

# 2. The identification of ready-to-eat banana's superior attributes through the fishbein multi-attribute approach

*by* Hamidah Hendrarini

---

**Submission date:** 18-Jan-2023 08:42AM (UTC+0700)

**Submission ID:** 1994478642

**File name:** attributes\_through\_the\_fishbein\_multi-attribute\_approach\_1.pdf (332.84K)

**Word count:** 7038

**Character count:** 34842

## The identification of ready-to-eat banana's superior attributes through the fishbein multi-attribute approach

Hamidah Hendrarini<sup>1\*</sup>, Rifan Jefri Sunarsono<sup>2</sup>, Yuni Erviyanti<sup>3</sup> and Teguh Soedarto<sup>4</sup>

<sup>1,3,4</sup>University of Pembangunan National Veteran East Java, Department of Agriculture, Faculty of Agriculture, Surabaya city, 60294, Indonesia

<sup>2</sup>Airlangga University, Department of Management, Faculty of Economics and Business, Airlangga, Surabaya city, 60115, Indonesia

E-mail: hamidahrini1@gmail.com, rifanjefrisunarsono@gmail.com, viyatthariz@gmail.com, teguhsuedarto@gmail.com

### Abstract

Hendrarini, H., Sunarsono, R. J., Erviyanti, Y. & Soedarto, T. (2020). The identification of ready-to-eat banana's superior attributes through the fishbein multi-attribute approach. *Bulg. J. Agric. Sci.*, 26 (1), 34–42

Fruits are one of the priority foods for balanced and perfect nutrition. For example, one of these fruits is banana. The consumption of bananas is increasing along with the diet of the Indonesian population who need fresh fruit as a menu of daily nutrition. The volume of demand for bananas is high, but often domestic market demand is not fulfilled. To support the existence of qualified banana, therefore this study aims to 1) analyze the consumer behavior and perception in the attributes of ready-to-eat bananas, 2) identify and analyze the attributes of ready-to-eat bananas that are considered superior by consumers for some varieties of banana. This research was conducted at Pahing Market, Rungkut in East Java with a total sample of 40 people obtained through the accidental sampling method. Data used primary data and secondary data. The analysis used uses a fishbein multi-attribute approach. The results of this study are 1) the most popular variety of banana is the Pisang Hijau (Green Banana), 2) The product attributes that are considered most important by consumers in buying ready-to-eat bananas are a) the highest attribute of Pisang Ambon (Ambon Banana) is price and the lowest is fruit defects, b) the highest attribute of Pisang-Susu (Milk Banana) is taste and the lowest is availability, c) the highest attribute of Pisang Raja (King Banana) is taste and the lowest is colour, d) the highest attribute of Pisang Emas (Golden Banana) is the price and the lowest is colour, e) the highest attribute of Pisang Hijau (Green Banana) is price and the lowest is fruit defect, 3) the attributes that are considered superior by consumers among all varieties of bananas are the price with 0.375 (Gold Banana) and taste with 0.234 (King Banana).

**Keywords:** banana; consumer behavior; consumer trust; consumer perception; consumer characteristics; fishbein; multi-attribute approach

### Introduction

Indonesia is a country that is rich in natural products. Strategic areas and favorable climatic conditions enable biodiversity to flourish in this country. Concerning the crop yields, food requirements are also a major factor in the formation of human quality and quantity. Without balanced

food and nutrition, it will affect the welfare of the population, so food and nutrition are one of the main factors to meet the needs of human life. Even in other countries such as India, the balance of food and nutrition is an important curriculum (Rathi et al., 2017). When there is an imbalance between food and nutrition, there will be some problems such as the prevalence of overweight and obesity among ad-

olescents (Khadiikar et al., 2011; Midha et al., 2012; Wang et al., 2009). Among the causes of the imbalance between the food consumed and the nutrients obtained are due high consumption of dietary fats and sugars (Goel et al., 2013), low consumption of fresh fruits and vegetables (Bachani et al., 2013) and the consumption of energy-dense, nutrient-poor food products such as pizzas, chocolates, potato chips, burgers and carbonated beverages (Goel et al., 2013; Singh et al., 2006).

One example of food products that have good benefits for the human body is fruits. Fruits in various parts of the world are also prioritized for complete and balanced nutrition. Among the examples of fruit that will also be used as subjects in this study are bananas. Bananas in some contexts are seen as the good source of fibers, vitamins, minerals (magnesium, zinc, potassium, phosphorus), bioactive compounds such as phenolic compounds and resistant starch (Chávez-Salazar et al., 2017; Borges et al., 2009; Riquette et al., 2019; Wall, 2006; Hettiaratchi et al., 2011), potentially contributing to health benefits (Zandonad et al., 2012; Choo et al., 2010; Basso et al., 2011; Costa et al., 2017).

