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Factors that affect consumers' decision in purchasing coffee

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Abstract

Total Production of Indonesian coffee is 657,882 tons, 67% for export and the remaining 33 for domestic (AEKI, 2012). Robusta coffee dominate coffee production in Indonesia, from total production 75, 39% is robusta coffee and 24, 61% arabika. Coffee Cconsumption in Indonesia grow from year to year, because Indonesian's people changing lifestyle. Many people not only old people but also young people relax in coffee shop. Consumer decision in purchasing coffee very important, because the producers can find out what factors to be consideration to buy that product. Age, income, price, experience influence consumer in purchasing coffee. The purpose of this research to find out which dominant factors affect consumers decision. This research is survey, sample is taking 100 consumers by systematic random sampling. The data used are primary data and secondary data, and data is analyzed by path analysis.

Keywords: Consumers' decision, Life style, Coffee and path analysis.

Introduction

South America (46%), South East Asia (26%), Central America (16%) and Africa (12%) are the four biggest coffee producers in the world. The type of coffee cultivated is Arabic and Robusta[1]. Robusta coffee produces more coffee beans per hectare with a smaller production cost.

While Arabica coffee is grown on a plateau with an altitude of 600-2000 meters above sea level and requires more special attention and should be planted in cold areas with sub-tropical climates (150 – 240). Arabica coffee also requires fertile soil moisture and sufficient sunlight.

Therefore, Arabica coffee beans are very vulnerable to attack by pests and can be easily damaged if not handled properly. Robusta coffee caffeine content (2.2%) doubled from Arabica coffee (1.2%). Although Robusta coffee content of caffeine is higher and the price is cheaper than Arabica, but Robusta coffee is easy to be cultivated.

Total Production of Indonesian coffee is 657,882 tons, 67% for export and the remaining 33% for domestic (AEKI, 2012). Robusta coffee dominate coffee production in Indonesia, from total production 75,39% is robusta coffee and 24,61% arabika. Coffee Cconsumption in Indonesia grow from year to year, because Indonesian's people changing lifestyle. This is can be seen from the projected consumption of coffee in Indonesia in 2016-2020 which tend to be stable are as Table-1.

This phenomenon is interesting to examine what factors affect consumer decisions in coffee purchases. There is a tendency for the number of coffee purchases (Y) to be determined by age, income level, coffee price and long coffee consumption.

Table-1: Projection of coffee consumption in Indonesia 2016-2020 [2].

Year	National Consumption (Ton)	Growth (%)
2016	302.176	0.68
2017	304.231	0.64
2018	306.183	0.57
2019	307.915	0.60
2020	309.771	0.62

Methodology

The study was conducted in January-March 2017 at three biggest supermarkets in Bandung namely Yogya Riau Junction, Hypermarket and Carrefour, these three places were selected because Robusta and Arabica coffee are available in the form of seeds and sachets. The data in this research are primary and secondary data while sampling technique is systematic random sampling.

Systematic sampling is another useful alternative for sampling with a large sample population. Systematic sampling is a method where only the first element of the sample is randomly chosen while the subsequent elements are systematically selected according to a particular pattern.

Technique of collecting data is done by observation, interview, questioner and literature study. The objective of this research is to determine what factors determine consumer decisions in

coffee purchases. Data were analyzed by path analysis. Research frame as follows

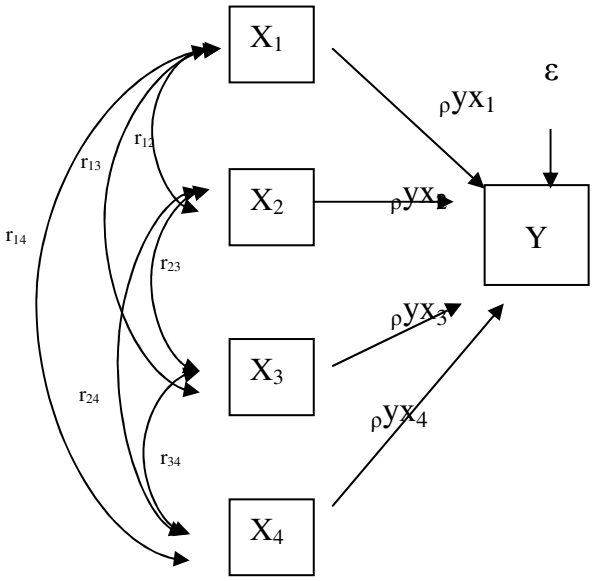

Figure-1: Relationship between.

