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# ANALYSIS OF CONSUMERS' WILLINGNESS TO PAY FOR THE PURCHASE OF BEN ALI MORINGA LEAF TEA IN NORTH ACEH DISTRICT

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#### **Abstract**

Analysis Of Consumers' Willingness To Pay For The Purchase Of Ben Ali Moringa Leaf Tea In North Aceh District. This research was conducted at Sabanna Lhokseumawe, Ichsan Mart Lhoksukon, Sinar Baru Panton, Rayon Panton, Kardana Mart Panton, and Berkah Mart Panggoi stores. The selection of this location was done intentionally (Purposive). The object of this research is consumers who consume moringa leaf tea. The scope of this research only looks at how much consumers are willing to pay for the purchase of moringa tea and the factors that influence the willingness to pay. Consumer willingness to pay for Ben Ali Moringa moringa tea shows that all respondents in this study stated that they were willing to pay more for moringa tea products. The willingness to pay resulted in an average analysis value of WTP (Willingness to Pay) for original moringa tea and red ginger of IDR 1,916 with a price determination that consumers were willing to pay of 1000. This means that the increase in the price of moringa tea from the previous price was IDR 26,916 for the original variant and IDR 36,916 for the red ginger variant. Factors affecting consumer willingness to pay for Ben Ali Moringa Moringa tea in North Aceh Regency were analyzed using a binary logistic regression model, of the 4 independent variables entered into the model there are three variables that have a significant effect on willingness to pay with a significant level of  $\alpha$  (0.05), These variables are income (X2), Lifestyle (D3) and Ease of Access (D4). While the Age variable (X3) does not have a significant effect on willingness to pay for Ben Ali Moringa Moringa tea.

Keywords: Willingness to Pay Concept, Contingent Valuation Method (CVM), Moringa Leaves

#### 1. INTRODUCTION

Indonesia is a country rich in biodiversity. Various types of plants that grow have the potential to provide benefits for human life. One of them is the Moringa plant (Moringa oleifera Lamk). This plant has various health benefits, but not many people know the potential of this plant. Moringa is known as The Miracle Tree or magic tree because it has been proven to be a natural source of medicinal nutrients whose content is beyond the content of plants in general (Luluk, 2021).

Consumer awareness of the health of the products they consume is increasing, thus creating a high interest in buying herbal products on the grounds that they contain 84.1% natural ingredients and have no side effects of 69.6% (Fitrahnurlia, 2020). Consumers are starting to switch to using herbal products that are proven to provide benefits to the body that consumes them, including herbal drinks (Nissa, 2013). One of the herbal drinks with superior health benefits is moringa leaf tea.

Tea is a very common drink consumed in Indonesia and almost all over the world. Tea contains compounds that are beneficial to health, proven to treat minor illnesses and prevent serious illnesses (Lorenzo & Munekata, 2016). In addition, tea is considered a natural drink that is

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relatively safe for health because it has no adverse side effects (Wierzejska, 2014). Tea is not only made from tea leaves, but tea can also be processed from other plants such as the Moringa plant.

Moringa plants in Aceh are called "Murong" by the local community and are used as daily food ingredients and as ornamental plants in the yard. Moringa plants (Moringa oleifera Lamk) are widely found in the Aceh region so they have potential value to be developed and can become a business opportunity. Seeing the business opportunities of the moringa plant, the people of Aceh, especially in North Aceh, have already processed the moringa plant as a product that has economic value. One of the companies that processes moringa plants as healthy drinks is CV. Atlantic.

CV. Atlantic is a company engaged in the processing of moringa leaves into herbal tea. Seeing the opportunity for moringa demand in the international and national markets, in 2020 CV. Atlantic released the Ben Ali Moringa brand. The products produced by Ben Ali Moringa are original moringa leaf tea and red ginger variant moringa leaf tea, where original moringa leaf tea and red ginger variant moringa leaf tea are the first product lines marketed by CV. Atlantic.

