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The Demand of Organic Vegetables at Frismart Modern Market in Ambon City

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Abstract

Organic farming is an alternative technology to address environmental issues. Organic farming is cultivated would increase farmers' profits. *Purpose*: This study aimed to analyze the factors that influence consumer demand for organic vegetables. *Design/methodology/approach*: Research is located at modern of market Frismart of Ambon City takes place in May-June, 2015. Method of determining the location of the research is purposive sampling with consideration at *Frismart* of Ambon City is one of retail market of organic vegetables. Methods The samples are accidental sampling totaling 35 people who met by chance when they visit the frismart. Data were analyzed quantitatively against the factors that influence consumer demand for organic vegetables. *Findings*: The results of simultaneous analysis show that the factors that significantly affect demand for organic vegetables in *Frismart* Ambon is: The price of organic vegetables (X_I) , the price of vegetables non-organic (X_2) , the consumer's income (X_3) , the number of family members (X_4) , intensity of need (D_I) and tastes of consumers (D_2) .

Keywords: Demmand, organic vegetable, *Frismart* Ambon City

1. Introduction

The development of organic farming is urgently needed as an alternative technology to resolve environmental problems. A huge problem arises due to soil, water, and air pollutions, resulting in the degradation and loss of natural resources and degradation of soil productivity. Chemical-based farming affects the quality and safety of the produced foodstuff, as well as health and other aspects of life. By considering the future generations, organic farming creates a dynamic interaction between soil, plants, animals, humans, ecosystem, and environment. Organic foodstuff becomes necessary in the society so that they are able to manage a healthy lifestyle and consume chemical-free food. A food consumption pattern which excludes chemical-free foodstuff will enhance a healthy life quality (Silitonga and Salman 2014). A composition of healthy food can be taken from organic farming system. Vegetables, carbohydrate sources, fruits, and pollution-free proteins are most of the organic products whose production processes are without chemical fertilizers, chemical pesticides, and chemical growing media (Siregar 2005).

Organic farming is an eco-friendly technology. Organic farming is known as an agricultural production system which is based on biological recycling (Sutanto 2002). The underlying philosophy of organic farming is developing the principles of feeding the soil that feeds the plants. Organic farming is intended to increase farmers' profits, since the selling price of organic products is relatively higher. Applying organic farming is not easy and often meets with obstacles.

The development of organic farming, particularly organic vegetables, has been attempted by the farmers in Telaga Kodok Village, Leihitu Sub District, Maluku Tengah Regency. The farmer group in Telaga Kodok Village initially utilized their own yards and fields. Their yards and fields were close to the citizens' houses so that it was easy for the farmers to control the production processes of organic vegetables. Organic vegetables have a high quality since the process of growing plants uses a multi-cultural system and has a high biodiversity so that the vegetables from organic farming will contain nutrition in a relatively huge amount and can-beneglected amount of pollution (Siregar 2015).

The production increase of organic vegetables in Indonesia is due to the enlargement of organic vegetable fields. They give more healthy advantages for human body than vegetables grown with pesticides do. Therefore, supported by the society's high awareness of healthy vegetables consumption and their enthusiasm for it, as well as the good availability of the vegetables, the potential to produce organic vegetables in Indonesia and the increase of market demands on the products can be used by the entrepreneurs in organic vegetable agro-business to meet the market demands and to develop their businesses (Priastuti *et al.* 2014).

Organic farming is closely related to various practices to enhance soil fertility and control pests and diseases (Goldberger 2008), or a holistic farming management system aiming to optimize society health and productivity that has a reliance on the life of soil, plants, animals, and humans (Bakewell-Stone *et al.* 2008). The demand of healthy food, especially horticultural food, is a possibility particularly for urban society with various educational and economic backgrounds. The people are better at understanding the meaning of 'being healthy',



which is started from consuming food from eco-friendly farming processes (Syarif et al. 2016).

Consumer demand of organic vegetables in Ambon City is quite good, even though there have not been many enthusiasts. This is because people are less aware of the importance of organic vegetable consumption for health, since it has not been well-socialized. The consumers of organic vegetables are limited to those who have been aware of health and how safe organic vegetables are when consumed. One way of supplying foodstuff is through organic food production. This is in accordance with the statement of Tshuma *et al.* (2010) that organic products have dominated markets in many countries undergoing economic growth, which can provide benefits for producers and consumers. Consumer concern can be categorized as a behavior variable which is often used as a measurement to predict someone's behavior. The higher the consumer concern about pesticide residue, the higher the tendency to buy products that are free from pesticide residue (Ameriana 2006).

