

The Impact of Consumer Behavior and Marketing Mix on the Decision to Buy Coffee at Coffee Shops in the Sleman Region During the Covid-19 Pandemic

Alif Madya Bagas Wicaksana¹, Suharno^{*1}, Wahyu Supartono¹

¹Department of Agroindustrial Technology, Faculty of Agricultural Technology
Universitas Gadjah Mada, Jl. Flora No.1 Bulaksumur 55281, Indonesia.

Email: suharno@ugm.ac.id*

Abstract

Coffee consumption in Indonesia has increased significantly with the increase in coffee shops. According to data obtained from the data books in 2020, coffee consumption has increased by nearly 400,000 tons. The increasing number of coffee shops in Indonesia, particularly the Sleman Regency is due to the pandemic and changes in consumer behavior. Therefore, the purpose of this research was to determine the impact of consumer behavior on the purchasing decisions at Coffee Shops based on the personal, social, psychological, and cultural factors as well as the marketing mix and its improvement during the pandemic. In this research, 10 local coffee shops in the Sleman regency were used and consumers between the ages of 17 and 27 years who had purchased coffee drink products and made transactions in the past six months were selected. The respondents comprised 157 people, and the analysis was carried out using two methods: Partial Least Square Structural Equation Modelling (PLS-SEM) and Importance Performance Analysis (IPA). PLS-SEM was used to analyze the relationship between consumer behavior factors and purchasing decisions while the IPA method was used to analyze the most effective marketing mix during the pandemic. According to the result, the factors that influence the decision to purchase coffee are the psychological factors and marketing mix while personal, cultural, and social factors had no significant effect on the coffee purchasing decisions during the pandemic. Consequently, the marketing mix that needs to be focused on is price adjustment on the drink purchased.

Keywords: Coffee Shop, Consumer Behavior, Importance Performance Analysis (IPA), Marketing Mix, Partial Least Square Structural Equation Modelling (PLS-SEM).

1. INTRODUCTION

Coffee is a popular beverage among many people; hence, coffee consumption in Indonesia continues to increase along with the tastes of young people who believe that drinking coffee is natural. The increasing demand for coffee has promoted business advocates to set up coffee shops in several cities/districts in Indonesia including the Sleman Regency of Yogyakarta. Sleman was selected for this research because it has 112 coffee shops where many coffee lovers regularly gather to enjoy coffee drinks. According to the World Coffee Portal (2020), in line with the increasing number of COVID-19 cases in various countries, world coffee sales have declined by 30%.

The problems regarding the decline in coffee shop visitors since the pandemic have

resulted in changes in consumer behavior. Therefore, this research is required to determine consumer behavior in purchasing coffee during the pandemic. Consumer behavior is the process by which individuals, groups, and organizations select, purchase, and use goods or services to satisfy their desires (Kotler and Armstrong, 2018). Subsequently, consumer behavior can be classified into various factors: personal, cultural, social, and psychological factors.

Partial Least Square Structural Equation Modeling (PLS-SEM) and Importance Performance Analysis (IPA) were used to analyze consumer behavior. PLS-SEM is a multivariate analysis method used to describe the linear relationship between observational variables (indicators) and variables that cannot be measured directly otherwise called latent variables. There are two types of latent

variables in SEM, namely endogenous and exogenous (ξ) (Sholiha, 2015).

Meanwhile, Importance Performance Analysis (IPA) is a method used to analyze the existing marketing mix points. The Marketing Mix was developed by Zeithaml et al. (2013), which required some modification of the 4Ps when applied to services. The 7Ps of marketing are product, price, place, promotion, people, process, and physical evidence. In IPA, the 7P points are used to assess customer satisfaction with a product or service and develop strategies to maximize customer satisfaction (Hosseini and Bideh, 2014).

During this pandemic, consumer behavior and the marketing mix are factors that influence coffee purchasing decisions. The purchasing decision process is a natural process in which the buyer is involved while purchasing the product desired. Decision-making is the process by which an individual is directly involved in obtaining and using the goods provided (Kotler and Keller, 2012). Furthermore, purchasing decision is also the selection of two or more alternatives from a variety of choices so that an individual can decide (Schiffman and Kanuk, 2000).

