

Market Segmentation of Carica Products in Wonosobo Regency (Case Study on Telaga Warna Tourism Object and Sikunir Village Tourism Area)

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Abstract

Agribusiness is defined as business in agricultural sector that uses natural potential of Indonesia as the main commodity, hence it is possibly conducted in every region in Indonesia. Each region has its own advantages that represents the area characteristics, progressing into a leading commodity and further as an icon of a region. Wonosobo Regency is one of regions characterized by carica products that can only grow and develop in Dieng Plateau. This study aimed at investigating the market segmentation of carica product. The descriptive method was applied using 96 samples of respondents for data collection through questionnaire. Respondents were collected from two tourism areas in Wonosobo Regency, namely Telaga Warna and Sikunir. The results showed that the respondent's age and monthly expense variables significantly and positively affected the Carica product purchase in both tourism objects.

Keywords: Agribusiness Potential, Market Segmentation, Carica product

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Intisari

Perusahaan Asas Tani merupakan pertanian yang menggunakan potensi alam di Indonesia sebagai komoditi utamanya dapat dijalankan di setiap daerah yang terdapat di Indonesia. Setiap daerah memiliki keunggulan masing-masing yang mampu menjadi ciri khas dari daerah tersebut dan juga mampu menjadi komoditi unggulan yang boleh digunakan sebagai ikon dari suatu daerah. Kabupaten Wonosobo merupakan salah satu daerah yang memiliki ciri khas pada olahan carica yang hanya mampu tumbuh dan berkembang pada dataran tinggi dieng. Penelitian ini bertujuan untuk mengetahui pembahagian pasar pada produk olahan carica. Metode yang digunakan merupakan metode deskriptif, dengan menggunakan 96 sampel responden untuk pengambilan data melalui kuisioner. Responden diambil dari dua tempat yaitu wisata di Kabupaten Wonosobo yaitu Telaga Warna dan Sikunir. Hasil penelitian mengemukakan bahwa variabel usia dan pengeluaran responden tiap bulan memberikan pengaruh yang signifikan dan positif terhadap pembelian hasil olahan Carica yang ada pada kedua objek wisata tersebut.

Kata Kunci : Potensi Agribisnis, Pembahagian Pasar, Olahan Carica

Introduction: Indonesia is a country with agricultural sector that has impact and effect on other sectors. A multiplier effect of agricultural sector will result in effects where increase in agricultural sector will lead to increase in other sectors. Similarly, decrease in agricultural sector will also cause decrease in other sectors. Agricultural sector is really broad, including agriculture itself, fishery, forestry, plantation and animal husbandry. In agriculture, there are various commodities with different characteristics that can be cultivated. One of natural potentials in Indonesia that support business activity is the agricultural sector potential. Agricultural businesses, particularly those of small-medium scale are proved to survive in the middle of a crisis that has led to an impact still felt today. One of the pillars of economy in Indonesia is the agribusiness system and enterprise (Rumengan, 2015).

Agribusiness enterprise is a business in agricultural sector that uses natural potential in Indonesia as the main commodity and it is possibly conducted in every region in Indonesia. Each region has its own advantages that represents the characteristic of an area, progressing into a leading commodity and further as an icon of a region. One that is possibly developed and can be a natural potential of each region is the fruit plant. Every fruit plant has different requirement and characteristic to grow, develop, and produce fruits.

Type of soil, elevation, regional climate, temperature, and sunlight intensity highly affect the growth of fruit plants. Wonosobo Regency is one region with leading commodity in Indonesia, called carica. Wonosobo Regency produced 27,299 ton carica fruits in 2018 and increased to 392,880 ton in 2019. Furthermore, Kejajar Subdistrict which locates in the highest plateau in Wonosobo Regency was observed to produce the most carica fruit (BPS of Wonosobo Regency, 2020).