Organic vegetables are relatively more expensive with less attractive appearances. However, they give advantages for health as they are produced without any chemical substances. Moreover, the latest research fact claims that organic foodstuff has superior quality of nutrition (Rifai 2008). The production of farmer-based organic vegetables with a high added value shows that the strengths that support farmers' production activities are: 1) the scheduling of planting and harvesting seasons; 2) assortment of produced vegetable products; 3) products being preferred by consumers (safe and eco-friendly); and 4) good geographical location. The weaknesses are: 1) farmers' low management competence; and 2) limited business capital. The opportunities are: 1) the support and guidance from the local Agricultural Office; 2) government policy on Go-Organic 2010 program; and 3) high loyalty of organic product consumers. The identified threats are: 1) the climate and weather changes; and 2) plant pests and diseases (Hubeiset *et al.* 2013).

The prospect of organic vegetables is considerably good, but the market potential in Indonesia is very small and limited only on certain society levels. Several obstacles that should be faced include: the absence of suitable price incentives for the producers of organic farming products, the necessity for costly investment in the beginning of the business development due to the need to select a very sterile land that is free from agrochemical substances, the absence of market certainty that makes farmers unwilling to produce organic commodities (Silitonga and Salman 2014). Based on the explanations above, the current research aims to analyze the factors that affect consumer demands on organic vegetables.

2. Research Method

This research employed survey method. The research was conducted at *Frismart* in Ambon City, which was decided by purposive sampling, since it is the reseller of organic vegetables. The research was on May-June 2015. The consumer sample, consisting of 35 participants who were accidentally encountered by the researcher when visiting *Frismart*, was determined using accidental sampling technique. The data analysis was conducted qualitatively and quantitatively. The qualitative analysis aimed to describe consumer decision in purchasing organic vegetables, while the quantitative analysis aimed to analyze the factors that affected consumer demand on organic vegetables using multiple regression analysis as formulated below:

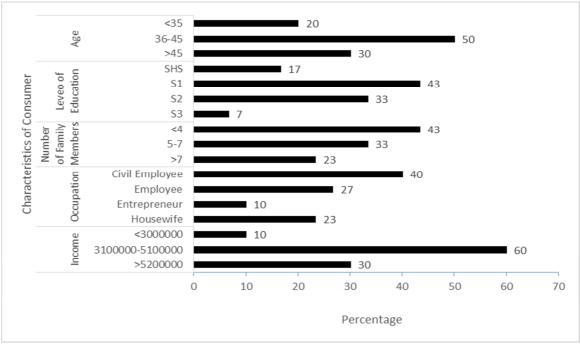
$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 D_1 + \beta_6 D_2 + e$$
 (1)

Whereas: Y = consumer demand (kg/month); $X_1 = \text{organic vegetable price (Rp/kg)}$; $X_2 = \text{Non-organic vegetable price (Rp/kg)}$; $X_3 = \text{consumer income (Rp/month)}$; $X_4 = \text{number of family members (people)}$; $D_1 = \text{The intensity of consumer's need for organic vegetables } (D = 1 : \text{need} > 3 \text{ bunch/day}$; $D = 0 : \text{need} \le 3 \text{ bunch/day}$; and $D_2 = \text{Taste } (D = 1 : \text{high taste}$; D = 0 : low taste); $D = 0 : \text{need} \le 3 \text{ bunch/day}$; and $D = 0 : \text{$

3. Result and Discussion

3.1. The Relation between Consumer Characteristics and Their Decisions for Consuming Organic Vegetables Consumer characteristics encompass social and economic characteristics. Social characteristic includes age, educational level, number of family members, and occupation. Meanwhile, economic characteristic includes level of income (salary). According to Kotler (2000), consumers are all individuals and households that purchase or get products or services for personal consumption. Everyone use products and/or services which are available among the society, either for personal need, family need, others' needs, or for other beings, and are not for sale.