The purpose of this research was further to determine the impact of consumer behavior on purchasing decisions at coffee shops in Sleman Regency based on personal factors, social factors, psychological factors, cultural factors, as well as the marketing mix, and develop the right strategy during the pandemic.

2. MATERIAL AND METHODS

2.1 Research Approach

This research was conducted at coffee shops in Sleman Regency, which has the most coffee shops in the Special Region of Yogyakarta. The researcher conducted a Google Map survey, with the criteria being a minimum of 100 reviews and a rating of higher than 4.0. Sleman Regency with 112 coffee shops was identified as the region with the highest number of coffee shops. Purposive sampling was used to select respondents from 10 coffee shops in Sleman Regency. Ten coffee shops are from different district and using cluster sampling principle. After grouping with each district, the next step is doing percentage with table and the coffee shops chosen. Data compiled into 157 respondents which are from

different coffee shops. Average number of respondents in each coffee shop is 10-15 respondents. The coffee shop survey is described in Figure 1.



Figure 1. Number of Coffee Shop at Sleman Regency

The sample was divided into three districts with the most populous coffee shops in Sleman Regency. The Coffee Shops that were chosen are listed in Table 1.

Table 1. Sample Coffee Shops

No	Coffee Shop	Village
1	Coffee Shop A	Caturtunggal
2	Coffee Shop B	Caturtunggal
3	Coffee Shop C	Caturtunggal
4	Coffee Shop D	Caturtunggal
5	Coffee Shop E	Caturtunggal
6	Coffee Shop F	Condongcatur
7	Coffee Shop G	Condongcatur
8	Coffee Shop H	Condongcatur
9	Coffee Shop I	Sinduadi
10	Coffee Shop J	Sinduharjo

2.2 Data Processing

2.2.1 Build PLS-SEM Models

The PLS-SEM model was created by initially determining the variables to be used. The latent variables are Personal Factors (η_1), Social Factors (η_2), Psychological Factors (η_3), Cultural Factors (η_4), Marketing Mix (η_5), and Purchase Decisions (η_6). Personal factor indicators are divided into Gender (ξ_1), Age (ξ_2), Occupation (ξ_3), Education Level (ξ_4), Place of residence (ξ_5), and Income (ξ_6). Social factors are classified into family (ξ_7), reference group (ξ_8), roles and status (ξ_9). Perception (ξ_{10}), Motivation (ξ_{11}), Learning (ξ_{12}), Belief and attitude (ξ_{13}) are the psychological factors. Cultural factors are divided into Culture (ξ_{14}), Subculture (ξ_{15}), and social class (ξ_{16}). Marketing Mix Factors are classified as

Product (ξ17), Price (ξ18), Location (ξ19), Promotion (ξ20), Process (ξ21), People (ξ22), and Physical evidence (ξ23). Purchase decisions are divided into Product Choice (ξ24), Purchase Amount (ξ25), Payment Methods (ξ26), and Purchase Timing (ξ27). The PLS-SEM model is from latent variable and indicator was construct in software processing. The model is illustrated in Figure 2.

2.2.2 Outer and Inner Assessment of the PLS-SEM Model

The assessment of the outer model was done using composite reliability, convergent validity, and discriminant validity, while the inner model was evaluated with R-Square, Q-Square, and hypothesis testing with bootstrapping.

1. Composite Reliability
The accepted limit value is > 0.7, assessed by the table calculation.
2. Convergent Validity
The expected loading value is 0.5 – 0.6, with the number of indicators from latent variables ranging from 3 to 7.

3. Discriminant Validity
The AVE value is greater than 0.50 by processing the result on the table with Smart-PLS.
4. R-Square
The R-Square value in this test demonstrated how well the exogenous construct explains the endogenous construct. The R-Squared value of 0.20, 0.50, and 0.75 indicates weak, moderate, and strong values respectively.
5. Q-Square
The interpretation of the Q-Square value is the same as the coefficient of total determination in path analysis. Q-Square can be calculated using the formula below:
$$Q^2 = 1 - (1 - R^2) \quad (1)$$
6. Bootstrapping
This value is used to determine the significant difference between Construct. The limit value to determine whether the hypothesis is rejected or accepted is 1.96. If the t-statistic value is in the range of -1.96 to 1.96, the assumption is rejected, and H₀ is accepted.