Banana is used as the main idea of this research because this fruit is one of the main agricultural products and production in developing the welfare of the Indonesian people. For Indonesian people, bananas are one of the favorite fruits that can be consumed every day. As the consumption of bananas increases in line with the diet of Indonesians who need fresh fruit as a daily nutritional menu, the demand for bananas is higher. Among the obstacles in this regard is the availability of bananas on the domestic market that is unable to meet existing demand. The limited production of bananas is caused by the fact that there are still very few banana planting centers in Lumajang for East Java, Indonesia. In fact, in Indonesia bananas occupy the first place among other types of fruits both in terms of distribution, area of planting and in terms of production. Indonesia's total banana production in 2017

**Table 1. Indonesian fruit production in 2017**

| No | Fruits     | Production Total (ton) |
|----|------------|------------------------|
| 1  | Banana     | 7,008                  |
| 2  | Mango      | 2,464                  |
| 3  | Orange     | 1,999                  |
| 4  | Soursop    | 1,874                  |
| 5  | Salak      | 1,036                  |
| 6  | Durian     | 856                    |
| 7  | Papaya     | 830                    |
| 8  | Rambutan   | 733                    |
| 9  | Avocado    | 306                    |
| 10 | Mangosteen | 111                    |

was around 7,008 tons and Lampung, Indonesia contributed 535,732 tons or around 10.6% of the national banana production. The community can apply the method of handling fruit well and use it as raw material for processed products, as well as a table fruit to fulfill vitamins and minerals. With a touch of technology, various banana products can be served quickly and easily and can be a profitable venture (Table 1).

Understanding consumer behavior related to fruit consumption is very important market information for the agribusiness sector. This information is needed as input for planning and developing products and marketing fruits well. Through the analysis of final purchasing decisions at the stage of post-purchase behavior related to the satisfaction felt by consumers will affect subsequent purchasing behavior. If the customers are satisfied, they will show a great opportunity to make a repeat purchase or buy another product at the same company in the future and is likely to recommend to others. Consumer behavior or behavioral science is the study of consumer behavior in the sense of actions to buy a particular item.

Consumer behavior can be interpreted as the activities of individuals who are directly involved in obtaining and using goods and services including in the decision-making process in the preparation and determination of these activities. The large selection of bananas on the market makes consumers have their respective criteria in the selection of bananas to consume. These criteria of consideration then form the similarity in behavior in determining purchasing decisions by banana consumers. In carrying out marketing efforts, sellers need consumers' knowledge about their products. Analyzing consumer behavior will be more profound and successful if we can understand the psychological aspects of humanity as a whole, the strength of socio-cultural factors and economic principles and marketing strategies.

Banana is chosen in this study as the main subject of this research. The problems discussed in writing this thesis are individual buyer characteristics factors (needs), environmental factors (purchasing situations) and marketing factors (quality). Factors of individual characteristics of buyers are closely related to consumer needs, which means the more the needs of consumers, the more the number of purchases. Environmental factors are closely related to the purchasing situation, so the number of purchases in certain Market is increasing. The marketing factor is closely related to quality, which means the better the quality of the banana, the more the number of purchases at a certain market. Here are some questions that are needed to be answered in this research.

Analyzing the attitude of consumer trust in the attributes of ready-to-eat bananas in Pahing Rungkut Market, Surabaya, and East Java.

Identifying the attributes of ready-to-eat bananas that are considered superior by consumers for each type of bananas and analyzing the attributes that are considered superior by consumers for all types of bananas.

## Theoretical Background and Literature Review

**25** **Banana**  
**32** Banana is one of the most consumed fruits in the world. More than 100 varieties of banana exist in this world (Falcomer et al., 2019). In Indon**27**, more than 10 varieties of banana can be found easily. **Banana is a source of energy**  
**18** (bohydrates) and minerals, especially potassium. Banana can be used as a food source that can maintain health and as a medicinal ingredient to overcome various diseases such as fever or antipyretic, antidote, anti-inflammatory, urine laxative or diuretic, as an intestinal lubricant, and can be useful as a mild laxative. The relatively high potassium content in bananas makes this fruit can be used as a fruit that can reduce the risk of developing high blood pressure. It also can be used to overcome thirst and weakness due to a lack of potassium. Banana can also help treat some diseases, wheat flour allergy, dry face, spruce, constipation, and hypertension. These are some varieties of Bananas which are detected in Indonesia and used in this research.

### • Ambon Banana

This variety of Banana is divided into three types which are Ambon Lumut Banana, Ambon Putih Banana, and Ambon Kuning Banana. For every 100 g of Ambon banana, there is a nutrient content of 99 kilocalories. The calorie content can help contribute additional energy that is needed by the body in the process of metabolism. Although the numbers are quite small, the calories in Ambon banana are enough as an alternative food that can keep our stomach full when hungry comes.

### • Pisang Susu (Milk Banana)

Milk Banana has many benefits like other bananas. One of its benefits is as an enhancer of folic acid. Folic acid is a substance that is needed by the fetus for its development in the uterus. Milk Banana contains folic acid so it is good for pregnant women. Because bananas also contain high calories so be careful not to consume too many bananas so that the benefits of bananas obtained by pregnant women will be maximal. One banana can have 80-100 calories.

### • Pisang Raja (King Banana)

King Banana is a tropical fruit that is widely grown in the Southeast Asian region including Indonesia and Malay-

sia. This fruit is quite popular because the taste is classified as very sweet when compared with other bananas. It is not only the sweet taste that makes plantains popular, but the high content of Vitamin C and Vitamin A also makes this fruit excellent. Vitamin C and Vitamin A contained in this fruit are an excellent antioxidant to reduce the impact of free radicals and prevent cancer. King Banana is one of the fruits that have fairly complex nutritional content. This fruit is often used as a staple food instead of rice because of its high carbohydrate content. Besides being rich in carbohydrates, King Banana contains Vitamin A which is large enough so that people with cataracts and night blindness are strongly advised to consume this fruit. One of the most important benefits of King Banana is to help the digestive system to keep working optimally.

