

Doi: 10.21059/buletinpeternak.v47i2.74451

Product's Attribute and Consumer Perception in Purchasing Decision: the Case of Young Adult's Yoghurt Consumption

Yasinta Yudya Saraswati, Mujtahidah Anggriani Ummul Muzayyanah*, and Endang Sulastrri

Department of Livestock Socio-Economics, Faculty of Animal Science, Universitas Gadjah Mada, Yogyakarta, 55281, Indonesia

ABSTRACT

This research aims to examine the correlation between the attributes and consumer preference for yoghurt. This survey research uses a purposive sampling technique with the criteria age 15-24 years and experiencing to consume yoghurt. Data collection uses an interview approach with a questionnaire as an instrument. A total 257 young adult were selected for this study. The results revealed that consumer perception on yogurt attributes were in "high" categorized with taste, texture, product information, and bottle packaged were preferred to be chosen. Pearson's R correlation analysis found that all attributes indicate a perfect positive linear relationship with consumer purchasing decisions on yogurt. The attribute that considers the respondents the most is product's information, and the correlation between the attributes and consumer's purchase intention is strongly positive. Thus, market potential and intention to consume yogurt through increasing the value of product attributes need to be assessed.

Article history

Submitted: 30 April 2022

Accepted: 11 April 2023

* Corresponding author:

E-mail: m_anggriani_um@ugm.ac.id

Keywords: Consumer perception, Consumer preference, Product's attribute, Purchase decision

Introduction

Milk contains protein, calcium, and vitamins which are good for the growth and development of children to teenagers. However, currently the benefits of consuming milk cannot be felt by people with lactose intolerance. In fact, lactose intolerance suffered by some of the world's population is one of the causes of the declining demand for dairy products (Capcanari *et al.*, 2021). Lactose intolerance is a condition in which the body is unable to digest lactose due to low levels of lactase enzyme activity in the body (Oak and Jha, 2019). Lactose is a sugar found in milk and dairy products as an important source of energy for the body and is also involved in the absorption of important minerals, such as calcium or magnesium (Katoch *et al.*, 2021). However, the US National Institute of Health states that 65% of the world's population experiences a decrease in the ability to break down lactose after childhood (Katoch *et al.*, 2021). In cases of lactose intolerance, doctors recommend consuming alternative sources of calcium and vitamin D, both from animals and plants. In addition, lactose-free milk can also be done. However, this advice carries its own risks (Capcanari *et al.*, 2021), such as increasing the risk of bone fractures, osteoporosis, and other health effects.

Yoghurt is a dairy product with high nutritional value because it contains calcium, zinc, B vitamins, probiotics, a good source of protein, and can be supplemented with vitamin D and other probiotics that are beneficial for health (El-Abbadi *et al.*, 2014). Currently, the demand for yogurt has increased along with the increasing human awareness of the importance of functional food products. According to Drug and Food Control Agency (BPOM) Regulation No. 30/2018, the daily consumption of fermented milk including yoghurt among Indonesians is 155 grams/person. Although this figure is much smaller than the consumption of consumption of yoghurt in other countries, but this figure is predicted to increase every year. Data from the Ministry of Industry (2020) shows that the number of yoghurt imports from 2012 to 2016 has increased by 225.98%. This means that it goes hand in hand with the increasing need for Indonesian people to consume yoghurt. These phenomena are in line with the recently healthy lifestyle trend which are consumers aware with high nutritional value and has medicinal properties and benefits for the body towards yogurt consumption.

Consumer decisions in purchasing yogurt are influenced by consumer knowledge of the product attribute. Consumers' demographics, packaging brand, and knowledge of nutrition and health-related issues all have a significant impact on their food preferences and likes (Muchiri *et al.*,

2020). Primyastanto (2014) states that intrinsic element attributes are everything related to product properties, and extrinsic attributes are everything obtained by external aspects. According to Rasyid (2019), intrinsic attributes may consist of nutritional content, texture, delicacy, taste, aroma, color, and shape, and extrinsic attributes may consist of design, brand, label, and price, pollution to the environment, cleanliness, and packaging. The variety of product attributes that appear on the product raises consumer preferences.