Source: Processed Primary Data, 2015

Figure 1. Characteristics of Organic Vegetable Consumers at Frismart

Consumers are related to behaviors, meaning individuals, groups, or organizations and the processes in selecting, deciding, gaining, using, and stopping the use of the products, services, experiences, or ideas to satisfy their needs as well as the impact of these processes on consumers and society (Hawkins *et al.* 2001). By consuming organic food, consumers or society will be much healthier than if they consume non-organic food containing chemical substances that are dangerous for human health (Ryna and Munawaroh 2011).

Figure 1 illustrates that the majority of organic vegetable consumers' ages ranged from 36 to 45-year-old. This means that the awareness of the importance to consume organic vegetables was very high. Consumers in 36 to 45-year-old age group said that consuming organic vegetables would be great for health. Moreover, when getting old, people needed to consume foodstuff that was free from chemical substances in order to stay healthy. Besides, it was more comfortable for them to visit Frismart since they could also get other needs while looking for organic vegetables. The consumers' reasons for buying products in a modern market were because of comfort, guaranteed cleanliness, more complete supplies, and high quality. Consumers would be more interested if the modern market enhanced their facilities and services such as a more strategic location, a more comfortable layout/design, longer shopping time, adequate number of cashiers, and product delivery. Another thing that was related to level of decision to buy organic vegetables in the above age category was that consumers would be more meticulous in deciding whether or not they would consume organic vegetables. Rahman et al. (2015) suggests that organic vegetables have 50% more antioxidants than non-organic vegetables, which means they can reduce the risk of cancer and heart disease. Organic vegetables also contain more vitamins and minerals such as ferrum (Fe) and zinc (Zn). Consuming organic vegetables can fight against cancer. Besides, for those who consume organic food, it can increase their immunities, make them sleep better, and make their body weights lighter than the body weights of people who consume non-organic food.

The educational level of most of the organic vegetable consumers was undergraduate program. This was more likely because they visited *Frismart* more frequently and knew a lot more about the availability of organic vegetables in *Frismart* from various sources of information. Mostly the number of family members of the organic vegetable consumers was less than four people. This was related to the number of people in the family who consumed organic vegetables. The smaller the number of family members, the higher the decision to buy organic vegetables. The result of this research is supported by Deliana (2012) research, which found that a family with a small number of family members (< 3 people) preferred organic vegetables, with purchase frequency 3-5 times a month. This was because the group had economically settled and educated.

The majority of the consumers who frequently visited *Frismart* worked as civil servants. Its location, which was in the middle of the city and in the center of offices, made it easy for them to go to and shop in *Frismart*, particularly after office hours. The consumers' salaries ranged from Rp 3,100,000.00 to Rp 5,100,000.00. This belonged to medium-scale category of income. Organic plant products consumption was still limited on people who were concern about health. However, with the presence of organic plants in modern market and exhibitions, and supported by the socialization of how important health was, it was possible that people would switch to



organic farming products. In general, the research result shows that elderly and educated consumers with a small number of family members and medium-level and high-level incomes were prone to buying organic vegetables. This is supported by the result of the research conducted by Salid *et al.* (2014) which shows that elderly and educated consumers with a high level of income tended to purchase organic products.

3.2. Consumer Demand of Organic Vegetables

Demand is the number of products purchased on various market price levels in a certain period of time. Demand is influenced by a lot of factors such as income, population, price of substitution, and taste. In every market in a certain period of time, there are a number of products which will be bought by customers. If the price is low, the number of purchased or requested products increases. Meanwhile, if the price is high, the number of purchased or requested products decreases. As the population rises particularly in urban areas, the need for food also increases. For instance, the increase of vegetable consumption is getting higher. One factor that influences the increase of vegetable consumption in Indonesia is that people choose 'back to nature' lifestyle which is becoming a trend among the society as they are more aware of the importance to stay healthy (Prayitno *et al.* 2012).

Consumer demands of organic vegetables were various, which were influenced by certain considerations: organic vegetables give benefits for health, are safer to consume without any dangerous side effect, needs shorter time when cooked and tastes better, and can be freshly eaten without being cooked. Organic vegetable farming is expected to prevent possible negative effects that may come out as a result of chemical substance use as in conventional vegetable farming. Organic farming system is expected to minimize dangerous pollutions to both the environment and human body (Priastuti *et al.* 2014).

