

## Analysis of Consumer Demand on *Syzygium Aqueum* In North Sumatera, Indonesia

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**Abstract:** This study focused on analysing the consumer demand for *Syzygium Aqueum* in Stabat, Langkat. Price, income and tastes serve as a variable affecting consumer demand. The sample are consumers who have purchased *Syzygium Aqueum* that is 83 respondents with a purposive sampling as a sampling technique. The test used is a validity and reliability and also classical assumption. Hypothesis testing using multiple linear regression analysis, F test and t test. Partially, price, income and taste have a positive and significantly effect to consumer demand for *Syzygium Aqueum*. Those three variables that is price, income and taste also positive and significantly effect to consumer demand for *Syzygium Aqueum* simultaneously. Coefficient determination ( $R^2$ ) is 0.303. This means consumer demand has explained 30.3% by price, income and taste and 69.7% effected by others outside of this study. Therefore, farmers should pay attention to these three variables in making appropriate strategies that can affect consumers to make requests for this fruit. Pricing should be adjusted to the quality of the *Syzygium Aqueum* and also the income of the local people and furthermore always evaluate consumer tastes so that this fruit is always in demand by consumers.

**Keywords:** Consumer demand, Income, Price, *Syzygium Aqueum*, Taste

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### I. Introduction

#### 1.1 Research Background

Healthy lifestyle becomes one of the standard measures of quality in modern society today. Not only balancing life with sport but a healthy lifestyle can be started from the consumption of food. Consume fresh fruits that have obvious benefits for health. Consumer demand for fruits raises awareness of quality of life standards. Consumers will choose fruits with quality and affordable prices for consumption and do not contain harmful chemicals such as pesticides.

*Syzygium Aqueum* comes from Indo China and Indonesia, spread to Malaysia and the islands in the Pacific. *Syzygium Aqueum* is not only sweet and refreshing, but has a diversity in appearance [1]. This fruit became one of the varieties of fruit that many consumers demand and increase demand [2]. This makes the seller aware of the classification of needs desired by consumers. According to the Perbenihan (2012) nutrient content in 100 g of *Syzygium Aqueum* has water content of 81.59%, TSS 12.4° Brix, vitamin C 210.463 mg / 100g, meat texture 0.830 g / mm<sup>2</sup> [3]. *Syzygium Aqueum* has a pretty bright prospect to be developed intensively (monoculture), because it has high economic value and is very much liked by many people. This fruit has a sweet taste of honey, crispy fruit flesh and lots of water. The selling price of this fruit is relatively high compared to other fruit prices in the market which is between Rp. 25.000,- - Rp. 30.000,- for each kilogram, while in the supermarket reach Rp. 35.000,- - Rp. 40.000,- for each kilogram [4].

*Syzygium Aqueum* cultivation requires skills and knowledge of environmental conditions such as water availability, soil suitability, nutrient availability and so on. *Syzygium Aqueum* loves fertile planting media, contains a lot of organic material, drainage and aeration in good soil and loose. To obtain soil conditions that have good draenase and aeration of soil we can use wood charcoal as a material to create air and water circulation in the soil. Charcoal has sufficient pore space that helps the aeration process in the soil [5]. In addition, water is also very important in the growth of *Syzygium Aqueum* because this plant is absolutely necessary water regularly and enough, especially during the dry season. Lack of water will cause the roots of plants formed a little and small size so that the absorption of nutrients and water will decrease resulting in disruption of the metabolism process of carbohydrates, proteins and growth regulators so that plants grow dwarf and newly formed leaves are not perfect. During the dry season this plant is very require water to keep the soil moist. Suitable watering time is in the afternoon or early in the morning so that evaporation is not too high. Watering is done according to the condition of the plant or at least 10-12 times a month [4]. The demand for

*Syzygium Aqueum* is increasingly because sweet taste and easy care. This plant is suitably developed in pots so it does not require a large area [6].

Demand in the economy is the amount of goods or services that consumers want and can afford to buy in certain periods and circumstances. There are several factors affecting demand that is the price of the good itself, the price of other related goods, the level of income, the consumer's appetite, the expectation. In economic theory, price is the amount paid by the buyer to the seller in which the buyer obtains certain goods or services for the payment. Price is also said to be the value of certain goods or services that are generally expressed in units of currency [7]. Demand for a particular item will be more if the price of the goods decreases. Conversely, if the price of a good rises, then the demand will decrease [8]. Income is also a factor affecting demand. Income are all distributive transactions received by a household.[9]. The effect of income on demand is positive. Increased revenue will lead to increased demand and reduced demand due to declining revenues [10]. In addition to price and income, demand can also be influenced by taste. Tastes are one aspect of fruit quality in addition to texture and flavor [11]. Consumer demand arises because of the fulfillment of needs, tastes and satisfaction to be achieved [12]. So it can be concluded that consumer tastes can affect the demand for certain goods or services. Based on the above description, the authors are interested to employ research on price, income and taste and the effects on consumer demand for *Syzygium Aqueum* in Stabat, Langkat.