Young adult consumers are sometimes referred to as the "archetypal global segment," and they are at the forefront of globalization and acculturation (Rašković *et al.*, 2020). Consumer preferences can be obtained from observing consumer behavior, one of which is by observing prices and the number of goods to be purchased. With observations made by consumers, it is possible that consumer preferences for yogurt purchased will also be different (Semaoen and Kiptiyah, 2011).

Materials and Methods

A total 257 respondents for this study were selected, with 15 to 24 years old's teenager. Respondents chosen by purposive sampling method with criteria: (a) age 15-24 years; and (2) experiencing to consume yoghurt. The number of respondents used is based on Alwi (2015) who explains that for research with descriptive methods, sample sizes greater than 30 and smaller than 500 are suitable for most research, in addition to multivariate research, the sample size should be several times (preferably 10 times or more) of the number of variables used in the study.

Teenagers are chosen in this study because they able to decide what they want to choose. The target age in this study is 15 to 24 years old because that age has entered the high school level (or equivalent) and is able to decide for themselves which products to buy. Making decisions may increase with age while older adults make important decisions (Worthy *et al.*, 2011).

Attributes and each level of attribute preparation

The attributes and each level of attribute that were used in this study was customized with

the object of this study, which is Yogurt. There were 6 levels with 2 – 3 levels in every attribute, and all the attributes and levels were combined by fractional factorial design to find the best combination even there were lots of interaction needed (3 or more interactions) (Antony, 2014). The combinations that are used in this study were followed in Table 1.

Questionnaire's preparation and distribution

All attributes and each level of attribute's combinations were prepared in a questionnaire, combined with several sentences to complete the perception section. Respondent's information also followed in a questionnaire to be fulfilled, consists of age, gender, domicile city, last education, occupation, also the income. Then, the questionnaire was distributed by Google Form to make it easier when it shared to others.

Statistical analysis

Perception analysis. This analysis is used to see the respondents' perceptions in their Yogurt's purchase decision. Six attributes were used in this perception analysis, such as taste, texture, product's information, volume, package, and price. There were 2 until 4 sentences in each category, all answers were categorized into 4 categories to find out what category that represents their perception. The categories that are used for the perception was as same as the level of Likert scales that were used. The scores of Likert scales were score 1 for "Strongly disagree", score 2 for "Disagree", score 3 for "Agree", and score 4 for "Strongly Agree". All answers were categorized in a perception categorize (Table 2).

Table 2. Perception category scales

Category	Scale
Weak	1%-25%
Middle	26%-50%
High	51%-75%
Very high	76%-100%

Validity and reliability

Validity test was used to range the validity in a questionnaire (Ghozali, 2011), using a Pearson method. Reliability test is a test that is used to show up how far the instrument in this study could be

Table 1. Attributes and each level of attribute

No	Taste	Texture	Information	Volume (mL)	Package	Price (IDR)
1	Plain	Thick	Complete	100	Cup	< 10,000
2	Plain	Thick	Not complete	200	Bottle	< 10,000
3	Plain	Thick	Not complete	100	Carton	< 10,000
4	Plain	Thick	Complete	250	Cup	< 10,000
5	Plain	Not thick	Not complete	200	Cup	10,000 – 15,000
6	Plain	Not thick	Not complete	100	Cup	> 15,000
7	Plain	Not thick	Complete	250	Carton	10,000 – 15,000
8	Plain	Not thick	Complete	100	Bottle	> 15,000
9	Tasted	Not thick	Not complete	250	Bottle	< 10,000
10	Tasted	Not thick	Not complete	100	Carton	< 10,000
11	Tasted	Not thick	Not complete	250	Cup	> 15,000
12	Tasted	Thick	Complete	200	Cup	< 10,000
13	Tasted	Thick	Complete	100	Cup	< 10,000
14	Tasted	Thick	Complete	200	Carton	> 15,000
15	Tasted	Thick	Complete	100	Bottle	10,000 – 15,000
16	Tasted	Not thick	Not complete	100	Cup	10,000 – 15,000

