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FACTORS AFFECTING ONLINE PURCHASE DECISION OF SPINACH VEGETABLES IN PURWOKERTO THROUGH TUKANGSAYUR SITE

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Abstract: The research objectives was to analyze the characteristics and behavior of buying vegetable such as spinach by online, to find out the factors that influence the buying decision by online through tukangsayur.co. This research was conducted online in August, 2020 in Purwokerto areas. Determination of the sample using quota sampling with 70 respondents. The data analysis using binary logistic regression. The results showed that the respondents who made the buying decision of spinach preferred to make purchases online. Partially by age variable, income, price perception, and quality of product perception influenced significantly to decision chance of the spinach buying decision in Tukangsayur.co, while perception variable of trust has no significant effect on the spinach buying decission on Tukangsayur.co in Purwokerto areas.

Keywords: spinach, online purchase, decision, logistic regression, perception

Introduction

Indonesia has recently been hit by the spread of a new virus, this virus is called Corona and causes Covid 19. This disease attacks the human immune system. As a result of this disease, Indonesia's economy has decreased, this is because with the government's advice not to leave the house, many people access jobs, entertainment and education through information technology.

During the Covid 19 pandemic, the community must be smart in responding not to leaving the house and not being in a crowd because it will cause more and more people to be exposed to the virus. the development of mobile Internet technology, encouraging the e-commerce industry for agricultural products to develop rapidly as well. Many online sites offer agricultural products to meet daily household food needs
The market segment that is addressed by online shopping sites for agricultural products is different from non-agricultural products. Characteristics of agricultural products, among others, the amount of household needs for vegetables that is not too much, the product is not durable, and the range of costs incurred is not too much. According Wei et all (2018), women are more interested and enthusiastic in online shopping of fruit. According Ashraf A. R., Thongpapanl N., Auh S. (2014). online shopping has become a popular means of shopping for consumers, particularly young people, because consumers have perceived the usefulness and ease of use.

The development of consumer shopping styles has also changed over time, especially with the Covid-19 pandemic, where consumers do not need to come directly to the seller, but can use online media. The Internet provides marketers and consumers with opportunities for much greater interaction and individualization (Kotler and Keller, 2009). Gustavsson and Johansson (2006) have selected several factors that are relevant to influence trust in e-commerce, including security, privacy, guarantees, customer service, familiarity, website, information, control, price.

Spinach is a type of vegetable that can be said to be a favorite type of consumption during the Covid-19 pandemic. According to the republika newspaper, spinach is one of the green vegetables that has the ability to boost the immune system. The high content of vitamins A, C, and E in these vegetables can help fight infection as well as supplement blood cells, so spinach is a recommended vegetable during this pandemic. Apart from that, spinach also contains protein, ascorbic acid, and mineral nutrients such as Ca, Fe, Mg, P, K, and Na which are considered as nutritional values in vegetables (USDA, 1984). Apart from being a food ingredient, spinach is believed to improve kidney work and improve digestion (Sunarjono, 2008).

Factors that are considered to be able to influence online product purchasing decisions are used as research variables. The variables of trust, convenience, quality of information, and perceived risk are used to see the factors that influence purchasing decisions through Instagram (Iswara, 2016). According to Engel et al. (1994), factors that can influence purchasing decisions are environmental, individual differences and psychological factors.

One of the sites that sells vegetables online is Tukangsayur.co, there are various kinds of vegetables and fruits. The Tukangsayur.co site is an Android and IOS based application developed from PT. Mahakarya Tukang Sayur Indonesia to provide online service solutions for vegetable services, kitchen needs, and daily household needs with an easy, practical and risk-free payment system. The types of vegetables offered by the site also vary.

Based on the background and problem formulations above, this research aims were: (1) Analyze the characteristics of consumers who purchase spinach vegetables online, (2) Analyze the factors that influence the decision to buy spinach vegetables online at Tukangsayur.co.