Description Figure-1: X_1 = Age (year), X_2 = Income (Rp /month), X_3 = Price of coffee purchased (Rp /kg), X_4 = Length of coffee consumption (year), Y = Number of coffee purchases (ons /months), Pyx_1 = Structural parameters showing the effect of variable X_1 to variable Y. Pyx_2 = Structural parameters indicating the magnitude of the effect of variable X_2 to variable Y. Pyx3 = Structural parameters that show the magnitude of the effect of variable X_3 to variable Y. Pyx_4 = Structural parameters that indicate the magnitude of effect of variable X_4 to variable Y.

Then we can construct the following structural equations as follow:

$$Y = Pyx_1 + Pyx_2 + Pyx_3 + Pyx_4 + \varepsilon$$

On the structural equations above, there is a residual error, which is denoted with the symbol ε. Residual error (ε) is the exogenous variables not directly measured and describe the reasons that are determined from the results of variations or differences that are not described, plus an error on the measurement. Path analysis as follow: i. Formulate hypotheses and structural equations. Here is a flowchart model used, this model illustrates the path paradigm of three exogenous variables with one endogenous variable can be seen in the figure. ii. Calculating the path coefficients based on the regression coefficients, iii. Calculating the overall path coefficient (simultaneous) using the F test, iv. Calculating the individual path coefficients (partial) using the t test, v. Summarize and conclude.

To assist the calculation of path analysis, this research will use of Statistical Product and Service Solution (SPSS) software.

Results and discussion

Characteristics of Respondents: From Table-2 it is seen that generally respondents are between 30-39 years old, male. His job entrepreneur, high school education and income between 5-10 million Rupiahs. Although coffee is generally preferred by men but now with the proliferation of cafes and coffee shops such as Starbucks, Yellow trucks, Noah Bean, Maxx and others, then many women who become coffee lovers. This change in consumer behavior as part of lifestyle changes. Characteristics of respondents as follows.

Table-2: Characteristics of Respondents.

Variable	Description	%
Year	< 30	15
	30 – 39	37
	40 - 49	30
	> 49	18
Gender	Male	62
	Female	38
Occupation	Civil servant	23
	Entrepreneur	42
	Private	35
Education	High School	35
	Diploma	30
	Graduate	24
	Post Graduate	11
Income (IDR. month)	< 5 million	38
	5 -10 million	40
	> 15 million	22

The Relationship of variables: The variable of age, income, price, experience influenced consumer in purchasing coffee directly. Even though there are also X_1 influence to Y through X_2, X_3, and X_4. This statement also for X_2 influence Y through X_3, and X_4. On the other hand X_3 influence Y through X_4.

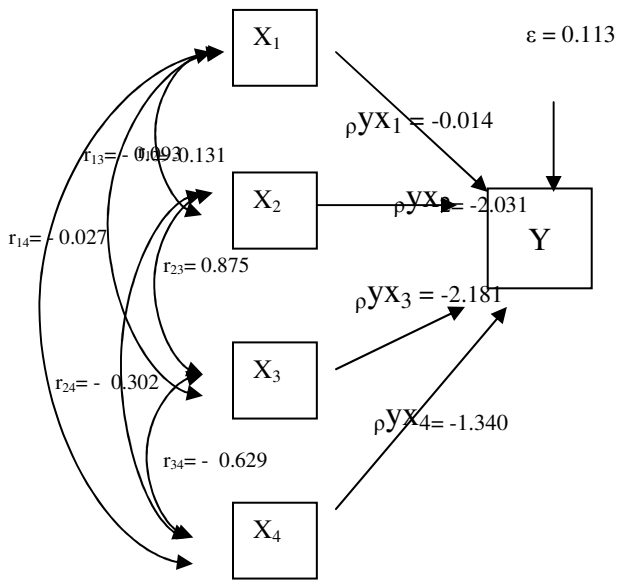

Figure-2: The Correlation between Variables.

Simultaneous: Structural equations
$Y = {}_{\rho}yx_1 + {}_{\rho}yx_2 + {}_{\rho}yx_3 + {}_{\rho}yx_4 + \varepsilon$
Testing by using F test: If F test > F table, then Ho is rejected and H_1 accepted. If F test < F table, then Ho accepted and H_1 rejected. Tests of influence analysis simultaneously using SPSS 23.