Organic vegetables were sold in *Frismart* in various number and kinds, for example spinach, water spinach, mustard greens, and cauliflowers. The organic vegetables were supplied by fixed suppliers who were farmers from Telaga Kodok Village. The main reasons why people chose *Frismart* were: a) besides organic vegetables, *Frismart* provided other products; when they needed organic vegetables, they could go directly to *Frismart* without being bothered going to traditional markets since occasionally organic and non-organic vegetables had mixed together, making it difficult to distinguish them; b) *Frismart* offered comfort in shopping since it put up air conditioner and displayed the products neatly which made it easy for customers to find the products they wanted; c) besides offering comfort, Frismart offered guaranteed cleanliness and provided fresh organic vegetables, good services, and many cashiers to serve cash or card payment. The analysis result on the factors that influenced consumer demand of organic vegetables is demonstrated in Table 1.

The result of a simultaneous analysis on the factors that influenced the demands of organic vegetables in *Frismart* shows that $F_{counting}$ value which is 6,026 > F_{table} which is 2,53. This means that organic vegetable price (X_1) , non-organic vegetable price (X_2) , consumer income (X_3) , number of family members (X_4) , need intensity (D_1) , and consumer taste (D_2) gave apparent influences on the demands of organic vegetables. Table 1 demonstrates the partial analysis result of the six factors which influenced the demands of organic vegetables, including: organic vegetable price, consumer income, number of family members, need intensity, and consumer taste.

Table 1. The analysis on the Factors Influencing Consumer Demands of Organic Vegetables

Model	Unstandardized Coefficients		4	Cia	Collinearity Statistics	
	В	Std. Error	ι	Sig.	Tolerance	VIF
Constanta	1,974	3,681	0,536	0,597		
X1	0,225	0,276	2,813	0,003	0,941	1,063
X2	0,368	0,357	1,032	0,313	0,815	1,226
X3	1,722	0,349	4,929	0,000	0,790	1,266
X4	0,986	0,914	2,179	0,056	0,847	1,180
D1	0,113	0,082	2,387	0,036	0,961	1,041
D2	-0,328	0,088	-3,716	0,001	0,829	1,206

Source: Processed Primary Data, 2015.

3.3. Organic Vegetable Price

Organic vegetable price (X_1) gave a negative and apparent influence on consumer demands with $t_{counting}$ value 2,813 > t_{table} 2,069. Regression coefficient value of organic vegetable price is 0,225 which means if organic vegetable price rises for one rupiah, a consumer demand of organic vegetables will increase for 0,225 kg. A research conducted by Tedjakusuma *et al.* (2001) suggests that price factor affects customer's purchase decision. However, for some people who highly concern about health and environment, it is not a problem for them to pay more for organic farming products as they give more benefits for health and are eco-friendly. Consumers in Ambon city who visited *Frismart* regularly said that the price of organic vegetables was higher than that of nonorganic vegetables, but they kept on spending their money for buying organic vegetables. Organic vegetables in



Frismart were supplied every two days and were always completely sold within those days. If the supply of organic vegetables was jammed because of weather and made the production decreased, consumers would usually have wondered whether or not they would get organic vegetables the following day.

3.4. Non-Organic Vegetable Price

Non-organic vegetable price (X_2) did not give an apparent influence on the consumer demands with $t_{counting}$ which is 0,932 < t_{table} 2,069. Regression coefficient value of non-organic vegetable price is 0,368, which means that if the price of non-organic vegetables increases for one rupiah, consumer demand of organic vegetables will increase 0,368 kg. If the price of non-organic vegetables increased, the consumers did not want to buy them and chose to buy organic vegetables instead with a more affordable price. Consumer demands of non-organic vegetables decreased because they had been aware of the importance of consuming foodstuff that was safe for health and long-term life. This result is in accordance with the research conducted by Khorniawati (2014) which suggests that the increase of consumers' awareness of chemical substances in non-organic farming products has caused some of them to switch to organic products which are believed to be better and safer for health.

