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Analysis of Consumer Preference Towards Organic Products at Istana Sayur Grocery Shop Malang City Indonesia

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Abstract: The growth of organic products market in Indonesia is seen by the increasing number of organic farmers, retailers and restaurants selling organic products. The main requirement that must be fulfilled by ventures to be successful in the competition is trying to achieve the goal to attract and maintain customers. To find out factors that affect purchasing decisions, investigation was done to determine the factors that construct customer preferences of organic product. The purpose of this study is to determine the effect of product attributes variable on consumer purchase decisions by using consumer preference as mediation variable. The research is conducted at UD Istana Sayur in Malang City Indonesia which sells organic rice and vegetables. Data collection was done by distributing questionnaires to 120 respondents using Likert scale 1-5. The obtained data were then processed using Partial Least Square (PLS). The results of the study indicated that good product attributes and consumer preference variables had certain influence in the increase of consumer purchasing decisions. In addition, consumer preference variable is able to mediate the relationship between product attributes and consumer purchase decisions variables.

Keywords: organic products; Partial Least Square (PLS); purchasing decision

1. Introduction

The government of Indonesia has proclaimed the 2010 Go Organic program to accelerate the realization of environmentally sound agribusiness development. One of its activities is promoting organic farming to consumers, farmers, market players and the community [1]. The growth of organic food market in Indonesia is reflected by the increasing numbers of organic farmers, supermarkets, and restaurants that sell organic products [2]. UD Istana Sayur a store in Malang that sells organic products, such as organic rice and organic vegetables since 2015. To stay competitive and to be able to achieve certain corporate goal, a company should attract and maintain its customers. To enhance customer satisfaction, a company needs to identify factors influencing purchasing decision by analyzing consumer product preferences [3]. Consumer preference refers to a prioritized characteristic of certain product [4]. The attributes of customer preference include quality, price, popularity, and lifestyle. One of factors that determines consumer preferences is product attributes. Product attributes are characteristics that differentiate a product from the others [5]. In this research, product attributes included chemical free status, packaging size, product color, packaging label, and packaging design. Customers' considerations upon product attributes can affect their purchase decision upon certain product. For consumers, purchase decision is an important process since there are sequential steps that take place before customers make decision. Purchase decision is a process of selecting one product among two or more alternative choices [6]. The purpose of this research is to determine the effect of product attributes on consumer purchase decision through consumer preference as the mediating variable.

2. Materials and Methods

This research took place in UD Istana Sayur Malang in Jalan Raya Tlogomas No 93 Lowokwaru District, Malang City, East Java Province, Indonesia. The focus of this study was limited to only analyzing vegetable commodities and organic rice sold at UD Istana Sayur Malang. This research started from a preliminary survey, literature study, identification of research problems and formulation and development of structural research models and hypotheses, determination of population and sample, questionnaire preparation, questionnaire distribution and interview, validity test, reliability test, linearity test, and data analysis using SmartPLS. Interviews were done with 120 vegetable and organic rice buyers at UD Istana Sayur Malang which data were then analyzed using PLS method. There were primary and secondary data in this research. Primary data were obtained from questionnaires and interviews. Respondents' responses toward the questionnaires were measured using a Likert scale. Descriptive analysis and inferential analysis were employed to analyze the obtained data. Descriptive analysis was administered to determine respondents' characteristics and the average score of respondents' answers for each item, question, indicator, and variable. This analysis was administered using SPSS 17.0 software. Meanwhile, inferential analysis was conducted to answer the hypothesis in this study using Partial Least Square (PLS) of SmartPLS. Latent variables and observed variables in the study are presented in Table 1. The hypotheses of this research were formulated as follows:

H1: Product attributes influence consumer preference
H2: Product attributes influence purchase decision
H3: Consumer preference influences purchase decision
H4: Consumer preference mediates the relationship between product attributes and purchase decision

3. Results

3.1. Descriptive statistics

There were a total of 120 respondents interviewed consisting of 77 (64.17%) women and 43 (35.83%) men. The majority of respondents were 32-38 years old, working as employees (58.33%), earning an average income of around USD 123.44 up to USD 246.88 per month and had consumed organic products more than 3 times (82.5%).