### • Pisang Emas (Gold Banana)

Gold Banana is a variety of banana which its existence is easily ignored, because in Indonesia this banana is often used to feed birds or some other traditional events, such as weddings. Because of its tiny size, it is often numbered as a dessert. Gold Banana is quite small in size. Its length is only about 3-4 cm in diameter. Has thin skin and bright yellow. In terms of taste, Gold Banana has a very sweet and very distinctive flavor. As with other types of bananas, Gold Banana is also a healthful fruit and rich in vitamins. One of the nutritional contents of the Gold Banana is carbohydrate. Every 100 g of consumed Gold Banana contains 21.0-33.6 g of carbohydrate. Carbohydrates in banana include glucose, sucrose, and fructose. Types of vitamins contained in bananas including Vitamins A, B1, B2, niacin and folic acid. All types of vitamins are contained in every 100 g of consumed and the types of minerals contained in banana gold are calcium, potassium, and iron.

### • Pisang Hijau (Green Banana)

Green Banana can be found in any other countries in this world. Even it has the same calling which is Green Banana, but this variety of Banana has a different characteristic in several countries. As an example**2** in India, Gold Banana has several stages of color change. Commercial standard color charts classify the stages of banana maturation (Stage 1 = all green, 2 = green with a trace of yellow, 3 = more green than yellow, 4 = more yellow than green, 5 = yellow with a trace of green, 6 = full yellow, 7 = full yellow with brown spots) (Falcomer et al., 2019). In Indonesia, This banana skin remains green even though it is ripe. This rind is rather thick. The fruit is large; its length can reach 28 cm with almost curved fruit shape. Even though it is rather large, the banana originating from Malang, East Java but it only weighs 150-



180 g per fruit. Green bananas seem to be a good source of fibers, vitamins (Vit C, B6, provitamin A), minerals (potassium, magnesium, zinc, phosphorus) and bioactive compounds.

### Consumer Characteristics

Consumer characteristics are several characteristics that usually affect consumers in purchasing decisions are cultural, social, personal and psychological characteristics (Kotler & Armstrong, 2008). These are some consumer characteristics that can be taken in this research.

#### • Consumer Income

Income can be defined as a reward received by a customer from the work done to find a living. Income is usually received in the form of money. The measured income from a consumer, in this case, is usually not only the income received by an individual but is measured by all the income received by all family members where the consumer is located. This element is really needed and some are using this element as indicator or even as a variable to observe its effect to other variables like Hendrarini et al. (2018) who researched its effect to the farmer's household food security.

#### • Consumer Age

Consumers with varying age will consume different products and services. The age difference will also result in differences in taste and brand preference. From the marketing side, all products regardless of age are consumers; marketers need to know the composition and age distribution of products from an area or region targeted by the market.

#### • Consumer Education Level

A person's education level will also affect the values they hold, the way they think their perspective and even their perception of a problem. Consumers who have better education will be very responsive to information. Education also affects consumers in the choice of products or brands.

10

#### Consumer Behavior

Consumer behavior is a process that is closely related to the purchasing process, at that time consumers carry out activities such as searching, research, and evaluating products. Consumer behavior underlies consumers to make purchasing decisions. Product quality and the price of the product or service are some variables that can affect the consumer behavior. If the price of a product is not too high, then consumers will not need too long to think about and do consumer behavior activities. But if the price of an item or service is arguably high, or expensive, then the consumer

will give more effort to the item. The buyer will increasingly do consumer behavior, such as seeing, asking, evaluating, and considering. Consumer behavior according to Hawkins & Mothersbaugh (2013) is defined as the study of individuals, groups or organizations and the processes they use to select, secure, and eliminate products, services, experiences or ideas to meet needs and that this process will have an impact on consumers and society. Consumer buying behavior is the study of the ways of buying and disposing of goods, services, ideas or experiences by the individuals, groups and organizations to satisfy their needs and wants (Kotler & Keller, 2009).

#### Consumer Trust

21

Trust is defined as the level of reliability ensured by one party to another within a give and take exchange relationship (Rotter, 1967). Trust also can be defined as customers' trust in a service seller's reliability and integrity (Morgan & Hunt, 1994). Consumer trust is also known as consumer knowledge about an object, its attributes, and benefits. Consumer trust or consumer knowledge concerns the belief that a product has various attributes and the benefits of these attributes. In general, the definition of trust refers to the existence of trust by the first party (one party) to the second party (another party) that the second party will behave which causes positive results to the first party. Attributes are characteristics or features that an object may or may not have. While the benefits are positive results provided to consumers. Trust is generally seen as a fundamental element for successful relationships. Without trust, a relationship will not last for a long time.

#### Perception

Perception (from Latin word which is perception or percipio) is the act of compiling, recognizing and interpreting sensory information to provide an overview and understanding of the environment. Perception includes all signals in the nervous system, which are the result of physical or chemical stimulation of the sensing organs such as vision which is light that affects the retina in the eye, a kisser that uses a medium of smell molecules (aroma), and hearing that involves sound waves. Perception is a process by which individuals organize and interpret their sensory impressions in order to give meaning to their environment. What one perceives can be substantially different from objective reality (Robbins, 2000). Perception is not passive acceptance of cues, but is shaped by learning, memory, hope, and attention. Perception depends on the complex functioning of the nervous system, but does not appear to exist because it occurs outside of consciousness.

## Methods

The chosen location of this research is Pahing Market, Rungkut District, Surabaya. The determination of this location is affected by considering the age of the market standing that has been running for 20 years and a large number of consumers who always packs the market every day, as well as its strategic location. Moreover, the Pahing market is a fruit center and it is considered to be cheaper than the surrounding markets. Moreover, the Pahing market is very strategic which is close to residential areas and offices. The data in this study were collected using primary data that is taken directly in the field and communicating with respondents through interviews. Secondary data in this study is a source of data obtained indirectly through intermediary media (obtained and recorded by other parties) in the form of sales data and price data.