In the 2022 period, sales from all lines are still not good. The company targets sales of 200 pcs for red ginger moringa leaf tea and 100 pcs of original moringa leaf tea. This is followed by an increase in production costs which have increased, causing the selling price of moringa leaf tea in the market to also increase. The price offered for original moringa leaf tea is IDR 25,000.00 and red ginger variant moringa leaf tea is IDR 35,000.00 which is very affordable when compared to the benefits obtained. The sales data for original moringa leaf tea and red ginger variant Ben Ali Moringa are as follows:

Table 1. Sales Data for Original Moringa Leaf Tea and Ben Ali Moringa Red Ginger Variant in 2022

Teh Daun Kelor Original				Teh Daun Kelor Jahe Merah			
Bulan	Kuantitas	Harga	Total Penerimaan	Kuantitas	Harga	Total Penerimaan	
	(Q)	(P)	(Rp)	(Q)	(P)	(Rp)	
Januari	62	25.000	1.550.000	125	35.000	4.375.000	
Februari	69	25.000	1.725.000	140	35.000	4.900.000	
Maret	79	25.000	1.975.000	120	35.000	4.200.000	
April	43	25.000	1.075.000	98	35.000	3.430.000	
Mei	41	25.000	1.025.000	100	35.000	3.500.000	
Juni	110	25.000	2.750.000	255	35.000	8.925.000	
Juli	59	25.000	1.475.000	100	35.000	3.500.000	
Agustus	38	25.000	950.000	85	35.000	2.975.000	
September	70	25.000	1.750.000	125	35.000	4.375.000	
Oktober	79	25.000	1.975.000	155	35.000	5.425.000	
November	61	25.000	1.525.000	100	35.000	3.500.000	
Desember	82	25.000	2.050.000	150	35.000	5.250.000	

From table 1. we can see that the sales data for original moringa leaf tea and Ben Ali Moringa red ginger variant in the period from January to December fluctuated (unstable). The highest sales results for original moringa leaf tea and Ben Ali Moringa red ginger variant occurred in June 2022, where 110 pcs were sold for the original variant and 255 pcs for the red ginger variant. This is because CV. Atlantik participated in the ISMI National Exhibition at the Hermes Hotel Banda Aceh, the exhibition was used by CV. Atlantik to offer its products. The prices offered for original moringa leaf tea and Ben Ali Moringa red ginger variant moringa leaf tea at the exhibition were the same as the usual prices.



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### 2. LITERATURE AND THEORETICAL REVIEW

Aufanada (2017) conducted a study on "Consumer Willingness to Pay for Organic Vegetable Products in Modern Markets in South Jakarta and Factors Affecting Consumer Willingness to Pay for Organic Vegetable Products". The study was conducted in 6 modern markets with 100 organic vegetable consumer respondents selected using the multistage sampling method. Similar to several previous studies, the researcher used the contingent valuation method (CVM) in analyzing the average maximum willingness to pay, while to determine the influencing factors, the researcher used logistic regression analysis. The results showed that 82% of consumers were willing to pay more for the purchase of organic vegetable products. Factors that greatly affect consumer willingness to pay are education level, monthly income and product quality.

Niken Hapsari, et al (2021) conducted a study on "Willingness to Pay for Organic Rice in Banyumas Regency and Factors That Influence It". This study was conducted in Banyumas Regency using 68 respondents selected using snowball sampling. The data analysis method used was descriptive, contingent valuation method (CVM) and logistic regression analysis. The results of the study stated that the characteristics of organic rice consumers who were willing to pay more for organic rice in Banyumas Regency were dominated by consumers aged 36 years, with a bachelor's degree, working as civil servants, with an income level of IDR 3,000,000 to 6,000,000 and having one to four family members. The maximum price that organic rice consumers in Banyumas Regency were willing to pay was IDR 18,346 per kilogram. The factors that significantly influenced the willingness to pay for organic rice were income, duration of consumption and consumer perception of the quality of organic rice.