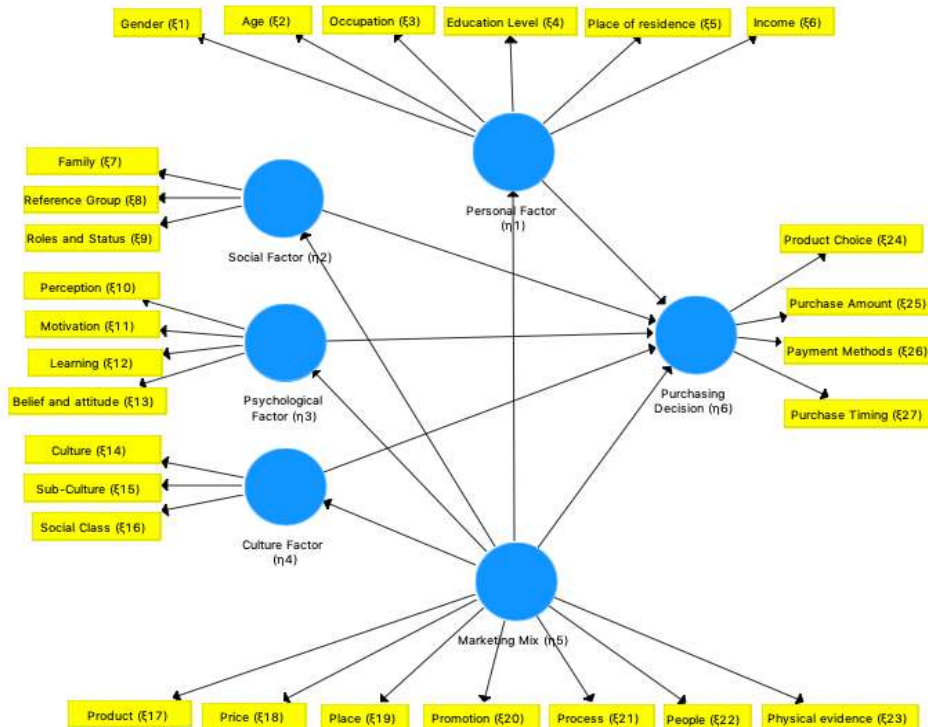


Figure 2. PLS-SEM Model

2.2.3 Interpretation of Results from the PLS-SEM

The impact that the factors and indicators have is observed after calculating and testing the hypothesis. The analysis also demonstrates how consumer behavior influences purchase decisions. Following bootstrapping, the assessment considers 1.96 as the minimum value. Any value that exceeds 1.96 will be significant.

2.2.4 Calculate the Score of IPA

The number of each point in the questionnaire was used to determine the results. The calculation was done using the IBM SPSS software and the following formulas:

1. Determination of the average number of Performance scores:

$$\bar{X} = \frac{\sum_{i=1}^N \bar{X}}{k} \tag{2}$$

2. Determination of the average number of Importance scores:

$$\bar{Y} = \frac{\sum_{i=1}^N \bar{Y}}{k} \tag{3}$$

2.2.5 Cartesian Diagram Making

The table below (Hosseini and Bideh, 2014) explains about each quadrant in IPA methods, while the indicators are placed in quadrant 1, it must be continued the good work. If the indicators are placed in quadrant 2, which means the coffee shops must be repaired the marketing strategy or improve their marketing mix. Quadrant 3 means that it doesn't matter, because is low priority. Indicators that placed in quadrant 4, it means must be reviewed because this possible too much and possible being useless.

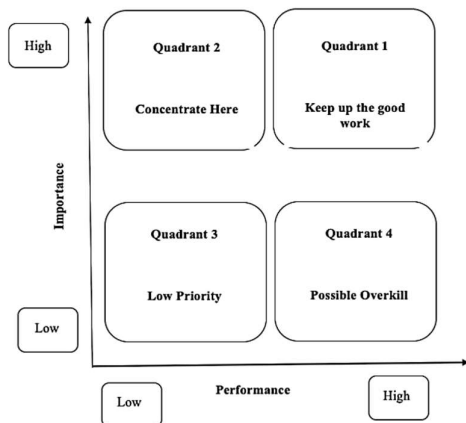


Figure 3. Cartesian Diagram Theory

2.2.6 Interpretation of Results from the IPA Method

The results of the IPA method were divided into various quadrants and the presence of indicators in quadrants two and four indicate the need for improvements.

