fruit consumption. [Drewnowski & Rehm \(2015\)](#) also stated that fruit consumption is lower in lower-income neighborhoods. High-income consumers are more concerned about the quality attributes than low- and middle-income consumers ([Widyadana et al., 2013](#)). About 40% of respondents who worked as employees in the business sectors have also tried and bought Thai Fruits. Employees are considered to be able to meet nutritious food needs because they probably have a steady income and are affordable. [Suripatty & Tantoly \(2019\)](#) argued that most of the fruits are purchased by government employees who have stable incomes. Meanwhile, people who are low in consuming fruits are those who worked in the labor intensive sector ([Hermina & Prihatini, 2016](#)).

Table 5. Socioeconomic Characteristics and Experience to Purchase Thai Fruits

Variable	Ever	Never
	..... % .....	
Education Level		
Uneducated	0.1	0.9
Primary School	0.9	0.9
Junior High School	2.6	5.0
Senior High School	15.8	24.0
Higher Education	80.5	69.1
Significant level	0.000**	
Occupation		
Student	1.4	6.5
Unemployed	1.5	2.7
Employee	39.4	41.8
Entrepreneur	13.4	10.1
Businessmen	4.8	3.6
Government Employees	9.2	9.8
Housewife	21.7	18.7
Retired	4.8	2.4
Other	3.7	4.5
Significant level	0.000**	
Monthly Income		
<3 million rupiahs	9.5	18.4
3-5 million rupiahs	15.1	21.4
5-10 million rupiahs	25.2	24.9
10-20 million rupiahs	23.3	20.2
>20 million rupiahs	26.9	15.1
Significant level	0.000**	
Age		
Average	44.1	38.5
Significant level	0.000**	

\*\* and \*denote significance at p 0.01 and 0.05

The study also found that distance between residence and supermarket, and in different areas (Jakarta and border provinces) did not affect the consumer behavior. This is likely that the imported fruit has been distributed and spread to various cities in Indonesia ([Nurchayati & Hikmah, 2014](#)). Therefore,

people living in both Jakarta and the border provinces each had around 50% of them trying Thai Fruits, purchasing Thai Fruits, consuming processed Thai Fruits, and liking Thai Fruits. The high level of consumption of fruit production is followed by an imbalance in the amount of local fruit production, thus importing fruits from abroad is one of the Indonesian government policies ([Lubis, 2018](#)).

The result also shows that there was a relationship between consuming processed Thai Fruits experience and Thai Fruits preference with age, gender, and occupation. [Massaglia et al. \(2019\)](#) demonstrated that besides age, the average annual income also influences consumer preference and behavior. In general, older people knew more about Thai Fruits, so they consumed more fresh or processed Thai Fruits compared to younger people who might not know yet about the processed Thai Fruits. [Massaglia et al. \(2019\)](#) stated that consumer choices are greatly influenced by age, where the majority of fruit consumers aged more than 55 years old. Female significantly tend to eat more Thai Fruits than male. More than 65% of respondents who liked Thai Fruits were female because they have a higher chance of trying fresh and processed Thai Fruits in supermarkets. [Seguin et al. \(2016\)](#) and [Vabø & Hansen \(2014\)](#) reported that females eat approximately half a serving more of fruits and vegetables per day than males. Meanwhile, the population who liked and had tasted processed Thai Fruits were residents working as employees with permanent status. The price of processed Thai Fruits was rather high, but the company employees could afford to buy it.

Thai Fruits preference is also related to education level and income. More than 80% of respondents who liked Thai Fruits had higher education background. The higher education level affects their mindset and views of a product, and the type of food they choose ([Vabø & Hansen, 2014](#)). Likewise, [Nuridin & Damayanti \(2017\)](#) stated that nearly 50% of respondents who choose import fruits have a high level of education. Respondents with a higher education level tended to choose fruits that have many benefits for their health. Higher education lets consumers to have a high desire to try various product options that benefit them ([Trisna, 2017](#)).

The result shows that more than 70% of respondents with income more than 5 million per month (>350 USD/month) liked Thai Fruits and had

tasted processed Thai Fruits. It corresponds with [Yosini \(2011\)](#) who found that consumers who buy imported fruit generally have income more than 4 million rupiahs per month. Meanwhile, people with low income cannot afford Thai Fruits because of high prices. [Huang et al. \(2016\)](#) pointed that fruit price and income level are particularly influential on fruit purchases, even more so than educational level, emphasizing the importance of budget when making fruit purchases. Considering a broader product category in [Massaglia et al. \(2019\)](#) research, the price of fruit will affect one's preferences.