Elisabet T. R, et al (2019) conducted a study entitled "Analysis of Consumer Willingness to Pay for Various Types of Organic Materials in Semarang City". This study aims to analyze the willingness to pay and the factors that influence it. The study was conducted in October at two locations of Galael Signature in Semarang City with purposive location determination. Respondents were taken as many as 100 using the accidental sampling method. Data were analyzed using the CVM method to determine the average WTP value and logistic regression analysis to determine the factors that influence the willingness to pay. The results showed that as many as 88% of respondents were willing to pay more with an increase of between 5% and 25% from the current price of organic rice. Factors that significantly influence consumer willingness to pay are the amount of monthly income, price and brand of organic rice.

Fatha Fajria, et al (2020) conducted a study on "Analysis of Consumer Willingness to Pay for Organic Vegetables in the Purwokerto Modern Market and Factors Influencing Willingness to Pay". Organic vegetables tend to have higher prices than inorganic vegetables, so some consumers consider organic vegetable products as expensive food products. This study aims to describe the characteristics of organic vegetable consumers, analyze the average value of maximum willingness to pay and the factors that influence the willingness to pay for organic vegetables. The research method used is the survey method and was carried out at the Purwokerto Modern Market from August to September 2019. Sampling was carried out by purposive sampling, namely 100 people. The data analysis used is descriptive, Contingent Valuation Method (CVM) and logistic regression analysis. The results showed that the maximum average value of WTP for organic vegetables for lettuce was 9.15% higher, mustard greens 8.70% higher, kale 8.35% higher, spinach 9.15% higher

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and broccoli 10.05% higher than the price at the time of the study. Factors that significantly affect willingness to pay are education, occupation, and income while age, gender, marital status, price and quality do not have a significant effect.

#### 3.IMPLEMENTATION METHOD

This research was conducted at Sabanna Lhokseumawe, Ichsan Mart Lhoksukon, Sinar Baru Panton, Rayon Panton, Kardana Mart Panton, and Berkah Mart Panggoi stores. The selection of this location was done intentionally (Purposive). The object of this research is consumers who consume moringa leaf tea. The scope of this research only looks at how much consumers are willing to pay for the purchase of moringa tea and the factors that influence the willingness to pay.

#### 4. RESULTS AND DISCUSSION

## Factors Affecting Consumer Willingness to Pay for Ben Ali Moringa Tea Regression Model Feasibility Test

1. Model Suitability Test/Goodness of Fit Test

Table 2. Hosmer and Lemeshow Test

Step	Chi-square	Df	Sig.
1	8,663	8	371

#### 2. Coefficient of Determination Test

Table 3. Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nail File R Square	
1	35.522a	.505	.695	

## 3. Classification table analysis

Table 4. Classification Table

		Predicted				
Observed		•	Percentage Correct			
		1000 -2000 3000 -5000				
Step 1	1000-2000	37	2	94.9		
_	Y 3000-5000	3	18	85.7		
	Overall Percentage			91.7		

#### 4. Multicollinearity Test

Table 5. Correlation Matrix

	Constant	X1	X2	D3	D4
Step 1 Constant	1,000	530	720	308	190
X1	530	1,000	.101	426	214
X2	720	.101	1,000	.311	089
D3	308	426	.311	1,000	.157
D4	190	214	089	.157	1,000



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#### Analysis of Partial Logit Test Method/Wald Test

Table 5. Variables in the Equation

		1				
	В	SE	Wald	Df	Sig.	Exp(B)
Step 1a X1	007	.036	.035	1	.852	.993
X2	.000	.000	8,765	1	.003	1,000
D3	2,542	1.139	4.981	1	.026	12,703
D4	2.119	.976	4.715	1	.030	8,320
Constant	-6.816	2,093	10,602	1	.001	.001

From table 5 above, it can be seen that the independent variables that significantly influence consumer willingness to pay for Ben Ali Moringa Moringa tea are income (X2), lifestyle (D3) and ease of access (D4) because the value of these variables is  $<\alpha$  (0.05). While the age variable (X1) does not significantly influence the willingness to pay for Moringa tea because the sig value is  $> \alpha$  (0.05).