Table 3. Validity and reliability analysis

No	Attributes	Statement	Validity	Reliability
1	Taste	I would like to buy yogurt if there is a taste that I like	0.629**	0.729
		I prefer tasted Yogurt than untested Yogurt (plain)	0.684**	
2	Texture	I prefer untested Yogurt than	0.594**	0.961
		I would like to buy a thick Yogurt	0.812**	
3	Product's information	I would like to buy a Yogurt that is not thick enough	0.826**	0.829
		I would like to buy a Yogurt if the information product (composition, expired date, nutrient) is appeared well	0.617**	
4	Volume	I would like to buy a Yogurt, even the information product (composition, expired date, nutrient) is not appeared well	0.927**	0.645
		I would like to buy a Yogurt in a small volume (100 mL) than a large volume (200 mL and 250 mL)	0.525**	
5	Package	I would like to buy a Yogurt in a large volume (200 mL and 250 mL) than a small volume (100 mL)	0.509**	0.812
		The neatness in a Yogurt package is being part of my decision in buying Yogurt	0.493**	
6	Price	I would rather Yogurt in a cup package better than a bottle or carton package	0.449**	0.656
		I would rather Yogurt in a bottle package better than carton or cup package	0.401*	
		I would rather Yogurt in a carton package better than cup or bottle package	0.573**	
		I would like to cost about Rp7.800 to Rp15.000 in buying a Yogurt	0.685**	
		I would like to cost more than Rp15.000 in buying a Yogurt	0.912**	

^a result negative sentence; ** result correlation is significant at the 0.01 level (2-tailed); * result correlation is significant at the level 0.05 level (2-tailed).

believed as a test in collecting data. Riyanto and Hatmawan (2020) said that this reliability test improves a better quality of instruments. Based on the results, all categories were suitable to being used in this study (Table 3).

Results and Discussion

Characteristics of the sampled consumer group are shown in Table 4. Out of the 209 young adult consumers surveyed, 65.9% of the young adult consumer were female. Majority of young adult consumer have a primary education, which equates to a senior high school degree or equivalent. Most of young adult consumer on their level of education is dominated by those with a bachelor's degree or higher. Sample households with monthly incomes ranging from IDR 500,000 to IDR 2,000,000 dominated, with a 63% share. Kind of yoghurt that represents young adult consumer that they usually consume was yoghurt drink, also the frequency in drinking Yogurt based on result was once or twice in a month. Another result founded that most of young adult customer would like to cost about IDR 10,000 until IDR 15,000 to buy a yoghurt in every purchase in a week.

Table 4. Characteristics of sampled respondents

Characteristic	Description	N
Gender	Male	87
	Female	170
Age	19-22	209
	23-24	48
Education	Elementary	1
	Junior high school	3
	Senior high school	160
	Vocational	28
	Graduate	66
Monthly Income/ pocket money (IDR)	< 500,000	76
	500,000 – 1,000,000	71
	>1,000,000 – 2,000,000	64
	>2,000,000	46

Young adult customer had lots of reasons why they want to drink yoghurt. The most reason is yoghurt bring beneficiary for human health. They were looking for the benefits that they will get when they drink yogurt. The benefits in drinking yogurt based on Syainah *et al.* (2014) are to reduce the amount of cholesterol, also this product could be consumed by a lactose intolerant person.

The consumers' perception in their buying decision of yogurt showed that most of all categories that were in "High" perception, except product's information category in a "Very High" perception as the average score was 88.6% (Table 5). The attributes and its level that represents the young adult customer was a tasted yogurt with thick texture, a complete product's information appeared, in a bottle with 200 ml volume, and cost under IDR 10,000 (Table 5).

Each attribute created importance value represents the kind of attribute that influences consumers to buy yogurt. Based on the result of the study, it could be seen, the most considered attributes in buying yogurt are the product information and the correlation between the attributes with the buyer's decision was positively strong (Table 6).

The combination of attributes and the most selected of its level by all young adult customer were analyzed by the utilities value indicator. The result shows that each attribute and its level have different utilities values. The results of the accumulation of the value of the utilities of 257 young adult customer showed a combination of the most selected attributes. The results showed the taste attribute, young adult customer prefer additional flavors compared to plain with a value of 0.931. The utility value in the texture attribute shows that the respondents molded the thick texture compared to not thick with a value of 0.300. The utilities value in the packaging attribute indicate that the young adult customer is more

preferred bottled packaging compared to the cup and box. The value of the utilities at the cup level, bottles and consecutive boxes is -0.206; 0.210; and -0.004, with affordable prices (below than IDR 10.000).