3.5. Consumer income

Consumer income (salary) (X_3) gave a positive and apparent influence on the consumer demands with $t_{counting}$ which is $4,929 > t_{table} 2,069$. Regression coefficient value of consumer income is 1,722, meaning that if consumer income rises for one rupiah, consumer demand of organic vegetables will increase for 1,722 kg. Consumer income is related to purchase power. If his/her income increases, a customer's purchase power also increases and makes the demand of a product increase as well. This is in line with the Maswadi (2012) opinion which suggests that a consumer who has a relatively high income, is wealthy, and has a healthy lifestyle will surely purchase organic vegetables. Even consumers with a medium-level income will most likely buy organic vegetables. If they have a good perception on organic vegetables products and are encouraged by their family and followed group, they will be motivated to buy organic vegetable products.

3.6. Number of Family members

According to Raharjo and Manurung (2001), number of family members influences a consumer purchase decision. The greater the number of family members, the higher the number of purchase. Therefore, family members give a big influence on purchase decision. Number of family members (X_4) gave a positive and apparent influence on consumer demands with $t_{counting}$ which is 2,179 > t_{table} 2,069. Regression coefficient value of the number of family members is 0,986, which means that if there is one more family members, consumer demand of organic vegetables will increase 0,986 kg. Number of family members is related to household food consumption need. If there is an increase in the number of family members, the household food consumption will increase as well. Hence, in order to fulfill the household food consumption, especially organic vegetables, consumers will increase their demands of organic vegetables. This is in accordance with the research conducted by Dasipah *et al.* (2010) which suggests that family gives a strong influence on purchasing since in buying a product, every family members has different need. This is due to different consumption patterns and therefore, family encouragement is necessary.

3.7. Consumer Need Intensity

Consumer need intensity (D_1) gave an apparent influence on consumer demand with $t_{counting}$ which is 2,387 > t_{table} 2,069. The result of regression analysis indicated that consumers' need intensity towards the demands of organic vegetables was higher since the need of organic vegetables was more than three bunches per day, which was 0,113. This means that if consumer need intensity increases, consumer demand of organic vegetables will also increase for 0,113 kg.

3.8. Consumer Taste

Consumer taste (D_2) gave an apparent influence on consumer demand with $t_{counting}$ which is 3,716 > t_{table} 2,069. The result of regression analysis indicates that consumer taste towards the demands of organic vegetables was 0,328, which means that if a consumer taste is higher, his/her demand of organic vegetables will increase for 0,328 kg. Information about the availability of organic vegetables in *Frismart* was still limited because 1) not many consumers knew the benefits of organic vegetables for health; 2) it was difficult for the consumers to buy organic vegetables due to limited supply; 3) the consumers had not got enough information about the areas that produced organic vegetables, while there were also not many areas that ran organic vegetable farming; and 4) the consumers believed that there were only a relatively small number of farmers who grew organic vegetables so that it was necessary to promote and introduce organic vegetables sustainably.

The influence percentages of all independent variables towards dependent variables are represented by Determination Coefficient (R²). R² shows how great the influence of independent variables towards the



dependent or free variables is, which is stated in percent (%). Based on the analysis result, the value of R_2 was 61.10 %, indicating that consumer demands of organic vegetables were 61.10 % determined by: organic vegetable price, non-organic vegetable price, consumer income, number of family members, consumer need intensity, and consumer taste. Meanwhile, the rest 38.90 % included other factors outside the model such as information about organic vegetables, socialization or promotion intensity, availability of organic vegetables, and some other factors.

3.9. Consumer's Decision for Purchasing Organic Vegetables

Consumer's low perception about the quality of organic vegetable products affects their decision for purchasing organic vegetables, besides there is a risk that should be taken by consumers which is their high prices; as a result, the decision to consume organic vegetables will be low (Alamsyah 2015). Consumer's decision for purchasing organic vegetables depends on several aspects, including introduction to needs aspect, information search aspect, alternative evaluation aspect, and purchase decision aspect.