The model equation is as follows:

$$Y = -6.816 - 0.007X1 + 0.000X2 + 2.542D3 + 2.119D4$$

With the following logistics functions

$$f(Y) = \frac{e^{-6.816 - 0.007X1 + 0.000X2 + 2.542D3 + 2.119D4}}{1 + e^{-(-6.816 - 0.007X1 + 0.000X2 + 2.542D3 + 2.119D4)}}$$

The purpose of knowing the factors that influence consumer willingness to pay for Moringa tea is so that in the implementation of future willingness to pay can be sustainable and to know which factors have a real or unreal influence on willingness to pay for Moringa tea. This is why it is necessary to analyze the factors that influence willingness to pay using a logistic regression model.

For more details regarding the influence of each independent variable on the dependent variable, we can see the explanation below:

#### 1. Age (X1)

Based on table 13, the significant value of age is 0.852 > 0.05, which means that age does not have a significant effect on the willingness to pay for Ben Ali Moringa moringa tea. The logistic regression coefficient value of the age variable is negative, which means that if a person's age increases, the willingness to pay for moringa leaf tea will decrease. The Exp(B) value of 0.993 indicates that if age increases by 1 year, consumers tend to be unwilling to pay more for Ben Ali Moringa moringa tea by 0.993 times. Conversely, if the consumer's age decreases by 1 year, consumers tend to be willing to pay more for moringa tea by 0.993 times. This is in line with Ramadhani's research (2017) which states that age factors do not have a significant effect on the willingness to pay for organic products. When compared with the field results, consumers of Ben Ali Moringa Moringa tea are in both young and old age groups, where the age factor is not significant because all ages who are consumers of Ben Ali Moringa Moringa tea products, both young and old, are still willing to pay more for the product because the benefits of Moringa tea are higher compared to other tea drinks.

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#### 2. Income (X2)

Based on table 13, the significant value of income is 0.003 <0.05, which means that income has a significant effect on the willingness to pay for Ben Ali Moringa moringa tea. The logistic regression coefficient value of the income variable is positive, which means that the higher the consumer's income, the greater the opportunity to pay more for Ben Ali Moringa moringa tea. The Exp (B) value of 1,000 shows that consumers who have an additional income of 1 rupiah are willing to pay more 1 time, conversely if consumers do not have an additional income, consumers are not willing to pay more for Ben Ali Moringa moringa tea by 1 time. This is in accordance with Febrita's research (2017) which shows that income has a significant effect on consumer willingness to pay, where consumers with high income levels will be more willing to pay with relatively expensive product values.

## 3. Lifestyle (D3)

The lifestyle referred to in this study is a dummy variable (1 = for health, 0 = not for health). Based on table 13, the significant value of lifestyle is 0.026 <0.05, which means that having a healthy lifestyle has a significant effect on the willingness to pay for herbal drinks, namely Ben Ali Moringa moringa tea. The logistic regression coefficient value of the lifestyle variable is positive, which means that if consumers adopt a healthy lifestyle, the chance of being willing to pay more for moringa tea also increases. The Exp (B) value of 12,703 shows that consumers who prioritize a healthy lifestyle have a chance of being willing to pay more for Ben Ali Moringa moringa tea by 12,703 times compared to consumers who do not prioritize a healthy lifestyle.

This study is in line with the study conducted by Chyntia Ramadhani Febrita (2017) lifestyle variables have a positive value on willingness to pay, this shows that the greater the awareness of respondents will implement a healthy lifestyle. The average respondent who consumed moringa leaf tea in this study was dominated by middle to upper class respondents as a fulfillment of a healthy lifestyle. And in the study of Ameriana (2006) also said that there is a current tendency where the emergence of consumer awareness of the importance of herbal products is elderly consumers who consider that consuming herbal products is based on fulfilling a healthy lifestyle.