Carica fruit is one of fruit species that can consumed. There are at least 40 carica species cultivated only in Dieng Plateau, Wonosobo Regency, Central Java. This fruit will grow well in low temperature and high rainfall. Kejajar Subdistrict which locates in area at elevation over 1400 masl is greatly suitable for the fruit characteristics. Carica has been the identity of Wonosobo Regency and often processed into various processed foods that become local souvenirs. One example is the business of processing carica fruits into carica sweets that can be easily found in Dieng Plateau. Wonosobo Regency is a suitable place for mountain carica cultivation since highland will ensure excellent growth and development of carica plants. Moreover, Dieng Plateau is a tourism area that attracts tourists due to its natural tourism object and carica productas typical souvenir. Carica product is considered a typical food which attracts tourist to buy, both for consumption and souvenir. The number of tourists visiting the area insists on further study on market segmentation of carica productto provide maximum value for both seller and buyer. Regional condition that supports the processing of typical foods that become the destination for tourists has provided value to gain a more greater opportunity in the development of carica products, hence segmentation is highly required to achieve this goal. The segmentation applied is aimed to identify more prioritized consumers to be reached in the business. Consumers normally differ one another in many aspects, both in behavior, purpose of purchasing, and even habit, which will show consumer characteristic. This situation will obviously result in difficulties for producer or seller to serve all types of consumers (Swastha, 2011).

According to Riyanti and Agung (2017), brand image and product quality affected consumers in purchasing carica in Wonosobo. Excellent product quality should be achieved and in accordance to consumer's preferences. Therefore, demographic segmentation is required to maintain and investigate market target of

carica product, hence the product will be accepted by consumers according to its market target. Study conducted by Safira et al (2018) showed that a tight market competition of similar brands resulted in a large number of consumer choice in term of wants and needs, thus positioning and market target determination should be more focused. One effort to gain competitive advantage in order to maintain consumer loyalty is done by observing the segmentation of the targeted market. Based on these considerations, a further study is necessary to conduct on the market segmentation of consumers who decide to purchase the carica sweets.

Findings And Discussions: Methods, The method applied in this study was principally a descriptive analytical method which aims to describe and obtaining in-depth data data that containing meaning and can significantly influence the substance pf the research. This means that this methods present directly the nature of the relationship between researches and participants or research object and subject. This method also seeks to analyze research subject in order to obtain in-depth data (Sugiyono, 2018). The descriptive method is a research method used to provide a description about situation or event, therefore, this method only accumulates basic data. However, in a broad definition, it is generally known as survey method that asks some respondents about their beliefs, opinions, characteristics and behaviors that have been or is happening. (Adiyanta, 2019)

Data collection applied in this study consisted of literature study and interview technique using questionnaire and interview guide. Literature study is data collection technique using available existing data either in the form of reports or former studies. The literatures include books, journals, government data, and articles related to study. This study was done with survey technique by collecting the samples from the population using a questionnaire as data collection instrument. The questionnaire used in this study was prepared by adjusting the data required in this research. In this study, data collection was done using questionnaire where respondents were collected online with google forms as a model of online questionnaire through the help of social media to obtain respondents in accordance with the respondent criteria needed. Individual normally becomes the unit of analysis in a survey research. In certain

study, the unit of analysis could be couple of husband and wife, divorced couple, or the whole family/household on condition that one questionnaire for one person. Hence, data collection should depend on the goal to achieve and the data to be used in a study (Sugiyono, 2019).

Samples in this study included in the main criteria of consumed carica product originated from Wonosobo Regency. The method of sample collection used in this study was an accidental sampling, whereas researchers will distribute questionnaire to consumers who purchase the products. This sampling collection method is a sampling by chance since consumers who coincidentally run into researchers can be used as samples if they meet the criteria (Sugiyono, 2016). Also, samples collected were not previously prepared but randomly selected according to research needs. Thus, process to obtain samples in this study is also termed as *Random Sampling*. Determination of sample number in this study was done using the formula:

$$n = \frac{Z^2}{4(\text{Moe})^2}$$

Note:

n = number of sample

Z = confidence level

Moe = *Margin of error*

Confidence level used in this study was 95% or Z of 1.96. This score is normally used in study of economy, social, and agriculture. Later, the *moe* value of 10% used in this study indicates that bigger sample size will lead to higher *margin of error*, *vice versa*. Number of samples in this study was determined using the following formula:

$$n = \frac{1.96^2}{4(0.1)^2}$$

$$n = \frac{3.8416}{0.04}$$

$$n = 96.04$$

Based on the calculation, the 96 consumer respondents were selected as samples. According to Ahmadi and Herlina (2017), consumers have different perspective in doing transaction. Basically, market segmentation is a process to divide the whole market of heterogeneous products or services into several segments.