3.2. Validation of Research Instrument

3.2.1. Validity Test

Validity test was done to ensure that the instrument precisely measured the intended item. The results of the data analysis showed R value for each indicator. Based on the value, the research indicators were considered valid since R value was found greater than R table [4].

3.2.2. Reliability Test

Reliability test was conducted to guarantee the level of consistency of the instrument when it is used in different time. The results of the test showed that all variables used in this research were entirely reliable as the Cronbach's alpha value was found greater than 0.6 [7].

3.2.3. Linearity Test

Linearity test was conducted to determine whether the relationship between independent variables and dependent variables was linear [8]. Reliability test was done using SPSS Statistics 17.0 software. The results of the test showed a value of > 0.05. indicating that the independent variable and the dependent variables shared a linear relationship.

Table 1. The Latent and Observed Variable in the Research

Latent Variable	Observed Variable (Indicator)	Code	Operational Definition
Product Attributes (X_1)	Chemical-free Status	X_{11}	Organic products are free from any chemical substances
	Packaging Size	X_{12}	Variants of packaging size match the needs
	Product Color	X_{13}	Product color is more interesting than non-organic products
	Packaging Label	X_{14}	Packaging label contains complete information
	Packaging Design	X_{15}	Packaging design in interesting
Consumer Preference (Y_1)	Quality	Y_{11}	Nutritional value of organic product is higher than the non-organic ones
	Price	Y_{12}	Affordable price
	Popularity	Y_{13}	Consumption based on trend
	Life Style	Y_{14}	Consumption for healthier life
Purchase Decision(Y_2)	Wants	Y_{21}	Consumers want to try something different
	Needs	Y_{22}	Products meet consumers' necessities

3.3. Path Diagram

The result of PLS model can be seen in Figure 1 which shows that the loading factor values of all research indicators are greater than 0.5. Loading factor is the strength of correlation between research indicator and its latent construct. Indicators with high loading factors have stronger contribution to reflect the latent construct. Conversely, indicators with low loading factors have weak contribution to reflect the latent construct [9].

3.4. Goodness of Fit Evaluation

3.4.1. Convergent Validity

Convergent validity was measured to determine the correlation across subscales. If theoretically, subscales share close relationship, correlational value will be high and the vice versa [9]. The indicator is said to adequately meet convergent validity if it loading factor ranges from 0.5 to 0.6. As seen in Table 2, all indicators and variables in this research have loading factor values greater than 0.5 that they have met the convergent validity requirements.

3.4.2. Average Variance Extracted (AVE)

AVE value obtained in this research can be seen in Table 3. All research variables have been considered valid because the AVE values are greater than 0.5. The Average Variance Extracted (AVE) is valid if its value is greater than 0.5. AVE value describes the strength of the variant or the diversity of manifest variables that can be possessed by the latent construct. Valid AVE shows that the instrument used in a research has successfully measured the intended items [9].