## 4. Ease of Access (D4)

The ease of access referred to in this study is a dummy variable (1 = easy, 0 = not easy). Based on table 13, the significant value of ease of access is 0.030 <0.05, which means that the ease of access variable has a significant effect on the willingness to pay for Ben Ali Moringa moringa tea. The logistic regression coefficient value of the ease of access variable is positive, which means that the easier it is to access Ben Ali Moringa moringa tea products, the greater the chance of being willing to pay more for moringa tea. The Exp (B) value of 8.320 shows that consumers who have easier access are more likely to be willing to pay more for Ben Ali Moringa moringa tea by 8.320 times compared to consumers who do not have easy access to moringa tea products. This is in line with research conducted by Alfiana Damayanti (2018), stating that the product access factor has



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a positive influence. This explains that consumers have no difficulty in accessing products either directly or indirectly. Based on field reviews, the ease of access factor for Ben Ali moringa tea products is not difficult to achieve directly due to the strategic location of the sales store as a product marketing location.

#### 5. CONCLUSION

- 1. Consumer willingness to pay for Ben Ali Moringa moringa tea shows that all respondents in this study stated that they were willing to pay more for moringa tea products. The willingness to pay resulted in an average analysis value of WTP (Willingness to Pay) for original moringa tea and red ginger of IDR 1,916 with a price determination that consumers were willing to pay of 1000. This means that the increase in the price of moringa tea from the previous price was IDR 26,916 for the original variant and IDR 36,916 for the red ginger variant.
- 2. Factors affecting consumer willingness to pay for Ben Ali Moringa Moringa tea in North Aceh Regency were analyzed using a binary logistic regression model, of the 4 independent variables entered into the model there are three variables that have a significant effect on willingness to pay with a significant level of α (0.05), These variables are income (X2), Lifestyle (D3) and Ease of Access (D4). While the Age variable (X3) does not have a significant effect on willingness to pay for Ben Ali Moringa Moringa tea.

#### REFERENCES

Aufanada, Vickitra., T. Ekowati, dan W. D. Prastiwi. (2017). Kesediaan membayar (Willingness to Pay) konsumen terhadap produk sayur organik dipasar modern Jakarta Selatan. Semarang. Journal of Agribusiness and Rural Development Research, 3(2), 67-75

Badan Pusat Statistik (BPS). 2020. http://www.bps.go.id

Danhas, Y. dan M. Bustari. (2021). Ekonomi lingkungan. Yogjakarta: CV Budi Utama.

Elisabet T.R, et al (2019) Analisis kesediaan membayar (willingness to pay) konsumen terhadap berbagai jenis beras organik di Kota Semarang. Jurnal ekonomi Pertanian dan Agribisnis (JEPA), 3(4) Hal 689 -700

Fatha F, et al (2020) Analisis kesediaan membayar (willingness to pay) konsumen terhadap sayuran organik di Pasar Modern Purwokerto dan faktor yang mmepengaruhinya. SEPA, 1 (17) hal 40-48

Fauzi, A. (2006). Ekonomi sumberdaya alam dan lingkungan: teori dan aplikasi. Jakarta: PT Gramedia Pustaka utama.

Fitrahnurlia, Andi Magie. (2020). The 2nd Industry Roundtable: pharmaceuticall industry perspective-key findings markplus: product and usage frequency.

Hanley, N. dan C. L. Spash. (1993). Cost -benefit analysid and environmental. England: England Elgar Publishing.

Listyarini, H. W., & Setiartiti, L. (2020). Analysis factors of willingness to pay for halal labelled cosmetic on non-muslim community in Yogyakarta. Journal of Economics Research and Social Sciences, 44-58

Lorenzo, J. M., & Munekata, P. E. S. (2016) Phenolic compounds of green tea: Health benefits technological application in food. Asian pacific journal of tropical biomedicine, 6(8), 709-719.