The results of the correlation test indicated that the relationship between the value of the utilities with consumer preferences has a positive value correlation. Based on these two results, both through Pearson's R and Kendall know, these two results have a positive and high value. These results indicate that the attributes used in this research are suitable and can be considered by young adult customer in the decision to purchase yogurt.

Based on the study results, the consumer highest characteristic is female, aged 19 to 22, not working, the last education is a high school or equivalent, coming from the outside of Yogyakarta Province, and most of the consumer's income or allowance is below IDR 500,000 a month. According to BKKBN (2019), the result shows that adolescent female consumers impact yogurt consumption levels. Li and Dando (2019) stated that there are more females than male consumers because of their purpose. Female tends to keep their diet healthy or to get the ideal body weight. Most of the consumers are students (240 people) and unemployed (7 people). Therefore, most of them are not working, the last education is a high school or equivalent, and their income or allowance is below IDR 500,000 a month. The consumers are from inside and outside of Yogyakarta Province. This fact shows that yoghurt marketing in Indonesia

has been widespread and affordable throughout the region. The most consumed yogurt type is Yogurt drink (70.43%), followed by stirred Yogurt, set Yogurt, and frozen Yogurt. It corresponds with Everlin and Yosephine (2018), Yogurt drink's type is one of the most consumed yogurts by the consumer. The highest respondent's yogurt consumption level's frequencies are once to twice a month. It means that yogurt can be typical for respondents, although the highest percentage in consumption rate is only once to twice a month, with spent on it only IDR10,000 to IDR 15,000 per week. The most common reason that respondents choose to consume yogurt is for the healthy purpose (69%), followed by other reasons (18%), daily habits (8%), and lifestyle (5%). Another reason that the respondents explained are the excellent taste, just trying, used as a salad mixture, and trying new variations. Syainah *et al.* (2014) stated that yogurt is known to have several benefits like it can soothe the digestive tract, regulate cholesterol levels, and lactose intolerant sufferers can consume it.

Consumers have their perception regarding the yogurt's attributes. According to the study, product information attributes have a "Very High" perception, and the other attributes in this study have a "high" perception. A previous study mentioned that the attributes of taste, texture, volume, and price are categorized as "important" (Alijosiene and Gudonaviciene, 2014) for consumers when buying yogurt. Packaging attribute on a product is one of the consumer's considerations on buying food product (Schuch *et al.*, 2019),

Table 5. Perceptions in yoghurts' attributes

Characteristic/Response	Description	Total score (%)	Avg. percentage	Category
Taste	1 st sentence	84.6%	74.36%	High
	2 nd sentence	76.6%		
	3 rd sentence	61.9%		
Texture	1 st sentence	71.1%	63.5	High
	2 nd sentence	55.9%		
Product's information	1 st sentence	93.1%	88.6%	Very High
	2 nd sentence	84.1%		
Volume	1 st sentence	71.8%	71.75%	High
	2 nd sentence	71.7%		
Package	1 st sentence	78.6%	75.32%	High
	2 nd sentence	68.8%		
	3 rd sentence	82.7%		
	4 th sentence	71.2%		
Price	1 st sentence	74.2%	71.5%	High
	2 nd sentence	68.8%		

Table 6. Combination with conjoint analysis

Attribute	Level of attributes	Utility estimate	Importance value	Correlation (Pearson R)
Taste	Plain	-0.931	26.746	0.996
	Tasted	0.931		
Texture	Thick	0.312	14.619	
	Not thick	-0.312		
Product's information	Complete	2.034	26.972	
	Not complete	-2.034		
Volume	100 mL	-0.075	10.893	
	200 mL	0.187		
	250 mL	-0.112		
Package	Cup	-0.209	8.634	
	Bottle	0.210		
	Carton	-0.002		
Price (Rp)	<10.000	0.313	12.135	
	10.000 – 15.000	0.029		
	>15.000	-0.342		
Constant		8.494		

supported with the various types of packaging. According to Everlin and Yosephine (2018), there are cup packaging, bottle, and box packaging on yogurt. Product information on a product, including yogurt, is also considered essential because the consumers also pay attention to the product's information before buying it (Kobayashi and Benassi, 2015).