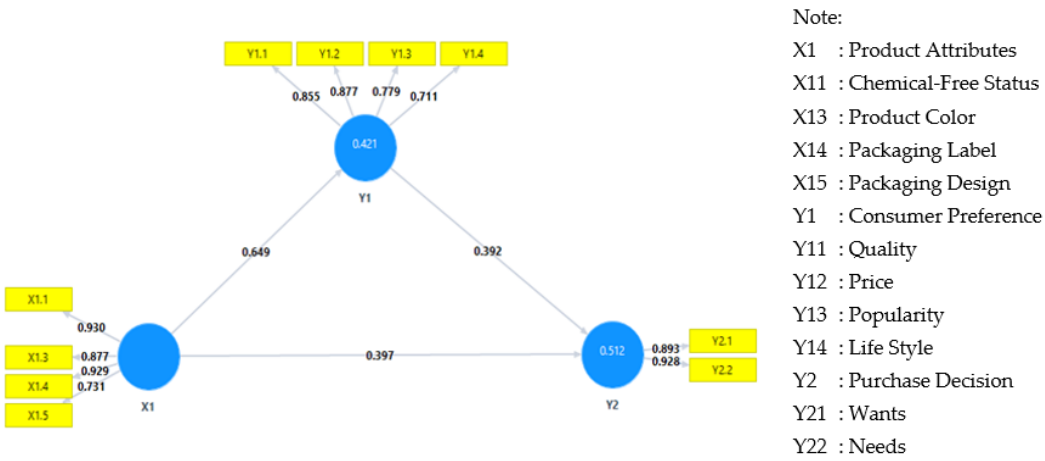

Figure 1. Path Diagram from PLS

3.4.3. Cronbach's Alpha and Composite Reliability

Based on the Cronbach's Alpha value obtained in the reliability test, all variables of this research have been considered reliable. The value of Cronbach's alpha can be seen in Table 3. Reliability test was intended to guarantee the level of consistency of research instrument when it is used at different times. The instrument is stated reliable if the value of Cronbach's alpha > 0.6. All variables of this research have been considered reliable based on the values of composite reliability. The composite reliability values obtained in this research are shown in Table 3. Research variables are considered reliable if composite reliability value is greater than 0.7. If all of the assumptions are fulfilled, the indicator blocks in each construct have high consistency.

Table 2. Convergent Validity Results

Variable	Indicator	*Loading Factor*	Note
Product Attributes (X_1)	Chemical-Free Status (X_{11})	0.930	Valid
	Product Color (X_{13})	0.877	Valid
	Packaging Label (X_{14})	0.929	Valid
	Packaging Design (X_{15})	0.731	Valid
Consumer Preference (Y_1)	Quality (Y_{11})	0.855	Valid
	Price (Y_{12})	0.877	Valid
	Popularity (Y_{13})	0.779	Valid
	Life Style (Y_{14})	0.711	Valid
Purchase Decision (Y_2)	Wants (Y_{21})	0.893	Valid
	Needs (Y_{22})	0.928	Valid

Table 3. The Average Values of Average Variance Extracted (AVE), Cronbach's Alpha and Composite Reliability

Variable	AVE	Cronbach's Alpha	Composite Reliability
Product Attributes (X_1)	0.758	0.890	0.925
Consumer Preference (X_2)	0.653	0.821	0.882
Purchase Decision (Y_1)	0.830	0.797	0.907

3.5. Evaluation of Structural Model (Inner Model)

The structural model of this research was evaluated from the R-square value (R2). R-square value measures how far the model is able to explain the variation of the dependent variable. The R-square for

the innovation variable is 0.23 and the business performance is 0.32. Based on those R-square values, Q2 predictive relevance value can be determined as follows:

$Q^2 = 1 – (1-R^2)(1-R^2)$

$=1 – (1 – 0.421)(1 – 0.512)$

$= 0.717$ (71.7%)

Q2 predictive relevance value of 0.717 indicates that the observed value of the structural model has good predictive relevance and is appropriate to be used in a research.

4. Discussions

4.1. The Results of Direct and Indirect Hypotheses Testing

Path coefficient score for testing hypotheses was done using alpha (α) 5% (0.05). The results of direct hypothesis testing can be seen in Table 4. Whilst, the results of the indirect hypothesis testing is shown in Table 5.

4.1.1. The Influence of Product Attributes on Consumer Preference

Hypothesis testing resulted in Product Attribute path coefficient of 0.649 and *p* value of 0.000 accepting H1. This results confirm the existence of a significant influence of Product Attribute variable on Consumer Preference variable. This shows that Product Attributes variable affect Consumer Preference. In addition to its significance, the path coefficient value is positive, which indicates that Product Attributes (X_1) positively affect Consumer Preference (Y_1).

This study shows that the attributes of organic products are able to increase consumer preferences. Currently, UD Istana Sayur Malang has sold organic products which have several advantages such as chemical-free status, attractive product colors, informative packaging labels, and attractive packaging designs. By selling products that have these advantages, consumers will grow their preference to purchase organic products from UD Istana Sayur Malang. This finding supports the results of research conducted by [10] which state that product attributes determine to what extent a product is accepted by consumers. Marketing actors need to understand customers' product attributes expectations. Therefore, consumer preferences can be measured by the level of usefulness and relative importance of each product attribute.