Luluk, S. M. (2021) Daun kelor (Moringa oleifera) sebagai sumber pangan fungsional dan aktioksidan. Jurnal Agrisia, 13(2), 40-41

Mulachela, H. (2021). Manfaat teh daun kelor, tingkatkan daya tahan tubuh. Diakses pada 30 Oktober 2023 dari http://katadata.co.id/amp/safrezi/berita/619f0d473a490/manfaat-teh-daun-kelor-tingkatan-daya-tahan-tubuh

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- Nasution, N. S., Rangkuti, K & Novita, D. (2020) Kesadaran dan kesediaan membayar (willingness to pay) konsumen terhadap sertifikat halal pada komoditas pertanian (studi kasus: Kota Medan), 16 -25
- Niken H. A, et al (2021) Kesediaan membayar (willingness to pay ) beras organik di Kabupaten Banyumas dan aktor-faktor yang mempengaruhinya. Forum agribisnis, 1 (11) hal 75 -89
- Nissa, Fatimah Khoirun. (2013). Analisis Proses Keputusan Pembelian dan Keputusan Konsumen Produk Teh Rosela Rozelt (Studi Kasus Konsumen Teh Rosela Rozelt di Sekitar Institut Pertanian Bogor, Dramaga). Skripsi. Departemen Agribisnis Fakultas Ekonomi dan Manjemen Institut Pertanian Bogor.
- Novita, Mutia. (2016). Analisis kemampuan membayar (ability to pay) dan kemauan membayar (willingness to pay) tarif angkutan antar kota akibat kenaikan harga bahan bakar minyak di Kota Langsa. Tesis. Universitas Sumatera Utara. Medan.
- Nur, S. K. (2019). Analisis willingness to pay konsumen terhadap mie instan bersertifikat halal (Studi kasus masyarakat desa kaliwining kecamatan rambipuji jember). Jurnal kajian ekonomi dan bisnis syariah, 47-61
- Purnaningsih, N. Ginting, B. & Slamet, M. 2016. Faktor-Faktor yang Mempengaruhi Adopsi Inovasi Pola Kemitraan Agribisnis Sayuran di Jawa Barat. Jurnal Penyuluhan, 2 (2), 173-201.
- Purwaningsih, Betty (2009) Faktor-faktor yang mempengaruhi pola perilaku konsumen beras organik di Surakarta. Skripsi jurusan sosiologi fakultas sosial dan ilmu politik Universitas Sebelas Maret Surakarta.
- Pusat Teknologi Pengembangan Sumberdaya Wilayah Badan Pengkajian dan Penerapan Teknologi. (2021). Valuasi ekonomi lahan gambut: Studi kasus di wilayah Kabupaten Siak, Provinsi Riau. Jakarta: PT. Gramedia Putaka Utama.
- Riana Mayasari. (2023). Referensi inisiasi umkm pengolahan hasil hutan. Yogyakarta: Grup penerbitan, CV Budi Utama.
- Sari, L. (2012) Analisis faktor-faktor gaya hidup dan pengaruh terhadap pembelian rumah sehat sederhana. Studi kasus pelanggan perumahan putri dinar mas PT Ajisaka di Semarang. Program pasca sarjana Universitas Brawijaya Malang.
- Siregar, S. (2013). Metode penelitian kuantitatif dilengkapi dengan perbandingan perhitungan manual dan SPSS. Jakarta: Kencana prenada media group.
- Soekartono, B. H. (2020). Peluang ekspor cukup tinggi, motivasi petani kembangkan budidaya daun kelor. Diakses pada 15 September 2023 dari http://republikajatim.com/baca/peluang-ekspor-cukup-tinggibhs-motivasi-petani-kembangkan-budidaya-daun-kelor-di-sisoarjo
- Sugiono. (2019). Metode penelitian kuantitatif, kualitatif dan R & D. Bandung: Alfabeta.
- Tampil, Y, A. Komalig, H. & Langi, Y. 2017. Analisis Regresi Logistik untuk Menentukan Faktor-Faktor yang Mempengaruhi Indeks Prestasi Kumulatif (IPK) Mahasiswa FMIPA Universitas Sam Ratulangi Manado. Jurnal JdC, 6 (2), 2-18.
- Wierzejska, R. (2014). Tea And Health A Review Of The Current State Of Knowledge Department of Nutrition and Dietetic with Clinic of Metabolic Diseases and Gastroenterology, November 2014, 501–506.