In this study, the sample used is consumers whose profession is as housewives making purchases directly without an intermediary (household assistant). The basis for taking the population can be seen from the respondents who already know the ready-to-eat fruit products. Based on the data that is known, and then the sampling is done by accidental sampling method by finding consumers whose dwellings are close to the Surabaya Pahing Market, Rungkut. The sampling is carried out in two stages which the first one is in the morning (08.00-11.00) and the second is in the afternoon (13.00-16.00) with respondents aged the same as 17 years and above. Through the basis of calculations using the number of indicators and scale range, a sample of 40 respondents was found.

The Likert scale is used which is used to measure the perception, attitude or opinion of a person or group regarding an event or social phenomenon, based on an operational definition set by the researcher. This scale is a psychometric scale that is usually applied in questionnaires and is most often used for research in the form of surveys, including in descriptive survey research. With a Likert scale, the variables to be measured are translated into indicator variables. Then the indicator is used as a question point, this study uses five scales. This calculation uses a Likert scale from (-2) to (+2). Each consumer's taste for the product attributes is given a score from (-2) to (+2) to see the respondent's tendency towards the consumer's preference for the attributes of a banana ready for consumption. For qualitative analysis, the answers from respondents will be given a score and grouped according to the value or weight of each question or item number consisting of the respondent's answer. The research question will be answered through the use of fishbein multi-attributes approach.

## Results and Discussion

Most consumers who buy and consume ready-to-eat bananas are 80% or as many as 32 people who are female, and 20% or as many as 8 people are male. Women are the decision-makers in family shopping activities and as the regulators of lifestyle consumption of food or snacks. In their families generally, women shop for daily needs so that they have more knowledge about the needs of the household. Besides, women also have a high enthusiasm to collect the price data from one seller to others to get the desired price. They are also very reliable in negotiating a purchase so that it gets a very cheap price. They are identified quite intelligent and have a lot of knowledge before buying so that the goods chosen are the best for consumption and also beneficial for body health such as choosing ready-to-eat bananas that are efficient to maintain heart health, help the digestive tract, reduce the risk of cancer, maintain eye health, reduce the risk of kidney problems, and also maintain skin health and many other health for the body. By shopping in the traditional market, women also care about the movement of the small economy so that it can improve the economy in the traditional market such as Pahing Rungkut Surabaya, Indonesia.

In terms of age, the majority of consumers who buy and consume ready-to-eat bananas and buy ready-to-eat bananas based on the age of consumers are 13% or as many as 5 people aged 21-25 years, 38% or as many as 15 people aged 26-30 years, 36% or as many as 14 people aged 31-35, 13% or as many as 5 people aged above 35 years. The results of this study indicate that consumers aged 26-30 years more often buy their needs in traditional markets because consumers of that age have very experienced transactions in traditional markets. In this age, many consumers are responsible for their basic needs, and also signify that consumers aware of the health of the body for themselves and their loved ones, so it is very necessary to consume bananas ready-to-eat to maintain health.

In terms of employment, the majority of ready-to-eat bananas consumers' employment in traditional markets is a housewife with 40% aggregate or 16 people. 35% or 14 people are indicated as private employees, 20% or 8 people are entrepreneurs, and 5% or 2 persons are civil servants. These results indicate that consumers who often buy ready-to-eat bananas have a housewife's job because housewives have free time to shop to the market so that the market is dominated by housewives and according to housewives health is needed by the family if housewives see nutritional needs are met.

In this study, five varieties of bananas were used as research subjects, namely: Ambon Banana, Milk Banana,



King Banana, Gold Banana and Green banana. From the 5 varieties of bananas, 27% or 11 people likely buy Green Banana, 20% or 8 people buy Gold Banana, 13% or 5 people buy Ambon Bananas, 15% or 6 people buy Milk Bananas, and as many as 25% or 10 people buy King Banana. Among the five varieties of ready-to-eat bananas, the most widely purchased by consumers is the Green Banana.

**A. Fishbein Result**

In the Fishbein model, a person's attitude towards certain objects is measured, based on the evaluation and belief of the consumer. The method of measuring the level of importance (ei) of consumers to the multi attributes that are inherent and can be seen directly by these consumers. Evaluation of interests shows the level of consumer preference for these attributes. Strong interests regarding positive attributes have a greater influence on consumer attitudes. The level of trust (bi) is the probability of the association between the object and its relevant attributes. The strength of brand trust is influenced by its past with objects. Trust in products will strengthen when based direct use of the product, besides that trust based on direct knowledge also has a greater effect on consumer attitudes.

**• Consumer Behavior towards Ready-To-Eat Ambon Banana**

Based on the table above, it can be seen that the attitudes of consumers towards Ambon Banana based on the multiplication of the average value of trust and the average value of the evaluation obtained in the order of Price, Taste, Availability, Freshness, Color, Ripeness, Type, and Defect. The highest attribute on Ambon Banana is the price; this is because the price of Ambon bananas is affordable for middle and lower respondents, so they are interested in buying it. Another factor is the much cheaper price.