According to the data using conjoint analysis, it could be seen that most chosen attribute combination and level is yogurt with flavor enhancer, thick texture, has complete product information, has 200 ml volume, using a bottle as the packaging, and priced below Rp10,000.00. The result of the combination is obtained from the value of utilities gathered. This result can be attributed to respondent's allowance along with respondents' expenditures on yogurt. Allowance still becomes one factor contributing to the food consumption level, especially dairy products in Indonesia (Haryadi, 2017), thus allowing the influence of allowance towards yogurt's consumption level. Other results are the most considered attributes which determine respondent's behavior on buying yogurt are product information (26,972), followed by flavor attributes (26,746), texture attributes (14,619), price attributes (12,135), volume attributes (10,893), and packaging attributes (8,634). The result is gathered from the importance value data. It shows that the respondents pay attention to the completeness of the content of a product's information. The previous study shows that product information is categorized as very important. As the attributes used are essential attributes and considered by respondents, it was also found that the correlation value between the attributes of yogurt and the decision to purchase yogurt is 0.996. A correlation test is in the range of -1 to 1 (David and Djamaris, 2018), and correlation value with the result of 0.996 is categorized into a very strong category because it is between 0.8 to 1 (Puspitasari and Febrianti, 2018).

Conclusions

This study indicates that the most chosen attribute combination and level of attribute are yoghurt with flavor enhancer, viscous texture, complete product information, 200 ml volume, using a bottle as the packaging, and priced below IDR 10,000.00. Those most chosen attribute combinations and levels are following the highest consumer's income under IDR 500.000,00 a month. The attributes in yogurt products that consumers most consider in the behavior of purchasing yogurt are the product information attribute, as well as the correlation between the attributes used should be positive and very strong so that the consumers pay attention and consider the attributes of taste, texture, product information, volume, packaging, and price in the behavior of purchasing yoghurt. Furthermore, we think that it is important to assess the relationship between consumer perceptions in purchasing decisions and

levels of yogurt consumption in order to assess the impact of consumer perceptions.

Acknowledgement

We acknowledge support from the Faculty of Animal Science, Universitas Gadjah Mada for the facilities and PDUPT Research Grant Number 6545/UNI/DITLIT/DIT-LIT/PT/2021 from Kemenristedikti BRIN for research funding.

References

- Alijosiene, S. and R. Gudonaviene. 2010. Analyzing price-quality relationship using conjoint analysis. *Economics and Management*. 15: 350-358.
- Alwi, I. 2015. Kriteria empirik dalam menentukan ukuran sampel pada pengujian hipotesis statistika dan analisis butir. *Jurnal Ilmiah Pendidikan MIPA 2*: 140-148.
- Antony, J. 2014. *Design of Experiments for Engineers and Scientist*. Elsevier Ltd, USA.
- Badan Kependudukan dan Keluarga Berencana Nasional (BKKBN). 2019. *Mengenal Remaja Generasi Z (Dalam Rangka Memperingati Hari Remaja Internasional)*. <http://ntb.bkkbn.go.id/?p=1467>. Accessed on 23rd October 2020 at 8.20 p.m.
- Capcanari, T., A. Chirsanova, E. Covaliov, and R. Siminiuc. 2021. Development of Lactose Free Yogurt Technology for Personalized Nutrition. *Food and Nutrition Sciences* 12: 1116-1135. <https://doi.org/10.4236/fns.2021.1211082>.
- David, W. and A. R. A. Djamaris. 2018. *Metode Statistik untuk Ilmu dan Teknologi Pangan*. Penerbitan Universitas Bakrie, Jakarta.
- El-Abbadi, N. H., M. C. Dao, and S. N. Meydani. 2014. Yogurt: Role in healthy and active aging. *American Journal of Clinical Nutrition* 99(5). <https://doi.org/10.3945/ajcn.113.073957>
- Everlin, S. and C. Yosephine. 2018. Analisis desain kemasan Yogurt drink 'cimory'. *Jurnal Titik Imaji 1*: 109-121.
- Ghozali, I. 2011. *Aplikasi Analisis Multivariate dengan Program SPSS*. Badan Penerbit Universitas Diponegoro, Semarang.
- Haryadi, K. K. 2017. *Faktor-faktor yang mempengaruhi konsumsi susu pada level rumah tangga*. Skripsi Institut Pertanian Bogor, Bogor.
- Katoch, G. K., N. Nain, S. Kaur, and P. Rasane. 2021. Lactose Intolerance and Its Dietary Management: An Update. In *Journal of the American College of Nutrition*. Routledge. <https://doi.org/10.1080/07315724.2021.1891587>
- Kobayashi, M. L. and M. T. Benassi. 2015. Impact of packaging characteristics on consumer purchase intention: instant coffee in refill packs and glass jars. *Journal of Sensory Studies* 30: 169-180.