Furthermore, the criteria of sample in this study were met by providing list of questions to consumers who purchased or have purchased carica product in Wonosobo Regency, particularly in the tourism area and its surrounding area. Sample of respondent was determined at places that sold carica product in tourism area.

Table 1. Respondent samples in tourism area of Wonosobo Regency

Sampling Location	Total Samples
<i>Telaga Warna</i>	48
<i>Sikunir</i>	48
Total	96

The table separated total number of respondents collected in two areas, namely Telaga Warna and Sikunir in Wonosobo Regency tourism area, where both obtained the same number of 48 respondents. This result is expected to represent respondents used in the study.

Research variables used in this study consisted of several existing sources besides preliminary qualitative research as an early indication. This study used the dependent variable of total number of carica sweets purchased, while independent variables used were listed as:

- 1) X_1 = Age of Respondent
- 2) X_2 = Income of Respondent
- 3) X_3 = Number of Family Member
- 4) X_4 = Distance between Purchase Location and Domicile
- 5) X_5 = Total Expense for Purchasing Products
- 6) X_6 = Price of Carica Sweets
- 7) D_1 = Season
- 8) D_2 = Gender

This study applied the Multiple Linear Regression. According to Ghozali (2018), it is the type of regression analysis that measures the relationship between independent variables and the dependent variable. If there is only one independent variable and one dependent variable, the regression is called the simple linear regression. However, if it involves more than one independent variables, it is known as multiple linear regression. This analysis is performed to understand the direction and strength of the effect of independent variables on the dependent variable. The data analysis carried out in

tourism area in Dieng Plateu contained data from respondents collected in two tourism areas, namely Telaga Warna and Sikunir tourism village. The regression equation consisted of the dependent variable of total number of carica sweets purchased and independent variables contained X_1 of Age of Respondent, X_2 of Income of Respondent, X_3 of Number of Family Member, X_4 of Distance Between Purchase Location and Domicile, X_5 of Total Expense for Purchasing Product, and X_6 of Price of Carica Sweets with dummy variable included D_1 of Season and D_2 of Gender, thus the equation is written as follows:

$$Y = \alpha + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + \beta_5 X_{5i} + \beta_6 X_{6i} + \beta_7 D_{1i} + \beta_8 D_{2i} + e$$

Overview of Wonosobo Regency, Wonosobo Regency is located 120 km from the Capital of Central Java (Semarang) and 520 km from the Nation's Capital (Jakarta), between 250 - 2.250 masl, but 50% of total area is between 500 - 1.000 masl 50% (percent), thus making this region is characterized by highlands with partial position that is in the middle of Java Island besides between the north coast line and the south coast line of Java. Wonosobo Regency is one of 35 Regencies/Cities in Central Java that is located at $7^{\circ}11'20''$ to $7^{\circ}36'24''$ South Latitude (S) and $109^{\circ}44'08''$ to $110^{\circ}04'32''$ East Longitude (E) with total area of 98.468 hectares (984.68 km²) or 3.03% of total area of Central Java Province.

The topography of Wonosobo is generally marked by hill and mountain, mostly (56.37%) with a slope between 15 - 40%. In term of height, Wonosobo Regency is located between 250 – 2250 masl. Concerning its geological structure, Wonosobo Regency is included in the type of young mountains on *prakwater* rocks which often experiences natural disaster, particularly during rainy season, such as *landslide*, collapsible soil, and soil creep. Wonosobo has tropical climate with two seasons within a year, namely dry season and rainy season. Average temperature in Wonosobo ranges between 14.3 – 26.5 Celsius degree with average annual rainfall reaches 1713 - 4255 mm/year. Through this way, Wonosobo Regency is highly suitable for agriculture, allowing it to be the dominant sector in the economy.