**Table 2. The Score of Trust and Respondents Evaluation of Ambon Banana Multiattributes**

| Attributes   | ei   | bi   | ei bi  | Sequence |
|--------------|------|------|--------|----------|
| Type         | 0.12 | -0.4 | -0.048 | 7        |
| Price        | 0.20 | 0.8  | 0.160  | 1        |
| Color        | 0.08 | 0.4  | 0.032  | 5        |
| Defect       | 0.05 | -0.2 | -0.011 | 8        |
| Freshness    | 0.13 | 0.6  | 0.078  | 4        |
| Ripeness     | 0.07 | 0.2  | 0.015  | 6        |
| Taste        | 0.19 | 0.8  | 0.156  | 2        |
| Availability | 0.19 | 0.6  | 0.117  | 3        |

Note: ei = the evaluation level; bi = the belief level

**• Consumer Behavior towards Ready-To-Eat Milk Banana**

Based on the table above, it can be interpreted that consumer attitudes toward Milk Banana based on the multiplication of the average value of trust and the average value of the evaluation obtained in the order of Taste, Freshness, Type, Price, Color, Ripeness, Defect and Availability. The highest attribute on Banana Milk is taste. This happens because the taste of banana milk is delicious and sweet, with the result that this is the factor making customers interested to buy. Milk Banana is suitable for fresh fruit dishes. The size of a small fruit is almost the same as Gold Banana. The Milk Banana is thin rind, yellow with black spots, yellowish-white flesh, and sweet, soft and fragrant fruit flavors. The lowest attribute is the availability; this is because availability is not too important in buying, because consumers buy bananas only for family consumption.

**Table 3. The Score of Trust and Respondents Evaluation of Milk Banana Multiattributes**

| Attributes   | ei   | bi   | ei bi | Sequence |
|--------------|------|------|-------|----------|
| Type         | 0.12 | 0.5  | 0.07  | 3        |
| Price        | 0.20 | 0.33 | 0.07  | 4        |
| Color        | 0.08 | 0.66 | 0.05  | 5        |
| Defect       | 0.06 | 0.83 | 0.05  | 7        |
| Freshness    | 0.13 | 0.67 | 0.09  | 2        |
| Ripeness     | 0.08 | 0.67 | 0.05  | 6        |
| Taste        | 0.19 | 1.17 | 0.22  | 1        |
| Availability | 0.19 | 0.17 | 0.03  | 8        |

Note: ei = the evaluation level; bi = the belief level

**• Consumer Behavior towards Ready-To-Eat King Banana**

Based on the table above, it can be seen that consumer attitudes toward King Banana based on the multiplication of the average value of trust and the average value of the evaluation obtained sequence: Price, Taste, Freshness, Availability, Ripeness, Type and Color. The highest attribute on plantain is price and then taste. This happens because the affordable for middle and lower respondents and also the taste of King Banana is delicious and sweet, so it is interesting to buy it. King Banana is suitable for fresh and processed fruit dishes. With appearance such as thick yellow rind with black spots on ripe fruit, the size of the fruit is quite large with a diameter of 3.2 cm and a length of 12-18 cm. Ripe flesh colors reddish yellow when eaten, it feels legit and sweet with a fragrant aroma. The lowest attribute is color. The color is not

**Table 4. The Score of Trust and Respondents Evaluation of King Banana Multiatributes**

| Attributes   | ei   | bi  | ei bi | Sequence |
|--------------|------|-----|-------|----------|
| Type         | 0.12 | 0.3 | 0.036 | 6        |
| Price        | 0.20 | 1.3 | 0.260 | 1        |
| Color        | 0.08 | 0.3 | 0.024 | 8        |
| Defect       | 0.05 | 0.6 | 0.033 | 7        |
| Freshness    | 0.13 | 1.1 | 0.143 | 3        |
| Ripeness     | 0.07 | 0.5 | 0.037 | 5        |
| Taste        | 0.19 | 1.2 | 0.234 | 2        |
| Availability | 0.19 | 0.2 | 0.039 | 4        |

Note: ei = the evaluation level; bi = the belief level

too important, because consumers are aware that the quality of fruit in the market is low.

#### • Consumer Behavior towards Ready-To-Eat Gold Banana

The following Table 5 will exhibit that consumer attitudes toward golden bananas are based on the multiplication of the average value of trust and the average value of the evaluation obtained in the order of Price, Taste, Freshness, Availability, Type, Ripeness, Defect and Color. The highest attribute on Gold Banana is price. This happens because the price of Gold Banana is affordable for middle to lower respondents, so they are interested in buying it. Gold Banana is suitable for fresh fruit dishes. Small-sized fruit with a diameter of 3-4, thin rind with a bright yellow color on ripe fruit. Soft flesh, the taste is very sweet and the aroma is fragrant. The lowest attribute is color.

**Table 5. Score of Trust and Respondents Evaluation of Gold Banana Multiatributes**

| Attributes   | ei   | bi   | ei bi | Sequence |
|--------------|------|------|-------|----------|
| Type         | 0.12 | 0.87 | 0.105 | 5        |
| Price        | 0.20 | 1.87 | 0.375 | 1        |
| Color        | 0.08 | 0.12 | 0.010 | 8        |
| Defect       | 0.05 | 0.25 | 0.013 | 7        |
| Freshness    | 0.13 | 1.00 | 0.130 | 3        |
| Ripeness     | 0.07 | 0.50 | 0.037 | 6        |
| Taste        | 0.19 | 1.25 | 0.243 | 2        |
| Availability | 0.19 | 0.62 | 0.121 | 4        |

Note: ei = the evaluation level; bi = the belief level

#### • Consumer Behavior towards Ready-To-Eat Green Banana

Based on the table above, it can be pointed that consumer attitudes toward Green Banana are based on the

multiplication of the average value of trust and the average value of the evaluation obtained in the order of Price, Taste, Availability, Freshness, Type, Ripeness, Color and Defect. The highest attribute on Green Bananas is Price. This happens because the price of Green Banana is affordable for respondents, so they are interested in buying them. The lowest attribute is fruit defect. This happens because fruit defect is not too important in buying. Consumers are aware and informed that bananas before reaching the hands of traders, require shipping and transfer of hands from farmers to consumers, and are moved from box one to box, from truck to truck. Therefore from that the fruit can be rotten.