From ANOVA test results in the table above shows that the value of F test of 186,641 and F table 2.47 Ho is rejected and H_1 accepted in terms of significance level of 0.05

Partially: Based on partial test results between exogenous variables on endogenous variables, the causal relationship framework between X_1, X_2, X_3 and X_4 to Y can be determined by the following structural equations (Figure-2) and the correlation between variable in Table-4.

Y = ρyx1 + ρyx2 + ρyx3 + ρyx4 + ε
= -0.014 X1 + 2.031 X2 + (-2.181 X3) + (-1.340) + ε

Relationship variable X_1 against Y: Here is a hypothesis to see whether there is influence X_1 to Y. Ho = ρyxi = 0 There is no significant relationship between variables X_1 to Y. Ha = ρyxi ≠ 0 There is a significant relationship between variables X_1 to Y.

From the Table of the previous path coefficient obtained t test on variable X_1 of -0.411 and t table 1.985. It can be concluded that Ho accepted and Ha rejected which variable X_1 does not significantly influence to variable Y.

Direct Variable Relations X_1 against Y: Based on Figure X_1, X_2, X_3 and X_4 to Y diagram, it is found that the contribution value of X_1 variable directly affects Y for (${}_{\rho}yx_1$) 2 = (-0.014) 2 = 0.000196 = 0.02%.

Indirect Variable X_1 connection against Y through X_2: Based on the Figure-2. X_1, X_2, X_3 and X_4 flow diagram of Y it can be seen that the effect of X_1 on Y through X_2 is the amount (${}_{\rho}yx_1$) x (r_{12}) x (${}_{\rho}yx_2$) = (-0.014) x (-0.131) x (2.031) = 0.0037 = 0.37%.

Indirect Variable X_1 connection against Y through X_3: Based on the Figure-2. X_1, X_2, X_3 and X_4 flow diagram of Y it can be seen that the effect of X_1 on Y through X_3 is the amount (ρyx1)x (r13) x (ρyx3) =(-0.014) x (-0.093) x (-2.181)=-0,0028=-0,28 %.

Indirect Variable X_1 connection against Y through X_4: Based on the Figure-2. X_1, X_2, X_3 and X_4 flow diagram of Y it can be seen that the effect of X_1 on Y through X_4 is the amount (ρyx1)x (r14) x (ρyx4) = (-0.014) x (-0.027) x (-1.340) = -0.0005 = 0,05%.

Table-3: Interrelated Correlation Testing.

		X_1	X_2	X_3	X_4	Y
X_1	Pearson Correlation	1	-.131	-.093	.027	-.114
	Sig. (2-tailed)		.194	.358	.788	.258
	N	100	100	100	100	100
X_2	Pearson Correlation	-.131	1	.875**	-.302**	.527**
	Sig. (2-tailed)	.194		.000	.002	.000
	N	100	100	100	100	100
X_3	Pearson Correlation	-.093	.875**	1	-.629**	.441**
	Sig. (2-tailed)	.358	.000		.000	.000
	N	100	100	100	100	100
X_4	Pearson Correlation	.027	-.302**	-.629**	1	-.580**
	Sig. (2-tailed)	.788	.002	.000		.000
	N	100	100	100	100	100
Y	Pearson Correlation	-.114	.527**	.441**	-.580**	1
	Sig. (2-tailed)	.258	.000	.000	.000	
	N	100	100	100	100	100

**. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).

Table-4: The Correlation between Variables.

Variable	Koef	Correlation	Prob (Sig.)	Conclusion
X_1 -X_2	-0.131	very weak	0.194	no influence
X_1- X_3	-0.093	very weak	0.358	no influence
X_1- X_4	-0.027	very weak	0.788	no influence
X_1 - Y	-0.114	very weak	0.258	no influence
X_2– X_3	0.875	very strong	0.000	influence
X_2 - X_4	-0.302	enough	0.002	influence
X_2 - Y	0.527	strong	0.000	influence
X_3– X_4	-0.629	strong	0.000	influence
X_3 -Y	0.441	enough	0.000	influence
X_4 - Y	-0.580	strong	0.000	influence

Relationship variable X_2 against Y: Here is a hypothesis to see whether there is influence X_2 to Y. Ho = ρyxi = 0 There is no significant relationship between variables X_2 to Y. Ha = ρyxi ≠ 0 There is a significant relationship between variables X_2 to Y.