3.10. Introduction to Needs

Introduction to needs aspect in the research means firstly consumers were aware of and knew the availability of organic vegetables in Ambon City. As time went by, in that the needs of organic vegetables were greater, organic vegetables started to be supplied in a modern market that was Frismart. This really made it easy for consumers to look for and find vegetables they wanted to consume. Generally, consumers' various ways in fulfilling their daily needs can be affected by many factors, either internal factors related to them or external factors (La Ola 2014). Besides, in the current research, consumers had a strong internal motivation to buy organic vegetables, for example eagerness to try, willingness to follow friends who had consumed organic vegetables, affordable price, lifestyle, and willingness because of seeing other people buy organic vegetables. The research result shows that consumers eagerness to try organic vegetables reached 45.6 %. This was because organic vegetables were rarely found in modern fresh market so that their eagerness and curiosity to try consuming organic vegetables was relatively high. Consumers who followed their friends' habit of consuming organic vegetables were 32.3 %. This was because consumers only followed the trend. After hearing their friends' testimonies, they were interested to consume organic vegetables. According to consumers, affordable price reached 10.2 %. Price was considered affordable. Even though the price was relatively high, consumers did not mind spending some more money to get the benefits from organic food. Consumers' motivation in purchasing organic vegetables due to lifestyle was 5.6 %. A more modern lifestyle makes people more obsessed with regularity in life so that they will enjoy their life to the fullest by consuming organic food. Consumers who bought organic vegetables because of seeing the others did the same thing were 6.3 %. When consumers visited the display and saw may people bought organic vegetables, they were getting interested in buying them as well while assuming that organic vegetables were many people's favorite.

The research result shows that the benefits that consumers wanted by consuming organic vegetables included: benefit for health (55%), benefit to enhance life quality (40%), and benefit to diminish their dependency on non-organic vegetables (5%). The finding shows that consumers' awareness of the benefits of consuming organic vegetables for health was very high. This is in accordance with the research conducted by Sadek and Oktarina (2009) which suggests that consumers' interest in organic vegetables is affected by their opinion that organic food is better for health and environment. This can be a base for educating the whole world about the benefits of organic products and can improve the sales of organic product retails. Consumers of organic vegetables always try to look for and find organic vegetables as they have become a main need that should be fulfilled all the time. Consumers with certain level of education will find as many information as possible about the benefits of organic products. This is explained by Sumarsono and Kumorohadi (2013) who state that high level of education makes consumers' involvement high, where consumers ask a lot of questions and actively search for information about the strengths and the benefits of organic products, and other information related to them.

3.11. Information Search

Consumers always searched for information from many parties who could explain the importance of consuming organic vegetables, including from the farmers of organic vegetables, friends/neighbors, media such as magazines, newspapers, and television, Agricultural Office, universities (Faculty of Agriculture), relatives, and *Frismart* stakeholders. The research result shows that the percentages of information sources were different to each other: farmers producing organic vegetables (15%), friends/neighbors (15%), media (magazines, newspapers, television) (10%), Agricultural Office (20%), universities (Faculty of Agriculture) (10%), relatives (5%), and *Frismart* stakeholders (25%). *Frismart*, as a supplier of organic vegetables in Ambon City was the most important source of information since it got organic vegetables from several locations such as Telaga Kodok Village, Aerlow Village, and Waai Village. If *Frismart* ran out of stocks, the consumers would go



searching for information in other places like Agricultural Office because they functioned as the second party who helped farmers supply organic vegetables in Ambon City. It meant that Agricultural Office would contact their assisted farmers in the three locations to supply organic vegetables because the demands were getting high.

3.12. Alternative Evaluation

According to Engel et al. (1994), the basic concepts to help to understand evaluation process are making effort to fulfill needs, searching for certain benefits from product solution, seeing each product as a group of attributes with different abilities in giving advantages that are used to satisfy the needs so that consumers have different behaviors in determining the considered relevant and important attributes. The research result shows that consumers as the last users would take the opportunity to get organic vegetables. The varieties of organic vegetables that were produced by farmers included white spinach, red spinach, water spinach, green mustards, and cauliflowers. Consumer demands of organic vegetables varieties were different. The research result shows that organic water spinach became consumers' favorite. This was because they were available in huge amount, had a short harvesting time, and had a relatively easy growing procedure. Besides, the number of farmers who supplied water spinach was greater than the number of farmers who supplied other kinds of vegetables. Based from the result attained, consumers evaluated the existing choices. Consumers would pay great attention to the attributes that offered the benefits they looked for. Meanwhile, consumers' considerations before purchasing organic vegetables included flavor/taste (43.6%), price (30.4%), color (14.2%), packaging (4.7%), and quality (7.1%). It can be seen that the taste of organic vegetables relatively became the main attribute. The consumers said that there was a prominent difference between the taste of organic vegetables and the taste of non-organic vegetables. The taste of organic vegetables was more delicious and they did not need a long time to cook. The price was affordable for middle to low level of society. The color of organic vegetables was greener than that of non-organic vegetables. Lastly, the quality of organic vegetables was better than that of non-organic vegetables.