Market Segmentation of Carica Product Consumers, Market Segmentation is a process of dividing the whole market for

certain product or product category into relative segments or groups (Swastha, 2011). Market segmentation could be performed in many ways, but not all methods are effective. To obtain maximum benefit, according to Suprapti (2010), market segmentation should meet 5 (five) requirements, namely:

1. *Measurable*. Purchasing power of each segment should be measured at certain level, indicating that market grouping should not be overly broad. If this happens, market segment is still heterogeneous and will result in different consumer reactions to marketing activity.
2. *Accessible*. *How far* a segment could be reached and served effectively, meaning that it will normally have certain response to certain marketing treatment. However, the company could never reach any targeted consumers who are more concerned with price and are opened to any brands.
3. *Differentiable*. Segments should be differentiated or able to be separated into segment or group with different characteristics, hence they will have different reaction to various treatments or marketing programs in order to differentiate the purchase preference of each market segment.
4. *Substantial*. The number of segment has to be considerably enough, hence the control over it will be profitable when served. Therefore, one segment should be a giant homogenous group to allow one specific marketing program to be prepared and applied.
5. *Actionable*. All programs prepared should effectively attract and serve market segment.

Data Analysis : This study focused on market segmentation of carica productconsumers. Regression analysis was carried out to investigate market segmentation of carica productconsumers. Test in the analysis was based on equation written in the data analysis method.

Table 2. Regression Analysis

Coefficients ^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	16.927	2.230		7.591	.000
Age	.008	.050	.002	.161	.872
Income	-5.844E-007	.000	-.014	-1.244	.217
Family Member	.094	.203	.005	.462	.645
Distance of Domicile	.000	.001	.002	.135	.893
Total Expense	.000	.000	1.008	95.244	.000
Price	-.007	.000	-.165	-15.241	.000
Season	.426	.901	.005	.473	.637
Gender	1.550	.789	.021	1.966	.053
Dependent Variable: Number of Purchase					

Source: Primary Data (2022)

The data analysis result above is written in multiple linear regression as follows:

$$Y = \alpha + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + \beta_5 X_{5i} + \beta_6 X_{6i} + \beta_7 D_{1i} + \beta_8 D_{2i} + e$$

$$Y = 16.927 + 0.008X_1 - 5.844X_2 + 0.094X_3 + 0.0X_4 + 0.0X_5 - 0.007X_6 + 0.426D_1 + 1.550D_2 + e$$

Based on the equation of multiple linear regression above, it is known that:

1. Constant (α) has a positive value of 16.927. The positive value indicates unidirectional effect between independent and dependent variables. Hence, if all independent variables equal 0 percent or remain unchanged, the value of dependent variable is 16.927.
2. The value of regression coefficient for the variable of respondent's age (X_1) is 0.008. This value shows positive

effect between the variable of respondent's age and total carica sweets purchased. This indicates that 1% increase of respondent's age will increase total carica sweets purchased by 0.008, assuming other variables remain unchanged.

3. The value of regression coefficient for variable of respondent's income (X_2) is -5,844. This value indicates negative effect between the variable of respondent's income and total carica sweets purchased. Thus, if variable of respondent's income experiences a 1% increase, the total carica sweets purchased will have a decrease of 5.844, assuming other variables remain unchanged.
4. The value of regression coefficient for variable of respondent's family member (X_3) is 0.094. This value denotes a positive effect between variable of respondent's family member and total carica sweets purchased. Therefore, increase in variable of respondent's family member by 1% will also increase the variable of total carica sweets purchased of 0.094, assuming other variables remain unchanged.
5. The value of regression coefficient for variable of distance between purchase location and respondent's domicile (X_4) is 0.000. This value reflects positive effect between variable of distance between purchase location and respondent's domicile and total carica sweets purchased. Hence, if variable of distance between purchase location and respondent's domicile increases by 1%, the variable of total carica sweets purchased will also have an increase of 0.000, assuming other variables remain unchanged.
6. The value of regression coefficient for variable of total expense for purchasing product (X_5) is 0.000. This value shows positive effect between variable of total expense for purchasing product and total carica sweets purchased. Hence, if variable of total expense for purchasing product experiences an increase by 1%, the variable of total carica sweets purchased will also gave an increase of 0.000, assuming other variables remain unchanged.
7. The value of regression coefficient for variable of price (X_6) is -0.007. This value reflects negative effect between the price variable and total carica sweets purchased. Therefore, if price variable increases by 1%, variable of total carica sweets

purchased will conversely decrease by 0.007, assuming other variables remain unchanged.