Table 4. The Result of Direct Hypothesis Testing

Hypothesis	Statistical Hyoithesis	Path Coefficients	T value	T table	P values	Note
H_1	$(X_1) \rightarrow (Y_1)$	0.649	9.2648	1.96	0.000	Significant
H_2	$(X_1) \rightarrow (Y_2)$	0.397	2.4997	1.96	0.015	Significant
H_3	$(Y_1) \rightarrow (Y_2)$	0.392	2.7871	1.96	0.005	Significant

Table 5. The Result of Indirect Hypothesis Testing

Variable	Direct Coefficient	Standard of Error	Indirect Coefficient	SE Sobel	T value	P Value
X1 - Y1 - Y2	0.649 0.392	0.074 0.138	0.254	0.094	2.702	0.007

4.1.2. The Influence of Product Attributes on Purchase Decision

The results of the hypothesis testing showed path coefficient value of Product Attribute variable (X1) at 0.397 and *p* value of 0.014 to accept H_2. It can be concluded from those values that a significant influence between Product Attribute variable on Purchase Decision variable exists. In addition to its significance, the positive mark in the path coefficient value also shows that the relationship between Product Attribute variable and Purchase Decision variable (Y_2) is within an unidirectional pathway.

The results of this research show that the attributes of organic products are able to increase purchase decisions. It is important to focus on the attributes of organic products that are sold in order to increase consumer purchase decisions. It can be understood that the better the attributes of the products sold, the more interested consumers will be to buy those products. The results of this research reinforce the findings of previous research conducted by [11] which state that product attributes are one of consumers' consideration within purchase decision process. Producers should highlight certain attributes of a their products that strongly drive their consumers to purchase the products.

4.1.3. The Influence of Consumer Preference on Purchase Decision

The path coefficient of Consumer Preferences (Y_1) was obtained in the hypothesis testing at 0.392 and *p* value of 0.006. Therefore, H_3 is accepted, implying the existence of a significant influence of Consumer Preference variable on Purchase Decision variable. In addition to its significance, a positive path coefficient mark indicates that the relationship between Consumer Preference (Y_1) and Purchase Decision (Y_2) is within an unidirectional pathway.

This research confirms that consumer preference has certain effect on the increase in purchase decision. Consumers prefer to buy products they like rather than products they dislike. If consumers like a product, the probability of the consumers to buy the product is higher. Consumer preferences can be influenced by several aspects including the nutritional value of organic products, the price of organic products, consumers' lifestyle and the popularity of organic products. The results of this research reinforces the finding of a previous research done by[12] which states that consumer preference is an important aspect that determines the success of product marketing as it is closely related to the success of the company in achieveing itsc corporate goals which includes the purchase decisions based on customer preference.

4.1.4. The Influence of Consumer Preference in Mediating the Relationship between Product Attributes and Purchase Decision

The testing of the fourth hypothesis shows that the relationship between Product Attributes and Purchase Decisions (Y_2) through Consumer Preference resulted in indirect path coefficient of 0.254 with *p* value (0.007) <0.05 as presented in Table 3. These results imply that Consumer Preference has a significant influence in mediating the influence of Product Attributes on Purchase Decisions.

A set of tests done in this research has confirmed that product attribute have certain significant influence on purchase decisions mediated by consumer preference. Therefore, in this context, consumer preference acts as a mediating variable (intervening variable). In mediating the relationship, consumer preference partially intervenes the influence of product attributes toward purchase decisions. Product attributes are depicted with chemical-free organic products. Organic products are closely associated with chemical-free status among consumers who have strong awareness of health. Those customers prefer consuming products that are safe for consumption. Furthermore, consumers also prefer cheap products. Thus, the insight related to consumer preference about the preferred product price is expected to help producers improve the rate of consumer purchase decision. The results of this research show that consumers have stronger preference on chemical-free organic products with affordable price. It is expected that this data allows producers to improve their products to meet these preferences in order to increase the purchase decision.

5. Conclusions

Regarding to the results of this research done in UD Istana Sayur Malang, conclusions were drawn as follows.

- Product attributes have a positive and significant influence on consumer purchase decision. The attributes of products sold in UD Istana Sayur Malang affect the increase in customer purchase decision.

- Consumer preference is able to significantly and positively affect consumer decision. Thus, consumer preference is an aspect that counts in the improvement of purchase decision in UD Istana Sayur Malang.
- Product attributes share a significant and positive influence on consumer preference. Hence, product attributes are able to affect the improvement of consumer preference upon certain product.
- As a mediating variable, consumer preference shares a significant and positive partial influence in mediating the relationship between product attributes and purchase decision. Therefore, consumer preference should be taken into consideration for higher purchase decision.

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