From the Table of the previous path coefficient obtained t test on variable X_2 of 21.193 .and t table 1.985. It can be concluded that Ho rejected and Ha accepted which variable X_2 significantly influence to variable Y.

Direct variable relations X_2 against Y: Based on Figure X_1, X_2, X_3 and X_4 to Y diagram, it is found that the contribution value of X_2 variable directly affects Y for ($_\rho yx_2$) 2 = (2,031)2 = 4,12 = 41, 2%.

Indirect variable X_1 connection against Y through X_2: Based on the Figure-2. X_1, X_2, X_3 and X_4 flow diagram of Y it can be seen that the effect of X_1 on Y through X_2 is the amount (ρyx2) x (r12) x (ρyx1)=(2.031)x (-0.131) x (-0.014) = -0,0037 = 0,37%.

Indirect variable X_2 connection against Y through X_3: Based on the Figure-2. X_1, X_2, X_3 and X_4 flow diagram of Y it can be seen that the effect of X_1 on Y through X_3 is the amount (ρyx2)x (r23) x (ρyx3) = (2.031) x (0.875) x (-2.181) = -3,87 = 3, 87%.

Indirect variable X_2 connection against Y through X_4: Based on the Figure-2. X_1, X_2, X_3 and X_4 flow diagram of Y it can be seen that the effect of X_2 on Y through X_4 is the amount (ρyx2)x (r24) x (ρyx4) = (-2.031) x (-0.302) x (-1.340) = -0,82 = 82%.

Relationship variable X_3 against Y: Here is a hypothesis to see whether there is influence X_3 to Y. Ho = ρyxi = 0 There is no significant relationship between variables X_3 to Y. H_1 = ρyxi ≠ 0 There is a significant relationship between variables X_3 to Y.

From the Table of the previous path coefficient obtained t test on variable X_3 of -18.620. and t table 1.985. It can be concluded that Ho rejected and H_1 accepted which variable X_3 significantly influence to variable Y.

Direct variable relations X_3 against Y: Based on Figure X_1, X_2, X_3 and X_4 to Y diagram, it is found that the contribution value of X_2 variable directly affects Y for (ρyx_3)2 = (-2.181)2 = 4,75 = 47,5%.

Indirect variable X_3 connection against Y through X_1 ($_\rho yx_3$)x (r_{13}) x ($_\rho yx_1$) = (-2,181) x (-0,093) x (-0,014)=-0,0028= -0,28 %.

Indirect variable X_3 connection against Y through X_2: Based on the Figure-2. X_1, X_2, X_3 and X_4 flow diagram of Y it can be seen that the effect of X^3 on Y through X_2 is the amount (ρyx3)x (r23) x (ρyx2) = (-2,181) x (0,875) x (2,031) = 3,87 = 38,7 %.

Indirect variable X_3 connection against Y through X_4 Based on the Figure-2. X_1, X_2, X_3 and X_4 flow diagram of Y it can be seen that the effect of X_3 on Y through X_4 is the amount (ρyx3)x (r34) x (ρyx4) = (-2,181) x (-0,629) x (-1,340) = 1,83 = -18.3%

Relationship variable X_4 against Y: Here is a hypothesis to see whether there is influence X_2 to Y. Ho = ρyxi = 0 There is no significant relationship between variables X_4 to Y. H_1 = ρyxi ≠ 0 There is a significant relationship between variables X_4 to Y.

From the Table of the previous path coefficient obtained t test on variable X_4 o f-22.57 and t table 1.985. It can be concluded

that Ho rejected and Ha accepted which variable X_4 significantly influence to variable Y.

Direct variable relations X_4 against Y: Based on Figure X_1, X_2, X_3 and X_4 to Y diagram, it is found that the contribution value of X_4 variable directly affects Y for (ρyx4)2 = (-1,340)2 = 1,79 = 17,96%.

Indirect variable X_4 connection against Y through X_4 Based on the Figure-2. X_1, X_2, X_3 and X_4 flow diagram of Y it can be seen that the effect of X_4 on Y through X_2 is the amount (ρyx4)x (r14) x (ρyx1) = (-1,340) x (-0.027) x (-0.014) = -0.0005 = -0,05 %.