### **1.2 Research Purposes**

1. Analysing the effect of price, income and taste to consumer demand for *Syzygium Aqueum* in Stabat, Langkat.
2. Determining the factors that most influence consumer demand for *Syzygium Aqueum* in Stabat, Langkat.

### **1.3 Research Contribution**

An input for fruit growers, especially *Syzygium Aqueum*, to evaluate and improve the sales strategy and consider the price, income and taste as the factors in influencing consumer demand.

## **II. Literature Review**

### **2.1 Consumer Demand**

Demand is one of the crucial factors in the economy besides supply. Understanding the economy means having to understand what is meant by demand and supply. Demand and supply is a model that determines the market price [13]. Analyzing demand in the economy should we associate with the law of demand. The law of demand according to Guell (2008) is a 'negative' relationship between the price and the quantity of goods or services demanded. Negative here can be interpreted as a 'not directly proportional' relationship, because when the price increases then the demand for goods or services will decline. This will lead to a decline in consumer purchasing power that ultimately consumers will look for substitute goods or services that are cheaper.

Demand is a price and quantity relationship. It tells the quantity of a product that will be demanded at various price levels. Thus demand is not one quantity demanded but a series of quantities demanded based on alternative prices. The concept of demand is critical to the successful development of a business [14]. Therefore Rosyidi (2009) stated demand is the amount of goods that consumers are willing to buy at a certain price, market and time [15]. The demand for a product will be influenced by several factors that is price, income levels, consumer tastes and preferences, competition, fashions [16]. Indicators of consumer demand are the need and desire for a product, the desire to try, stability and quality of a product, repurchase decision [17].

### **2.2 Factors Affecting Consumer Demand**

According to Wijaya (1999) the factors that determine the market demand are [18]:

#### **1) Price**

Price is the one element of the marketing mix that produces revenue; the other elements produce costs. Price also communicates the company's intended value positioning of its product or brand. Pricing decisions are complex and must take into account many factors—the company, the customers, the competition, and the marketing environment [19]. From a marketing viewpoint, price is the money or other considerations (including other products and services) exchanged for the ownership or use of a product or service.

In marketing it goes by many names like tuition, rent, fee, interest, premium, fare, commission, salary, wage. It depends on the activity carried out by everyone. Among all marketing and operations factors in a business firm, price has a unique role. It is the place where all other business decisions come together. The price must be “right”—in the sense that customers must be willing to pay for the cost of developing, producing, and marketing the product; and it must earn a profit for the company. Small changes in price can have big effects on both the number of units sold and company profit [20].

Mubyarto (2011) explain the price can affect the food demand of people because price fluctuations resulted in the substitution of goods consumed [21]. Gultom (2005) states the price level of an item affect the

amount of the amount purchased by a person. The more expensive the price of an item will decrease the amount purchased on condition that other conditions do not change (*ceteris paribus*) [22]. Stanton (2008) suggested price indicators are affordability, price compliance with product quality, price competitiveness, price compliance with benefits [23].

## 2) Income

Income are all distributive transactions received by a household. In macroeconomics income is a monetary variable on which households decide whether to spend on goods and services or not [9]. [24] Bastian stated income is the benefit received by all households in the community in a country or region, from the delivery of factors of production or after conducting economic activities. The income is used by the community to meet consumption needs and the rest is a savings to meet the future. Increased income received by households will result in increased food spending [25].

In an Kebudayaan (1998) income is the result of work (business and so on) [26]. While income in the management dictionary is money received by individuals, companies and other organizations in the form of wages, salaries, leases, interest, commissions, fees and profits [27]. Indicators of income are level of income, expenses, additional income [28].

## 3) Taste

Tastes describe the goods or services offered completely in accordance with the wishes of consumers [29]. Tastes have an influence on people's desire to buy goods or services [30]. One of the factors affecting consumer tastes is the economy that is affected by family income and the number of dependents [31]. It can be concluded that the taste is one factor that affects consumer demand. Taste has a subjective nature because the judgment depends on the particular item. In addition, tastes are also influenced by elements of tradition and religion. Increased consumer appetite for goods leads to increased demand for the goods. Conversely, if consumer tastes go down, then consumer demand will be reduced.

## 2.3 Hypothesis

H1: Price affects consumer demand on *Syzygium Aqueum* in Stabat, Langkat.