### Socioeconomic Characteristics and Consumer Behavior that Affects the Purchasing Decision of Thai Fruits

The estimate effect of socioeconomic variables and consumer behavior on purchasing decision is presented in Table 6.

Table 6. Estimate Socioeconomic Variables Affecting Thai Fruits Purchasing Decision

Variable	Coefficient	p-value
Constant	-1.598	0.004
Age (X <sub>1</sub> )	0.030	0.000**
Gender (X <sub>2</sub> )	0.263	0.046*
Community type (X <sub>3</sub> )	-0.161	0.503
Residence Distance (X <sub>4</sub> )	0.011	0.835
Education (X <sub>5</sub> )	0.179	0.095
Occupation (X <sub>6</sub> )	0.001	0.996
Income (X <sub>7</sub> )	0.196	0.000**

\*\* and \* denote significance at p 0.01 and 0.05

Table 6 shows that the socioeconomic variables of gender, income, and age significantly influenced the decision to buy Thai Fruits. Women tend to buy Thai Fruits more than men. Women likely have a major role in household food management and food procurement ([Purwanto et al., 2016](#)). This is in line with [Seguin et al. \(2016\)](#) who reported that women also consume significantly more fruit than men.

Meanwhile, older people tend to have a greater experience of trying Thai Fruits. Youngsters may not be aware of the importance of consuming fruits that are beneficial to their physiques and prevent diseases when they are no longer productive ([Trisna, 2017](#)). [Ordun \(2015\)](#) argued that generation Y has certain criteria in trying and choosing fruit because they are most up to date with today's developments. Generation Y is more concerned about the freshness, quality and safety of the fresh fruits than generation X ([Gindi et al., 2016](#)).

People with high incomes tend to be able to buy diverse and nutritious foods for their health. [Arifin et al. \(2018\)](#) verified that higher incomes and better knowledge tend to make consumers demand healthier and more diversified food. Moreover, the Indonesian middle-class spending on fresh fruits and vegetables has increased in recent years due to the campaign of the Indonesian government for healthy lifestyles and nutritional benefits of Fresh Fruit and Vegetables (FFV) ([Slamet & Nakayasu, 2017](#)).

The estimate effect of socioeconomic variables and consumer behavior on purchasing decision is presented in Table 7.

Table 7. Estimate Socioeconomic and Consumer Behavior Variables Affecting Thai Fruits Purchasing Decision

Variable	Coefficient	p-value
Constant	- 8.502	0.000**
Age (X <sub>1</sub> )	0.014	0.316
Gender (X <sub>2</sub> )	0.101	0.769
Community type (X <sub>3</sub> )	- 0.273	0.705
Residence Distance (X <sub>4</sub> )	0.174	0.199
Education (X <sub>5</sub> )	0.236	0.370
Occupation (X <sub>6</sub> )	0.012	0.897
Income (X <sub>7</sub> )	0.079	0.586
Have you tasted Thai Fruits? (X <sub>8</sub> )	5.665	0.000**
Do you like Thai Fruits? (X <sub>9</sub> )	3.381	0.000**
Do you know if there is processed Thai Fruits? (X <sub>10</sub> )	0.965	0.004**

\*\* and \* denote significance at p 0.01 and 0.05

The consumer behavior variables (X<sub>8</sub>, X<sub>9</sub>, and X<sub>10</sub>) significantly influenced decision-making to buy Thai Fruits, while socioeconomic characteristics did not. Indeed, tasting Thai Fruits experience (X<sub>8</sub>) show the greatest influence, followed by the preference of Thai Fruits (X<sub>9</sub>), and awareness of processed Thai Fruits products (X<sub>10</sub>). This implies that tasting and satisfaction with product quality encourage consumers to buy the product. Such promotion type as booth table that provides a free fruit taste for instance, can increase consumer interest, and make them curious enough to buy the products ([Halim & Radianto, 2016](#); [Aji et al., 2018](#)). [Yosini \(2011\)](#) pointed out that 59% of respondents chose to buy imported fruit because they saw other people buying the fruit from promoted events.

This research also considers two groups of respondent residence regions in the estimation. The Jakarta region verified the following analytical values: -2 Log Likelihood = 210.300, Cox Step & Snell R<sup>2</sup> = 0.538 and Nagelkerke R<sup>2</sup> = 0.860. Whereas, the

respondents residing in Jakarta outer region shows analytical values:  $-2 \text{ Log Likelihood} = 133.879$ ,  $\text{Cox Step \& Snell } R^2 = 0.553$  and  $\text{Nagelkerke } R^2 = 0.881$ . It is proved that consumer behavior variables are able to explain the purchasing decision by 86-88%, while the remaining is possibly explained by other variables outside the model. Other factors outside the model that affect purchasing decision can be culture, social, psychological, motivation, and others (Trisna, 2017; Suripatty & Tantoly, 2019). Fruit providers need to clearly understand how all these aspects can influence purchasing decision, as well as plan and develop products in reaching consumers.