Literature Review

Consumer Behavior

In everyday life purchase decisions made are based on different considerations. Assael in Sutisna (2009) describes a model of consumer behavior that addresses the factors that are influence it. Consumer behavior model as follows:
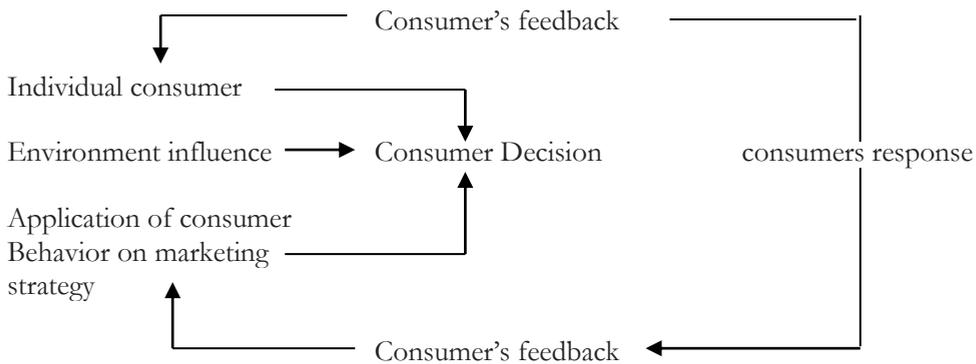
Source: Sutrina (2009)

Consumer purchasing decisions for a product are basically close relation to consumer behavior. purchasing decisions is a person's buying behavior in determining a choice of products to achieve satisfaction according to your needs and desires consumers which include problem recognition, information search, evaluation on purchasing alternatives, purchasing decisions, and after behavior purchase

Factors influence purchase decisions

The circumstances and situations of society influence consumer purchasing decisions. This means that consumers coming from different layers of society or environment will have different opinions, judgments, attitudes, needs and tastes (Kotler, 2008). According to Simamora (2004), consumer behavior is strongly influenced by factors that exist outside of humans (external) and factors that exist within humans (internal). The main external factors are cultural and social factors, while the main internal factors are personal and psychological factors.

The factors that influence consumer behavior are:

1. Cultural factors

   Cultural factors have the widest and deepest influence on consumer behavior. Marketers must know the role played by culture, subculture and social class of buyers.

2. Social factors

   Social factors are a group of people who both closely consider equality in the status or respect of the community who continuously socialize among themselves both formally and informally. Including social factors: Group, Family, Role and status

3. Personal factors

   Another definition of personal factors is the pattern of individual traits that can determine responses to behavior. Purchasing decisions are also influenced by personal characteristics including:: Age and life cycle stage, Profession, Economic Situation, Lifestyle, Personality and self-concept

4. Psychological factors

   Psychological needs are needs that arise from certain physiological conditions such as the need to be recognized, self-respect, or the need to be accepted by the environment. Selection, someone's purchase is further influenced by four psychological factors including: Motivation, Perception of knowledge, Trust and attitude.

E-commerce

E-commers are trading activities or online business transactions using the internet media and other online tools. The purpose of companies using e-commerce systems is that companies can increase profits in a more effective and efficient way. Marketing via the internet is able to cut operational costs, because distribution channels are shortened, all order information is stored on a server, consumers can interact directly without being hindered by distance and time, orders can be fulfilled by suppliers, even for local services can be sent directly by customer service or door to door use service team

E-commerce makes buying and selling enter a new dimension in marketing its products to consumers, the company creates a new concept based on Consumer to Business (C2B) e-commerce, which means a place where sellers and buyers meet through online buying and selling sites or social media. The use of C2C E-commerce is very beneficial for companies, including:

1. Media marketing and marketing networks are becoming more and more extensive.
2. Increase company profits.
3. Minimizing the cost of renting or advertising.
4. Make it easier for companies to introduce their products to consumers.

Methods

Data collection was collected through surveys, observations and literature studies. Data collection techniques with survey techniques through distributing questionnaires to respondents. Research objects or research respondents are consumers who buy spinach vegetables online through the Tukangsayur.co site and consumers who buy spinach non-online. The sampling technique used Quota Sampling, a total of 35 samples of online consumers and 35 samples of non-online. Respondents filled out questionnaires distributed through Google Forms themselves, considering that the Covid-19 pandemic conditions required limiting meetings with many people.