3.13. Purchase Decision

Decision to purchase organic vegetables is strongly influenced by internal and external factors. Internal factors include encouragement from family and self. Meanwhile, external factors include encouragement from friends, neighbors, relatives, and farmers. The research result shows that based in the internal factors, consumers' decision to purchase organic vegetables were affected by: encouragement from family (50%) and encouragement from themselves (50%). The external factors that affected purchase decision were encouragement from friends (25%), from neighbors (25%), from relatives (25%), and from farmers (25%). The result shows that there was a balance in the decision to purchase organic vegetables. This made it easy for consumers to buy organic vegetables since consumers could be encouraged by anyone to spend their money for fulfilling their need of organic vegetables.

4. Conclusion

Based on the result and discussion, it can be concluded that the ages of consumers who consume organic vegetables ranged from 36 to 45-years-old. The education level of the majority who consumed organic vegetables was undergraduate (S1) because they visited Frismart frequently and knew more about the availability of organic vegetables in Frismart through various sources of information. The number of family members of the consumers who consumed organic vegetables was less than four in average. This was related to the number of people in the family that consumed organic vegetables. The income of consumers who shopped in Frismart ranged from Rp 3.100.000,00 to Rp 5.100.000,00. Simultaneously, the factors that gave apparent influences on the demands of organic vegetables in Frismart were organic vegetable price (X_I) , non-organic vegetable price (X_2) , consumer income (X_3) , number of family members (X_4) , need intensity (D_1) , and consumer taste (D_2) . Partially, organic vegetable price, consumer income, number of family members, need intensity, and consumer taste gave apparent influences on the demands of organic vegetables as the value of $t_{counting} > t_{table}$, while non-organic vegetable price did not give any influence on the demands of organic vegetables as $t_{counting}$ < t_{table} . Consumers' decision to purchase organic vegetables depended on several aspects, including introduction to needs aspect, information search aspect, alternative evaluation aspect, and purchase decision aspect. Consumers did not find any difficulty in purchasing organic vegetables because organic vegetables gave benefits for health, improved life quality, and diminished the dependency on non-organic vegetables.

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References

Alamsyah, D.P. (2015), "A Study of Perceptions on Quality and Consumer Decision in Purchasing Organic