**Table 6. Score of Trust and Respondents Evaluation of Green Banana Multiatributes**

| Attributes   | ei   | bi   | ei bi | Sequence |
|--------------|------|------|-------|----------|
| Type         | 0.12 | 0.45 | 0.054 | 5        |
| Price        | 0.20 | 1.72 | 0.345 | 1        |
| Color        | 0.08 | 0.36 | 0.029 | 7        |
| Defect       | 0.05 | 0.00 | 0.000 | 8        |
| Freshness    | 0.13 | 0.45 | 0.059 | 4        |
| Ripeness     | 0.07 | 0.45 | 0.034 | 6        |
| Taste        | 0.19 | 1.00 | 0.195 | 2        |
| Availability | 0.19 | 0.36 | 0.070 | 3        |

Note: ei = the evaluation level; bi = the belief level

#### • Value of Consumer Trust Attitudes (Ao) on Some Varieties of Ready-To-Eat Bananas

The following table will explain that the attitude of consumer trust in ready-to-eat banana products is as follows:

##### • 1. Ambon Banana

a. The highest attribute is Price. This is because the price of Ambon Banana is quite affordable for consumers, so consumers are interested in buying it.

b. The lowest attribute is fruit Defect. This happens because the fruit defects in ready-to-eat Ambon Bananas are not too much thought by consumers.

##### • 2. Milk Banana

a. The highest attribute is Rasa. This is because the taste of Milk Banana is delicious and sweet so consumers are interested in buying it.

b. The lowest attribute of milk bananas is Availability. This happens because consumers are not overly thought about its availability.

##### • 3. King Banana

a. The highest attribute is Taste. This is due to the King Banana taste delicious and sweet for consumers, so consumers are interested in buying it.



**Table 7. Value of Consumer Trust Attitudes (Ao) on Some Varieties of Ready-To-Eat Bananas**

| No | Attributes   | Attitudes of Consumer Trust (Ao) on Various Types of Ready-To-Eat Bananas |             |             |             |              |
|----|--------------|---|-------------|-------------|-------------|--------------|
|    |              | Ambon Banana  | Milk Banana | King Banana | Gold Banana | Green Banana |
| 1  | Type         | -0.048  | 0.060       | 0.036       | 0.105       | 0.054        |
| 2  | Price        | 0.160   | 0.067       | 0.260       | 0.375       | 0.345        |
| 3  | Color        | 0.032   | 0.053       | 0.024       | 0.010       | 0.029        |
| 4  | Defect       | -0.011  | 0.046       | 0.033       | 0.014       | 0.000        |
| 5  | Freshness    | 0.078   | 0.087       | 0.143       | 0.130       | 0.059        |
| 6  | Ripeness     | 0.015   | 0.050       | 0.037       | 0.037       | 0.034        |
| 7  | Taste        | 0.156   | 0.227       | 0.234       | 0.244       | 0.195        |
| 8  | Availability | 0.117   | 0.032       | 0.039       | 0.122       | 0.071        |

Notes:

- = the highest attribute
- = the lowest attribute

b. The lowest attribute is Color. This explains that consumers are not too concerned with the color of Raja Banana.

- 4. Gold Banana

a. The highest attribute is Price. This is because the price of Gold Banana is quite affordable for consumers, so consumers are interested in buying it.

b. The lowest attribute is Color. This explains that consumers are not too concerned with the color of Gold Banana.

- 5. Green Banana

a. The highest attribute is Price. This happens because the price of Green Bananas is quite affordable for consumers, so consumers are interested in buying it.

b. The lowest attribute is fruit defect. This is because the fruit defect in Green Banana is not too important by consumers.

**Conclusion**

Attributes that are considered superior to bananas by consumers from all varieties of bananas taken in this research are the price and taste of Gold Banana. The price is chosen because the cheapness and the consumers who shop are from the middle class and lower with a value of 0.375, while the Green Banana is 0.345, the King Banana is 0.260, the Milk Banana is 0.066, and the Ambon Banana is -0.16. Attributes of taste from Gold Banana is 0.243, Green Banana 0.195, King Banana 0.234, and Milk Banana 0.0325, and the last Ambon Banana is 0.117. It can be concluded that consumers prefer Gold Banana compared to other varieties of Banana. Gold Banana is suitable for fresh fruit dishes. Small-sized fruit with a diameter of 3-4. It is thin rind with a bright yellow color on ripe fruit, soft flesh, and the taste is very sweet as well as the aroma is fragrant. Moreover, this banana tastes legit, does not make you uncomfortable, and even though the color is yellow and very high in nutrients. It can even

be the main daily nutrient intake for all ages; it can also be used as nutritional therapy. Bananas that we know every day have quite high nutrition. As a dessert, banana is very fitting. As a snack it is also very suitable. In addition, it is delicious taste, the price of a cheap banana also attracts people to buy it, by paying Rp. 5,000 per kg, we can bring home bananas for consumption by family members.