The analytical method used is a quantitative descriptive method. Descriptive analysis is used to analyze data by describing or describing the collected data as is. The quantitative analysis used is binary logistic regression using SPSS. Binary logistic regression analysis was used to determine the significance between the variables that affect the decision making of spinach vegetable purchases.

$$Yi = In\left(\frac{Pi}{1-Pi}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \epsilon$$

Information :
$Y = 1 =$ If consumers buy spinach vegetables online
$Y = 0 =$ If the consumer makes a non-online purchase of spinach vegetables
$X1 =$ Age (years)
$X2 =$ income (rupiah / month)
$X3 =$ Perception of price
$X4 =$ Trust in the sales system
$X5 =$ Perception of product quality
$\beta0 =$ Intercept
$\beta1-5 =$ Regression coefficient from X1 to X5
$\epsilon =$ Confounding Variable
Testing Logistic Regression Model Parameters
1. Identification of Data Outliers
   Data outliers are data that deviate too far from other data in a group. This data causes the model to be less good so that it must be removed from the research model.
2. Feasibility Test for Logistic Regression Model (Goodnes of Fit)
   The regression model feasibility test was assessed using the Hosmer and Lemeshow's Goodnes of Fit Test as measured by Chi-Square on that the Hosmer and Lemeshow test

and the Nagelkerke R Square test were used to determine how much the independent variables influence the dependent variable. Hosmer and Lemeshow's Goodnes of Fit Test is used to test the null hypothesis that the empirical data fits or fits the model (there is no difference between the model and the data so that the model can be said to be fit). The hypothesis to assess the feasibility of the regression model is:

H0: There is no significant difference between the predicted classification and the observed classification.

H1: There is a marked difference between the predicted classification and the observed classification.

3. Wald test

According to Widiarjono (2010), in logistic regression the Wald test is used to test whether or not the influence of the independent variables on the dependent variable is partially by comparing the Wald statistical value with the Chi Square comparison value at degrees of freedom (db) = 1 at alpha0.05.

The statistical hypothesis is:

H0: It means that there is no partial influence between the independent variable on the dependent variable.

H1: It means that there is a partial influence between the independent variable on the dependent variable.

The decision making criterion is to compare the significance value (p-value) with an alpha of 0.05, where the p-value which is smaller than alpha indicates that the hypothesis is accepted or that there is a significant effect of the independent variables on the dependent variable partially.

4. Overall Model Test (Overall Model Fit)

According to Widarjono (2010), the overall test of this model aims to determine the effect of independent variables on the dependent variable simultaneously or collectively or commonly called the F test in multiple linear regression tests. In the overall test of this model, it is said that the value is significant if the significance value is <0.05, then the independent variables simultaneously have a significant effect on the dependent variable. The hypothesis is:

H0: It means that there is no joint effect on the independent variable on the dependent variable.

H1: It means that there is a joint influence on the independent variable on the dependent variable.

Criteria for decision making is done by comparing the difference in the value of -2 log likelihood (called the calculated chi square) where if the calculated chi square value is greater it is said that there is a simultaneous influence on the independent variable on the dependent variable.

Findings

Overview of Respondents
Research data obtained from 70 respondents who purchased spinach vegetables online through the Tukangsayur.co website and non-online. Respondent profiles based on gender, age, occupation and monthly income are presented in table 1.

Table 1. Characteristics of Gender, Age, Occupation and Income of Consumers who purchase Spinach Vegetables Online and Non-online

Karakteristik	Pembeli *Online*		Pembeli *Non-Online*	
	Frekuensi	**%**	**Frekuensi**	**%**
Jenis kelamin				
Perempuan	29	82,86	35	100
Laki-Laki	6	17,14	0	0
Total	35	100	35	100
Umur (Tahun)				
18-20	2	5,72	0	0
21-29	18	51,43	4	11,43
30-39	10	28,57	14	40
40-49	4	11,43	15	42,85
50-70	1	2,85	2	5,72
Total	35	100	35	100
Pekerjaan				
Ibu Rumah tangga	4	11,43	9	25,72
Swasta	10	28,57	16	45,71
Wiraswasta	5	14,29	0	0
PNS, Perawat	6	17,14	9	25,72
Lain (Mahasiswa, Akuntan, *Freelancer,* Ojek)	10	28,57	1	2,85
Total	35	100	35	100
Pendapatan (Rp/Bulan)				
500.000-1.000.000	6	17,14	0	0
1.000.0001-2.000.000	10	28,57	18	51,43
2.000.001-3.000.000	5	14,29	15	42,87
3.000.0001-4.000.000	10	28,57	1	2,85
>4.000.001	4	11,43	1	2,85
Total	35	100	35	100