Indirect variable X_4 connection against Y through X_2:. Based on the Figure-2. X_1, X_2, X_3 and X_4 flow diagram of Y it can be seen that the effect of X_4 on Y through X_2 is the amount (ρyx4)x (r24) x (ρyx2) = (-1,340) x (-0.302) x (2.031) = 0,82 = 82%.

Indirect Variable X_4 connection against Y through X_3: Based on the Figure-2. X_1, X_2, X_3 and X_4 flow diagram of Y it can be seen that the effect of X_4 on Y through X_3 is the amount (ρyx4)x (r34) x (ρyx3) = (-1,340) x (-0,629) x (-2.181) = -1,83 = -18.3%

From the previous statement, it was revealed that the age variable had no effect on consumer decision in buying coffee, while other variables of income, coffee price and duration of coffee consumption had an effect on coffee purchase.

Age has no effect on purchasing coffee is reasonable, because coffee does not know the age. Selection of coffee based on taste, and no unpleasant coffee. All types of coffee have certain characteristics and also certain market segments. Thus it may be a low income group but love Arabica coffee that is expensive, or high income reverse but like Robusta coffee is cheap.

Marketers generally divide the market by revenue because they feel that income is a strong indicator of a person's ability (or inability) to pay for a particular product or specialproduct[3]. Consumers with different income levels tend to embrace different values, behaviors, and lifestyle[4]. While Lifestyle has a strong correlation with consumer purchasing decision of coffee. Consumers often compare one coffee with other coffee from services provided, price and product quality[5]. Previous researcher found that consumer preference 95% ground coffee and 89% instant coffee in their own homes. 57% ground coffee and 57% instant coffee when they at someone's home. 48 % ground coffee and 53% instant coffee when they at work[6].

Rate of income affecting the purchase decision of coffee. Revenue is related to the price of coffee. In general, with increasing income it will switch to the quality of coffee not on the amount. Brand become indicator for quality of coffee products. Brand loyalty, brand awareness, perceived quality, brand association, and proprietary brand assets are known as brand equity[7].

Consumer will pay more for good service, service provider for consumer not only for food and beverages but also have to understand their lifestyle and culture[8]. Consumer will pay more than the revenue of coffee shop will increase. This situation will further strengthen this study[5,10].

The price variable influences the purchase decision of coffee. The choice of coffee does not depend on price, but more on preference. The differences of culture and lifestyle for coffee, for example Turkish people prefer less spices coffee but India people prefer spicy coffee. International companies provide different product for their customers around the world with different culture and lifestyle. It can be seen that McDonal's offer "Curry Burger" for Indian people and "Meatball Burger" for Turkish people[10,11] and "Rendang Burger" for Indonesian people.

The number of cups or portions of coffee consumed by consumers is also discussed in this study. Within an average day consumer consume coffee as much as 2 cups[6]. The type of coffee consumed is a type of packaging or ground coffee (instant coffee) rather than a cappuccino or mixed coffee. This type of instant coffee is easier to make because consumers just put it in a cup and then brew it with hot water. In contrast to the type of cappuccino or coffee mix there is a mixture of ingredients that need to be added for more delicious such as milk, whipping cream, eggs, or gelatin. The intensity of coffee consumption is more on weekdays than weekend. This is because on the weekday most of the coffee consumers the facts in the respondents are the workers consume coffee also in the workplace. To predict and explain aspects of consumer behavior that need to know is the customer's suitability in terms of satisfaction. Consumer satisfaction of the products consumed to make their needs and expectations are met in addition to their self-image can also increase. Therefore, consumer satisfaction can be determined from the brand of the product chosen (brand self-congruity)[12,13]. Consumers will choose well-known products or bands that are made globally compared to local products that are not well-known even though their quality is better with branded products. Consumers want more acceptable or acknowledged self-image by the people when they use and consume the product or brand. It can be understood that consumer prefer global brand that local brand, because global brand more prestige and trusted in developing country[14]. If we compare to other research, it is relevant statement that every person has unique behavior[15].

Conclusion

Factors affecting consumer purchasing decisions will be the coffee level of income, coffee prices and duration of coffee consumption. Types of coffee purchased by taste, not by income level, with the increase in income then the purchase of coffee will be better quality not on the number of copies purchased and consumers prefer coffee with a famous brand because it looks prestige.

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