H2: Income affects consumer demand on *Syzygium Aqueum* in Stabat, Langkat.

H3: Taste has an effect on consumer demand on *Syzygium Aqueum* in Stabat, Langkat.

H4: Price, income, and taste effect consumer demand on *Syzygium Aqueum* in Stabat Langkat.

## III. Methodology

This research was conducted in Stabat, Langkat. Samples was 83 respondents by using purposive sampling methods. Data collection techniques used were observations and questionnaires. Validity and reliability test were conducted to test the feasibility of the questionnaire used as a research instrument. Data analysis technique used is multiple linear regression. F and t tests are used to determine the effect simultaneously and partially between dependent and independent variables. While  $R^2$  is used to find out whether the independent variable (price, income, taste) is right in explaining the dependent variable (consumer demand).

## IV. Results And Discussions

### 4.1 Results

The results of multiple regression analysis are as follows:

$$Y = 14,388 + 0,170 X_1 + 0,141 X_2 + 0,421 X_3 + e$$

- Constanta of 14,388 states that if there is no variable X, that is price, income and taste then consumer demand is 14,388 with other factor assumption constant.
- Coefficient  $X_1$  of 0.170 states that any increase in price will affect consumer demand of 0.170 with the assumption of other factors constant.
- Coefficient  $X_2$  of 0.141 states that any income increase will affect consumer demand by 0.141 with the assumption that other factors are constant.
- The coefficient of  $X_3$  of 0.421 states that every increase of one unit of taste will affect consumer demand of 0.421 with the assumption that other factors are constant.

The t test results are described as follows

- T test of price is 2.238. This means that the hypothesis is accepted that the price partially has a positive and significant impact on consumer demand for *Syzygium Aqueum* in Stabat District of Langkat Regency.
- T test of income is 2,436. This means that the hypothesis is accepted that the income partially has a positive and significant impact on consumer demand for *Syzygium Aqueum* in Stabat District of Langkat Regency.

- T test of taste is 2,677. This means that the hypothesis is accepted that the taste partially has a positive and significant impact on consumer demand for *Syzygium Aqueum* in Stabat District of Langkat Regency.

The F is 11,449. It means the price, income and tastes simultaneously have a positive and significant impact on consumer demand for *Syzygium Aqueum* in Stabat District of Langkat Regency.  $R^2$  is 0.303, means 30.3% independent variables (price, income, taste) are able to explain consumer demand for *Syzygium Aqueum*. While the rest of 69.7% explained by other variables not included in this study.

It can be concluded that partially, price, income and taste have an influence on consumer demand. Simultaneously these three variables also have an influence on consumer demand. Income and taste are the most influential factors, while price is not significantly affected on *Syzygium Aqueum* demand.

## 4.2 Discussions

This study concludes that there is influence of price, income, taste partially to consumer demand of *Syzygium Aqueum*. This result is supported by Wolf (2002) summarizing that price is a major factor driving the demand for organic grapes in the United States [32]. The rise in prices led to a decrease in grapes demand. Reaffirmed by Waterlander, Steenhuis, de Boer, Schuit, & Seidell (2012) that the 25% discount on fruit and vegetables in the Netherland can change the number of buyers from 52 to 63 [33]. Therefore the price is very influential on the number of consumer demand for certain goods or services. In relation to income, the results of this study are in line with Stewart, Blisard, & Jolliffe (2003) stating that poorer households in U.S. found fewer fruits and vegetables. Income increase also does not make poor people buy more fruits and vegetables because of other necessities. For non-poor households, the purchase of fruits and vegetables is significantly higher than for poor households. The income effect is important to show the demand for organic products. The demand for organic food is still dependent on income [34]. Demand for organic fresh product continues to grow in line with rising household incomes [35]. For taste, Steiner & Glaser (1995) expressed a good taste more pleasant and more acceptable to respondents [36]. Clark (1998) has a strong evidence that taste and flavour are important factors in consumer food choice and acceptance. These two factors are the key to successful product development. Consumers will often mention the taste and flavour as being a major factor in their preference decision. The taste of food is so important that consumers make repeat purchases at the store [37].

## V. Conclusion

### 5.1 The Impact of Research

This results is expected to be an input for fruit farmers to establish their business strategy by paying attention to price, income and taste as the factors influencing consumer demand on *Syzygium Aqueum*.

### 5.2 Limitations

1. This study only limits on price, income and tastes in identifying consumer demand.
2. Length of studies are also considered insufficient.

### 5.3 Recommendations

Other authors are expected to conduct further study with other variables that are more precise, longer research time, more number of respondents and using different research methods thus expected to give more perfect results.

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