Table 1 shows that of the 70 consumer respondents who purchase spinach between the use of the Tukangsayur.co site (online) and directly (non-online), that the respondents who buy the most spinach vegetables are the majority of respondents who are female, this shows

that the habits of shopping for vegetables and cooking are generally female consumers who have the knowledge and have the time provided, especially for family needs (Dasipah et al, 2010). In table 4.1, it can be seen that the respondents who made the most purchases on the Tukangsayur.co website themselves were at the age of 21-29 years, in contrast to those who made non-online purchases were at the age of 40-49 years. This shows that consumers aged 21-50 years are more concerned with the needs of the vegetables they need, these ages are included in the category of adult age or productive age. In addition, the table above shows that the jobs that mostly use the Tukangsayur.co site themselves are private, and several other jobs such as accountants, motorcycle taxis, freelancers and also students. Consumers who make a living take more advantage of technological sophistication without spending a lot of energy to buy necessities outside the home. The last table 4.1 presents the income of consumers each month, based on the table it is known that respondents who make purchases through the Tukangsayur.co website have an income of Rp. 1,000,000 - Rp. 2,000,000 and Rp. 3,000,000 - Rp. 4,000,000, according to Sulistyawati (2004), the level of income has an influence on consumer purchasing decisions, the higher one's income, the higher the expenditure made.

Hypothesis test

Table 2. Analysis of variables of age, income, perception of price, perception of trust and perception of product quality.

Variabel	B	S.E	Wald	Sig.	Exp (B)
Umur	-2,314*	0,832	7,272	0,005	0,099
Pendapatan konsumen	1,462*	0,732	3,968	0,046	4,316
Persepsi Harga	-1,557*	0,500	9,704	0,002	0,211
Persepsi Kepercayaan	21,120[ns]	5601,725	0,000	0,997	1,486E9
Persepsi Kualitas Produk	0,890*	0,443	4,036	0,045	2,435
Konstanta	-300,503[ns]	84025,875	0,000	0,997	0,000

Logistic regression equations can be arranged based on Table 2.

$$Yi= \ln \left(\frac{Pi}{1-Pi} \right) \text{-300,503 + (-2,314) umur + 1,462 pendapatan + (-1,557) harga +}$$

21,120 kepercayaan + 0,890 kualitas produk

Based on the partial test (Wald Test) in the table above, there are several independent variables that influence the dependent variable, namely the decision to buy spinach on the Tukangsayur.co site. It can be seen that the value of the Wald Test variable age, income, perceived price and perceived product quality with the dependent variable spinach vegetable purchase decision <0.05 so it can be concluded that partially age, income, perceived price and perceived product quality have a significant effect on purchasing decisions of spinach in Tukangsayur.co.

1. The effect of age on purchasing decisions on spinach vegetables on the Tukangsayu.co website

The results of the analysis and testing show that the significance value is 0.005. Thus, age has a significant effect on the decision opportunity to buy spinach vegetables online, where the younger age will tend to have the opportunity to decide to buy vegetables online. There is a significant effect of age on the decision to buy spinach vegetables, because the age of consumers who are still productive, namely 21-29 years old who are more likely to take advantage of technological advances and maintain health by consuming spinach vegetables, considering that vegetables are one of the foodstuffs that must be consumed by every age level to maintain healthy body functions. This is supported by a statement by Hamzan and Bayu (2012) which concluded that age is one of the demographic factors that has a significant positive relationship with consumer responses to product purchasing decisions. The odds ratio value is 0.099 which indicates that there is a strong tendency, the younger the consumer, the higher the chance for the consumer to decide to make a purchase through the Tukangsayur.co website.