Model Test Using Statistical Criteria, Goodness of Fit (F-test) is performed to obtain information about simultaneous effect between independent variables and dependent variable. If significance of F is below 0.05, independent variables simultaneously and significantly affect the dependent variable. H_0 is accepted and H_a is rejected. However, if significance of F is greater than 0.05, independent variables simultaneously do not have significant effect on the dependent variable.

Table 3. The F-Test results

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	127214.752	8	15901.844	1177.833	.000 ^b
	Residual	1174.581	87	13.501		
	Total	128389.333	95			

Source: Primary Data (2022)

Table 2 shows significance level of 0.000. Significance level of $0.000 < 0.05$ indicates that variables of age, income, number of family member, distance of domicile, total expense, price, season, and gender simultaneously affect the variable of number of carica sweets purchased in tourism objects of Wonosobo Regency.

Later, the partial test was performed to examine the significance of each independent variable by considering the sig or significance column. The test procedure applied significance level of 0.05 or 5%, reflecting that independent variables have a significant partial effect on the dependent variable if the value < 0.05 . The partial test result provided in Table 2 shows that variable of total expense in purchasing products and variable of the price of carica sweets have a positive and significant effect. The total expense variable in purchasing products obtains a value of $0.000 < \text{sig value of } 0.05$. Therefore, variable of total expense in purchasing products significantly affects total number of carica sweets purchased in tourism objects of Wonosobo Regency. Higher total expense in purchasing products will result in higher number of carica sweets

purchased, while variable of the price of carica sweets is $0.000 < \text{sig}$ value of 0.05. This indicates that variable of the price of carica sweets significantly influences the total number of carica sweets purchased in tourism objects of Wonosobo Regency. The decision to purchase is a real buying process. The main purpose of marketing activity is to influence customers to buy company's goods and services when they need it. Understanding consumers' behavior is highly important in marketing to ensure companies to develop, determine the price, promote, and distribute their products in a better way (Swastha and Hani, 2014).

Model assessment test was also conducted in this study. In principle, the coefficient of determination R^2 measures the ability of model to explain the dependent variable. The value of coefficient of determination is between zero and one. A low R^2 value means limited ability of independent variables in explaining variance of dependent variable. In contrast, value that is close to one indicates that independent variables provide almost all information required to predict the dependent variables (Ghozali, 2016).

Table 4. Coefficient of Determination

Model Summary			
Model	R	R Square	Adjusted R Square
1	.995 ^a	.991	.990
a. Predictors: (Constant), Gender, Family Member, Price, Total Expense, Distance of Domicile, Income, Season, Age			
b. Dependent Variable: Total Purchase			

Source: Primary Data (2022)

Coefficient of determination shows a value 0.991, indicating that independent variables effectively contribute to 99.10% of total carica sweets purchased in Wonosobo tourism object, while the rest of 0.90% is explained by other variables excluded in the study. Therefore, it is concluded that variables of Respondent's Age, Respondent's Income, Number of Family member, Distance between Purchase Location and Domicile, Total Expense for Purchasing Products, Price of carica sweets, Season, and Gender explain 99.10 % of the market segmentation variables that affect total number of carica sweets purchased in tourism area of Wonosobo Regency.

These variables are possibly used as a consideration for the company to achieve their main goal. The company is established to obtain the possible maximum profit, thus the success of a company in achieving goals is greatly influenced by the marketing ability. Through this way, the company can accept competitors's challenge especially in the aspect of marketing (Wijaya and Hani, 2016).

Conclusions And Reccomendation: The study results showed that the variables of total expense for purchasing carica sweets and the price of carica sweets significantly affected the total purchased product of carica sweets in the tourism object in Wonosobo Regency. Moreover, based on the result of analysis, other variables did not have significant effect. It is understood that total expense in purchasing product will affect the total purchased product of carica sweets. The variable of price was also found to have significant effect that will affect consumers to purchase the product of carica sweets. Therefore, this result can be the basis for a well-targeted product development and marketing.

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Conflict of Interests

The authors declare no competing interests such as financial or personal relationship, regarding the writing of this article.

Authors' Contributions

The authors designed the study and gathered the literature and wrote the article.

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