Banana which has the lowest attribute is Ambon Banana because of its large banana shape, although the color is ripe yellow but sometimes it tastes delicious, and the price is more expensive than Gold Banana. Among those varieties of bananas, the most long-lasting banana is Green Banana due to their thick rind and then for the banana which is perishable is Gold Banana, due to their thin rind. The Bananas sold in the Pahing Traditional Market are not processed through artificial processes, such as the use of carbide, because traders do not want the bananas sold for the sweet taste to be inadequate. The bananas processed by using carbide do not provide a common sweet taste and unique aroma like when the bananas run into the natural process.

**References**

Bachani, D., Sogarwal, R., Shukla, S. K., Shelat, T. & Gupta, S. (2013). Dietary practices and physical activity performed by adolescent in selected districts of India. *Indian Journal of Community Health*, 25 (2), 171-177.

Basso, C., Silva, L. P., Bender, A. B. B. & Silveira, F. (2011). da Effect of elevated contents of resistant starch: On the blood glucose and on the food acceptability. *Rev. do Inst. Adolfo Lutz*, 70, 276-282.

Bodinhom, C. L., Frost, G. S. & Robertson, M. D. (2010). Acute ingestion of resistant starch reduces food intake in healthy adults. *British Journal of Nutrition*, 103, 917.

Borges, A. M., Pereira, J. & de Lucena, E. M. P. (2009). Caracterização da farinha de banana verde Green banana flour char-

- acterization. *Ciênc. Technol. Aliment*, 29, 333-339.
- Chávez-Salazar, A., Bello-Pérez, L. A., Agama-Acevedo, E., Castellanos-Galeano, F. J., Álvarez-Barreto, C. I. & Pacheco-Vargas, G.** (2017). Isolation and partial characterization of starch from banana cultivars grown in Colombia. *International Journal of Biological Macromolecules*, 98, 240-246.
- Choo, C. L. & Aziz, N. A. A.** (2010). Effects of banana flour and  $\beta$ -glucan on the nutritional and sensory evaluation of noodles. *Food Chemistry*, 119 (1), 34-40.
- Costa, E. L., Alencar, N. M. M., Rullo, G. S. R. & Taralo, R. L.** (2017). Effect of green banana pulp on physicochemical and sensory properties of probiotic yoghurt. *Food Science Technology*, 37, 363-368.
- Dutra-de-Oliveira, J. E., Marchini, J. S., Ciências Nutricionais, 2nd ed.; Sarvier: São Paulo, Brazil, (2008). Falcomer, A. L., Riquette, R. F. R., de Lima, B. R., Ginani, V. C. & Zandonadi, R. P.** (2019). Health Benefits of Green Banana Consumption: A Systematic Review. *Nutrients*, 11, 1222.
- Goel, S., Kaur, T. and Gupta, M.** (2013). Increasing proclivity for junk food among overweight adolescent girls in district Kurukshetra, India. *International Research Journal of Biological Sciences*, 2 (3), 80-84.
- Hawkins, D. I. & Mothersbaugh, D. L.** (2013). Consumer behavior: building marketing strategy. New York: *McGraw-Hill Irwin*.
- Hendrarini, H., Sunarsono, R. J., Soedarto, T., Nurhadi, E., Kusnandar & Rahayu, E. S.** (2018). The effect of charity attitude and economic condition on the farmers' household food security. *Bulgarian Journal of Agriculture Science*, 24(2), 206-212
- Hettiaratchi, U. P. K., Ekanayake, S. & Welihinda, J.** (2011). Chemical compositions and glycemic responses to banana varieties. *International Journal of Food Science and Nutrition*, 62, 307-309.
- Khadilkar, V.V., Khadilkar, A.V., Cole, T.J., Chiplonkar, S.A. and Pandit, D.** (2011). Overweight and obesity prevalence and body mass index trends in Indian children. *International Journal of Pediatric Obesity*, 6 (S3), e216-e224.
- Kotler, P. & Armstrong, G.** (2008). Principles of Marketing, 12TH Edition. Pearson, Prentice Hall, *Chicago*.
- Kotler, P. & Keller, K. L.** (2009). Marketing management. Upper Saddle River, N. J.: Pearson, Prentice Hall, *Chicago*.
- Midha, T., Nath, B., Kumari, R., Rao, Y. K. & Pandey, U.** (2012). Childhood obesity in India: a metaanalysis. *Indian Journal of Pediatrics*, 79 (7), 945-948.
- Morgan, R. M. & Shelby D. H.** (1994). The Commitment-Trust Theory of Relationship Marketing. *Journal of Marketing*, 58, 20-38.
- Rathi, N., Riddell, L. & Worsley, A.** (2017). Food and nutrition education in private Indian secondary schools. *Health Education*, 117 (2), 193-206.
- Riquette, R. F. R., Ginani, V. C., dos Santos Leandro, E., de Alencar, E. R., Maldonade, I. R., de Aguiar, L. A., de Souza Acácio, G. M., Mariano, D. R. H. & Zandonadi, R. P.** (2019). Do production and storage affect the quality of green banana biomass? *LWT – Food Science and Technology*, 111, 190-203.
- Robbins, S. P.** (2000). Organizational behavior: Concepts, controversies and application. New Delhi: *Prentice Hall of India*.
- Rotter, J. B.** (1967). A new scale for the measurement of interpersonal trust. *Journal of Personality*, 35 (4), 651-665.
- Singh, A. K., Maheshwari, A., Sharma, N. & Anand, K.** (2006). Lifestyle associated risk factors in adolescents. *Indian Journal of Pediatrics*, 73 (10), 901-906.
- Wall, M. M.** (2006). Ascorbic acid, vitamin A, and mineral composition of banana (*Musa sp.*) and papaya (*Carica papaya*) cultivars grown in Hawaii. *Journal of Food Composition and Analysis*, 19 (5), 434-445.
- Wang, Y., Chen, H. J., Shaikh, S. & Mathur, P.** (2009). Is obesity becoming a public health problem in India? Examine the shift from under to overnutrition problems over time. *Obesity Reviews*, 10 (4), 456-474.
- Zandonadi, R. P., Botelho, R. B. A., Gandolfi, L., Ginani, J. S., Montenegro, F. M. & Pratesi, R.** (2012). Green banana pasta: An alternative for gluten-free diets. *Journal of the American Academy of Nutrition and Dietetics*, 112 (7), 1068-1072.