### Research Implication

The International Labour Organization (2020) stated that as the COVID-19 outbreak continues to spread throughout the world, it is important to address the existing and possible impacts on the agricultural sector from both food supply and demand perspectives. The result is emphasized again with the respondents' suggestion for Thai Fruits trade in Indonesia during COVID-19 pandemic. A majority of respondents (48%) suggested an increase in quality and safety, followed by price reduction (16.4%) and the addition of fruit types (14.1%). Most people are very aware of the quality and variety of food they consume. Since the more nutrients the food contains, the better it will increase their immunity to fight the COVID-19 virus. Lanham-New et al. (2020) and Safitri & Harun (2021) stated that good nutrition and lifestyle factors have a positive impact on immune function that enables humans to resist infection during this pandemic, one of which is by eating fruits and vegetables. However, logistics should be paid more attention to, so that food is not contaminated, especially for shipping between countries (World Health Organization Indonesia, 2020).

During COVID-19 pandemic, many people are growing more concerned in choosing fruit especially in terms of safety and quality, and are more aware in terms of nutritional content, price, purchase location, and packaging (Meixner & Katt, 2020). The right information allows the farmer or seller to produce goods that respond to the real needs of the buyer. Sellers can develop marketing strategies, for example, the promotion of free fruit to get a real experience, to increase consumer interest and attract potential customers (Yuliantoro et al., 2019) to buy the products offered (Aji et al., 2018).

The exchange of information and knowledge and the improvement of human resource capabilities are key factors. The government should encourage the parties to cooperate in initiating the exchange of information and technical support for farming. New cultural practice technology for fruit cultivation, such as planting systems, breeding new cultivars, pruning treatments (Sritontip et al., 2020) including harvesting, and packaging logistics for fruit products, should be given top research priority. Good Agricultural Practice (GAP) for fruit products should be applied and met the international or equivalent standard. Such standard must be emphasized particularly by concerned government agencies to ensure safety, quality, and the environmental sustainability of agriculture (Suwanmaneepong et al., 2016). In this case, social aspects among stakeholders are crucial. Effective communication and community participation among local officials, farmers, and private companies is needed to enhance commodity competitiveness and benefits (Puspitaningrum & Gayatri, 2019; Permadhi & Dianpratiwi, 2019).

Indonesia and Thailand governments can cooperate to set mutual strategies for sustainable agriculture development. For instance, implementing a program to increase farmer capital and skills for increasing productivity and income. Both countries can also exchange information and knowledge related to the production of certain fruits to improve the capabilities of human resources as stated in the Joint Agriculture Working Group (JAWG) (Boy, 2017). Nurhayati (2018) stated that agricultural cooperation is more focused on technical cooperation through exchanges of technical experts and researchers. In addition, the government can make technological innovations and improve trade strategies. Agricultural products have a high opportunity to be sold in the domestic and export markets. Such sectors as organic fertilizer, agriculture equipment and machinery can also be developed.

### CONCLUSION AND SUGGESTION

It is unsure when COVID-19 pandemic will be absolutely controlled throughout the world. However, the imported fruit sector has a positive trend in Indonesia. Fruit products must be safe and clean from infection and contamination. Raising awareness of healthy lifestyle products and shifting of consumers to

modern retail stores will be key factors for an increasing of fruit consumptions in Indonesia.

Socioeconomic variables such as age, education, occupation, and income have a relation with experience of tasting and purchasing Thai Fruits. People who are more than 40 years old, higher education, being employee, income more than 5 million rupiahs per month, show more significant experience. In addition, consumer behavior variables, especially tasting experience, significantly influence the decision to buy Thai Fruits. However, consumer behavior likely differs according to time and space. Therefore, further research in other cities and in the post-pandemic period are needed to draw more general conclusions.

The government agencies of Indonesia and Thailand should carry out various cooperation in agriculture sector, particularly in enhancing technological innovations (grow more from less) and increasing farmers' skills. These various efforts are expected to increase national food security and improve welfare of farmers. Indonesian and Thai governments can well cooperate to establish regulations regarding the import and export of fruits so that the needs of fruit (variety, safety, and quality) between two countries can be mutually met and archived as the agricultural policy. In this term, people will get the utmost benefit from the right policy.

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