2. The effect of income on purchasing decisions on spinach vegetables on the Tukangsayur.co site
The analysis results from the test show that the significant value is 0.046, which means that the value is less than 0.05, thus the amount of consumer income per month has a significant effect on consumer decisions in buying spinach vegetables, where the higher the income will tend to have the opportunity to decide to buy vegetables online . The odds ratio is 4,316, this shows that there is a strong tendency, even if the amount of consumer income is higher, the higher the chance for consumers to decide to make a purchase on the Tukangsayur.co site. The consumer's decision to buy spinach through Tukangsayur.co is more common in high-income consumers, with an odds ratio of 4,315, which means that consumers' chances of buying spinach on the site are 4.216 percent higher than consumers who decide to buy spinach. non-online if total revenue increases by 1 percent. According to Fazrina et al. (2013), which suggests that high income allows consumers to carry out activities or other needs better because of the sufficient funds they have, thus income is the main determinant related to food quality.

3. The effect of price perceptions on spinach vegetable purchasing decisions on the Tukangsayur.co website
Based on the results of the variable logistic regression analysis test (X_3), it has a significance value of 0.005 or an error value of 0.5%. This value indicates that the confidence level is 95%. Partially significant from α (0.05), then Ha is accepted, meaning that the price variable has a significant effect on purchasing decisions on spinach vegetables on the Tukangsayur.co site at a 95 percent confidence level. This study is in line with research conducted by Yazia (2014) which states that price variables have a positive and significant effect on purchasing decisions. The value of the Odds Ratio itself is 0.211, this means that the chance of buying spinach vegetables through the Tukangsayur.co site is higher than buying vegetables non-online. The significance value of the variable price value is 0.002 <0.05. So it can be concluded that the price has an effect on purchasing decisions.

Based on the results of the research, the consumers will decide to buy the product if the price and quality are as expected by the consumer. The opportunity for consumers to decide to buy spinach through the Tukangsayur.co site is higher than consumers who decide to buy spinach vegetables non-online, this is because the price is in accordance with the quality provided, the price from the Tukangsayur.co website is quite affordable, and the price according to the benefits of the product.

4. The effect of perceived trust on purchasing decisions on spinach vegetables on the Tukangsayur.co site

Based on the results of the analysis, it shows a significance value on the trust variable of 0.997, so that it shows a significance value> 0.05, then Ha is rejected, meaning that the perception of trust has no effect on purchasing decisions on spinach vegetables on the Tukangsayur.co website. This is not in line with Sunarto's research (2006) which states that trust has a significant effect on purchasing decisions, trust is a high value which means that it is the most attention in running a site. In addition, the value of the Odds Ratio value is 1.486E9. This means that the trust variable shows insignificant value, so there is no significant effect on trust in purchasing decisions.

5. Effect of product quality on purchasing decisions on spinach vegetables on the Tukangsayur.co site

Based on the results of the analysis test, the significance value of the product quality variable is 0.045, which means that the value is less than 0.05. Thus the quality of the spinach vegetable product on the Tukangsayur.co site has a significant effect on purchasing decisions. If the quality of the product offered is good, then some consumers do not hesitate to make a purchase decision to get the product even though they have to pay a little more than non-online prices. This is in line with research by Anwar (2015), which states that product quality has a significant and positive effect on purchasing decisions. The statement from Monalisa (2015) states that product quality that is considered good by consumers will create purchasing decisions to meet their needs. The value of the Odds Ratio itself is 2.435, this means that the chance of buying spinach vegetables through the Tukangsayur.co site is higher than buying vegetables non-online. Based on the results of research opportunities, consumers will decide to buy the product if the product quality is as expected by the consumer. The chances of consumers in deciding to buy spinach through the Tukangsayur.co site are higher than consumers who decide to buy spinach vegetables online.

Conclusion

Research results it can be concluded that:

1. Characteristics of consumers of online vegetable buyers through an online site in Purwokerto City are female, aged 21-29 years, work as private companies, freelancers, students, accountants, motorcycle taxis. Income between Rp. 1,000,0001-2,000,000 per month and Rp. 3,000,0001 - 4,000,000 per month.
2. The logistic regression results show that the variables age (X1), income (X2), price (X3), and product quality (X5) have a significant effect on the opportunity for purchasing decisions on spinach vegetables on the Tukangsayur.co site, while the trust variable (X4) does not has a significant effect on purchasing decisions on spinach vegetables on the Tukangsayur.co website.

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