- Vegetables", Jurnal Ekono-Insentif 9(1), 38-43.
- Ameriana, M., Natawidjaja, R.S, Arief, B., Rusidi & Karmana, M.H. (2006), "Faktor-faktor yang Mempengaruhi Kepedulian Konsumen Terhadap Sayuran Aman Residu Pestisida (Kasus pada Buah Tomat di Kota Bandung)", *Jurnal Hortikultura* 16, 77-86.
- Bakewell-Stone, P., Lieblein, G. & Francis, Ch. (2008), "Potential for Organic Agriculture to Sustain Livelihoods in Tanzania", *International Journal of Agricultural Sustainability* 6(1), 22-36.
- Dasipah, E., Budiyono, H. & Julaeni, M. (2010), "Analysis on Consumer Behavior in Purchasing Vegetable Products in Modern Markets in Bekasi City". *Jurnal Agribisnis dan Pengembangan Wilayah* 1(2), 24-37.
- Deliana, Y. (2012), "Consumer Preferences on Organic and Anorganic Vegetable in Bandung, West Java, Indonesia", Research Journal of Recent Sciences 1, 212-218.
- Engel, J.F., Blackwell, R.D. & Miniard, P.D. (1994), "Perilaku Konsumen", Jilid I, Edisi keenam. Binapura Aksara, Jakarta.
- Goldberger, J.R. (2008), "Non-governmental organizations, strategic bridge building, and the "scientization" of organic agriculture in Kenya", *Agriculture and Human Values* 25(2), 271-289.
- Hawkins, D., Best, R. & Coney, K. (2001), "Consumer behavior: Building marketing strategy (8th ed.)", Irwin Mcgraw-Hill, Boston.
- Hubeis, M., Najib, M., Widyastuti, H. & Wijaya, N.H. (2013), "A Strategy of Organic Vegetable Production with a Farmer-Based Premium Price", *Jurnal Ilmu Pertanian Indonesia* 18(3), 194-199.
- Halit, A., Ozcan, K. & Hasan, S.D. (2014), "Consumer view and utilization of natural food in Turkey", *African Journal of Food Science Research* 2(8), 119-122.
- Khorniawati, M. (2014), "Produk Pertanian Organik di Indonesia: Tinjauan atas Preferensi Konsumen Indonesia Terhadap Produk Pertanian Organik Lokal", *Jurnal Studi Manajemen* 8(2), 172-182.
- Kotler, P. (2000), "Marketing management The millennium edition. 13th Edition", Prentice Hall, Inc., New Jersey.
- La Ola, T., Batoa, H. & Sahwa, M. (2014), "Faktor-Faktor yang Mempengaruhi Perilaku Konsumen dalam Pengambilan Keputusan Pembelian Ikan Asin di Pasar Sentral Laino Raha Kabupaten Muna", *AGRIPLUS* 24(1), 69-80.
- Maswadi (2012), "Kajian Faktor Kepribadian Perilaku Konsumen Terhadap Pembelian Sayur Organik di Supermarket Kota Pontianak", EKSOS 8(1), 1-8.
- Prayitno, A., Supardi, S. & Nurjayanti, E.D. (2012), "Analysis on the Developmental Strategy of Quality Vegetable Comodity Agro-Business in Aspakusa Makmur Association Boyolali Regency", *MEDIAGRO* 8(2), 8-20.
- Priastuti, D., Suroso, A.I. & Najib, M. (2014), "Analysis on the Strategy for Improving Organic Vegetable Competitiveness", *Jurnal Manajemen dan Organisasi* 5(3), 258-270.
- Rahman, S., Aryanti E.L. & Ruhumuddin. (2015), "IbM Farmer Group of Organic Vegetable in Makassar", *Majalah Aplikasi Ipteks* NGAYAH 6(1), 9-19.
- Rifai, A., Muwardi, D. & Rangkuti, J.R.F.N. (2008), "Organic Vegetable Consumer Behavior in Pekanbaru City", *Jurnal Industri dan Perkotaan* 12, 1786-1792.
- Ryna, P. & Munawaroh. (2011), "Organic Food Consumption: Promoting Consumer Health", *Econo-Sains* 9(2), 157-165.
- Sadek, N.F. & Oktarani, Y. P. (2009), "Consumer Knowledge and Perception about Organic Food: a Challenge for Consumer Education on The Benefits of Going Organic", *Asian Journal Food of Agro-Industry* Special Issue, S363-S367.
- Silitonga, J., & Salman. (2014), "Analysis on Consumer Demand of Organic Vegetables in Modern Markets in Pekanbaru City". *Agricultural Dynamics Journal* 29(1): xx-86.
- Siregar, R.D. (2005), "Sustainable Agriculture from Health and Environment Point of View", Winangun YW (Ed), Building Successful Organic Farmer Character in Globalization Era. *Kanisius*, Yogyakarta.
- Sumarsono, & Kumorohadi, U. (2013), "Training and Guidance for the Application of Local Marketing of Organic Products (*IFOAM's Guide For SME's*) to Organic Farmer in the Melung Village, Kedungbanteng Sub District, Banyumas Regency", *Jurnal Bisnis dan Manajemen* 1(1), 19-25.
- Sutanto. (2002), "Organic Farming for Alternative and Sustainable Agriculture". Kanisius, Yogyakarta.
- Syarif, M. Sumadja, W.A. & Nasution, H. (2016), "Budidaya Pepaya Berbasis Ramah Lingkungan dengan Teknologi Kompos Aktif", Jurnal Pengabdian Pada Masyarakat 31(1), 18-22.
- Tedjakusuma, R., Hartini, S. & Muryani. (2001), "Analysis of Factors Affecting Consumer Behavior in Purchasing Mineral Water in Surabaya Municipality", *Journal of Social Dynamics Research* 2(3), 48-58.
- Tshuma, P., Makhathini, S., Siketile, P.N., Mushunje, A. & Taruvinga, A. (2010), "Consumer perceptions on Organic Products in the Eastern Cape; the case of East London: South Africa". *Electronic Journal of Environment, Agricultural and Food Chemistry* 9(3), 458-467.