- Li, T. and R. Dando. 2019. Impact of common labels on consumer liking in vanilla Yogurt. *Journal of Foods*. 8: 1-9.
- Ministry of Industry. 2020. Perkembangan Impor Kelompok Olahan Produk Susu Lainnya. available at <https://kemenperin.go.id/statistik/barang.php?ekspor=&kode=202010043>
- Muchiri, M. N., A. L. McCartney, and L. Methven. 2020. Sensory profile and consumer preference of novel probiotic yoghurt enriched with orange sweet potato (*Ipomoea batatas*). *African Journal of Food, Agriculture, Nutrition and Development* 20: 16471–18489. <https://doi.org/10.18697/AJFAND.93.19565>
- Oak, S. J. and R. Jha. 2019. The effects of probiotics in lactose intolerance: A systematic review. In *Critical Reviews in Food Science and Nutrition* (Vol. 59, Issue 11, pp. 1675–1683). Taylor and Francis Inc. <https://doi.org/10.1080/10408398.2018.1425977>
- Puspitasari, E. D. and N. Febrianti. 2018. Analisis keterampilan psikomotorik mahasiswa pada praktikum biokimia dan korelasinya dengan hasil belajar kognitif. *Jurnal Pendidikan Biologi* 8: 31-38.
- Primyastanto, M. 2014. Aplikasi Teori Pemasaran pada Komoditi Perikanan dan Kelautan. UB Press, Malang.
- Riyanto, S. and A. A. Hatmawan. 2020. Metode Riset Penelitian Kuantitatif. Penerbit Deepublish, Yogyakarta.
- Rasyid, A. K. 2019. Atribut produk intrinsik dan ekstrinsik yang dipertimbangkan konsumen dalam membeli produk camilan khas kota Malang. *Jurnal Manajemen dan Inovasi* 2: 61-79.
- Rašković, M., Z. Ding, M. Hirose, V. Žabkar, and K. S. Fam. 2020. Segmenting young-adult consumers in East Asia and Central and Eastern Europe – The role of consumer ethnocentrism and decision-making styles. *Journal of Business Research* 108: 496–507. <https://doi.org/10.1016/j.jbusres.2019.04.013>
- Semaoen, I. and S. M. Kiptiyah. 2011. *Mikroekonomi*. UB Press, Malang.
- Schuch, A. F., A. C. de Silva, D. L. Kalschne, R. A. da Silba-Buzanello, M. P. Corso, and C. Canan. 2019. Chicken nuggets packaging attributes impact on consumer purchase intention. *Food Science Technology* 39: 152-158.
- Syainah, E., S. Novita, and R. Yanti. 2014. Kajian pembuatan Yogurt dari berbagai jenis susu dan inkubasi yang berbeda terhadap mutu dan daya terima. *Jurnal Skala Kesehatan* 5: 1-8.
- Worthy, D. A., M. A. Gorlick, J. L. Pacheco, D. M. Schnyer, and W. T. Maddox. 2011. With Age Comes Wisdom: Decision-Making in Younger and Older Adults. *Psychol. Sci.* 22: 1375–1380. <https://doi.org/10.1177/0956797611420301>.