Received: January, 2, 2019; Accepted: May, 10, 2019; Published: February, 29, 2020

## 2. The identification of ready-to-eat banana's superior attributes through the fishbein multi-attribute approach

### ORIGINALITY REPORT

13%

SIMILARITY INDEX

10%

INTERNET SOURCES

8%

PUBLICATIONS

8%

STUDENT PAPERS

### PRIMARY SOURCES

|   |   |    |
|---|---|----|
| 1 | <a href="https://download.atlantispress.com">download.atlantispress.com</a><br>Internet Source  | 2% |
| 2 | <a href="https://www.ncbi.nlm.nih.gov">www.ncbi.nlm.nih.gov</a><br>Internet Source  | 1% |
| 3 | <a href="http://ejournal.uika-bogor.ac.id">ejournal.uika-bogor.ac.id</a><br>Internet Source   | 1% |
| 4 | <a href="https://www.emeraldinsight.com">www.emeraldinsight.com</a><br>Internet Source  | 1% |
| 5 | Imelda Wulandari, Tri Handayani. "The Factors Influencing Purchase Decisions in choosing Halal Cosmetic Products Bengkalis State Polytechnic Students (Case Study of Emina Cosmetic Products)", Inovbiz: Jurnal Inovasi Bisnis, 2022<br>Publication | 1% |
| 6 | <a href="https://core.ac.uk">core.ac.uk</a><br>Internet Source  | 1% |
| 7 | <a href="https://www.neliti.com">www.neliti.com</a><br>Internet Source  | 1% |



|    |   |      |
|----|---|------|
| 8  | Dhingra, M., and V. Dhingra. "Perception: Scriptures' Perspective", Journal of Human Values, 2011.<br>Publication   | <1 % |
| 9  | Submitted to British School of Commerce - Colombo<br>Student Paper  | <1 % |
| 10 | iarconsortium.org<br>Internet Source  | <1 % |
| 11 | repository.upnjatim.ac.id<br>Internet Source  | <1 % |
| 12 | Submitted to Universitas 17 Agustus 1945 Surabaya<br>Student Paper  | <1 % |
| 13 | Rizni Aulia Qadri. "WORD OF MOUTH AND QUALITY SERVICES; THEIR IMPACT ON DESTINATION TRUST AND REVISIT INTENTION ON IN THE RIAU ISLANDS' DESTINATION", Journal of Business Studies and Mangement Review, 2022<br>Publication | <1 % |
| 14 | koreascience.or.kr<br>Internet Source   | <1 % |
| 15 | repository.umsu.ac.id<br>Internet Source  | <1 % |
| 16 | Submitted to University of Lincoln<br>Student Paper   | <1 % |

<1 %

17

[talenta.usu.ac.id](http://talenta.usu.ac.id)

Internet Source

<1 %

18

[kc.umn.ac.id](http://kc.umn.ac.id)

Internet Source

<1 %

19

[rjoas.com](http://rjoas.com)

Internet Source

<1 %

20

Submitted to University of Northampton

Student Paper

<1 %

21

Submitted to London Metropolitan University

Student Paper

<1 %

22

Submitted to University of Adelaide

Student Paper

<1 %

23

[www.alice.cnptia.embrapa.br](http://www.alice.cnptia.embrapa.br)

Internet Source

<1 %

24

Leticia Kahler Stragliotto, Gabriel Ferrari,  
Paulo Cezar Bastianello Campagnol, Virgílio  
José Strasburg et al. "Green banana by-  
products on the chemical, technological and  
sensory quality of meat products",  
International Journal of Gastronomy and Food  
Science, 2022

Publication

<1 %

25

[ourarchive.otago.ac.nz](http://ourarchive.otago.ac.nz)

Internet Source

<1 %

26

Submitted to Management Development  
Institute Of Singapore

Student Paper

<1 %

27

tiikmpublishing.com

Internet Source

<1 %

28

Harfin Nurulhaq, Kismartini. "The Effect Of  
Green Marketing Of Plastic Bag Ban Policy In  
Modern Retail Stores On Consumer Green  
Behavior In Bogor City", E3S Web of  
Conferences, 2019

Publication

<1 %

29

journalcra.com

Internet Source

<1 %

30

livrepositary.liverpool.ac.uk

Internet Source

<1 %

31

openrepository.aut.ac.nz

Internet Source

<1 %

32

"Handbook of Banana Production,  
Postharvest Science, Processing Technology,  
and Nutrition", Wiley, 2020

Publication

<1 %

33

Roberta Figueiredo Resende Riquette,  
Verônica Cortez Ginani, Eliana dos Santos  
Leandro, Ernandes Rodrigues de Alencar et al.

<1 %



# "Do production and storage affect the quality of green banana biomass?", LWT, 2019

Publication

---

---

Exclude quotes      On

Exclude matches      Off

Exclude bibliography      On