3. RESULT AND DISCUSSION

3.1 Measurement of Outer Model Partial Least Square Structural Equation Modeling

The outer model is measured using indicators of reliability, internal consistency reliability, convergent validity, and discriminant validity. Multiple iterations are used to determine the size of the outer model.

Iteration 1

1. Indicator Reliability
Indicator reliability is according to the value which must be greater than/closer to 0.7; iteration 1 limit is 0.4. The loading factors in Figure 4 that are below 0.4 are the indicator of Gender (ξ_1) and Education Level (ξ_4) with loading factor values of 0.310 and 0.254 respectively.
2. Internal Consistency Reliability
The composite reliability value in Table 2 must be more than 0.6. All indicators are above 0.6
3. Convergent Validity
The Average Variance Extracted (AVE) value cannot be less than 0.5. AVE that more than 0.5 is have more stronger research construct. The red color showed the lower AVE Value and the black color showed valid AVE.

Table 2. Internal Consistency Iteration 1

Latent Variable	Composite Reliability	(AVE)
Personal Factor (η_1)	0.867	0.485
Social Factor (η_2)	0.793	0.570
Psychological factor (η_3)	0.720	0.335
Culture Factor (η_4)	0.860	0.606
Marketing Mix (η_5)	0.718	0.472
Purchasing Decision (η_6)	0.740	0.422

4. Discriminant Validity
The value of Latent Variable Correlations

must exceed the value in another column and row. The Value 1 in the table must be more than others number and the all indicators have met the requirements.

In iteration 1 (Table 3), the discarded indicators are Gender (ξ_1) and Education Level (ξ_4). The calculation is continued by improving the model in Figure 5 in iteration 2.

Table 3. Latent Variable Correlations Iteration 1

Latent Variable	Marketing Mix (η_5)	Culture Factor (η_4)	Personal Factor (η_1)	Psychological Factor (η_3)	Social Factor (η_2)	Purchasing Decision (η_6)
Marketing Mix (η_5)	1					
Culture Factor (η_4)	0.341	1				
Personal Factor (η_1)	0.556	0.524	1			
Psychological Factor (η_3)	0.607	0.496	0.550	1		
Social Factor (η_2)	0.264	0.375	0.479	0.212	1	
Purchasing Decision (η_6)	0.378	0.162	0.331	0.413	0.021	1

Iteration 2

1. Indicator Reliability
Value greater than/closer to 0.7; iteration 2 limit is 0.5. The loading factors in Figure 5 below 0.5 are Age (ξ_2) and Time of Purchase (ξ_{27}), with loading factor values of 0.361 and 0.466 respectively.
2. Internal Consistency Reliability
The composite reliability value in Table 4 must be more than 0.6. All indicators are above 0.6.
3. Convergent Validity
The Average Variance Extracted (AVE) value cannot be less than 0.5.
4. Discriminant Validity
The value of Latent Variable Correlations must exceed the value in another column or row. All indicators have met the

requirements.

Table 4. Internal Consistency Iteration 2

Latent Variable	Composite Reliability	(AVE)
Personal Factor (η_1)	0.761	0.463
Social Factor (η_2)	0.718	0.472
Psychological factor (η_3)	0.860	0.606
Culture Factor (η_4)	0.793	0.570
Marketing Mix (η_5)	0.867	0.485
Purchasing Decision (η_6)	0.740	0.422

In iteration 2 (Table 5), two indicators are discarded: Age (ξ_2) and Time of Purchase (ξ_{27}) and continued in iteration 3.

Table 5. Latent Variable Correlations Iteration 2

Latent Variable	Marketing Mix (η_5)	Culture Factor (η_4)	Personal Factor (η_1)	Psychological Factor (η_3)	Social Factor (η_2)	Purchasing Decision (η_6)
Marketing Mix (η_5)	1					
Culture Factor (η_4)	0.342	1				
Personal Factor (η_1)	0.550	0.532	1			
Psychological Factor (η_3)	0.607	0.496	0.559	1		
Social Factor (η_2)	0.264	0.375	0.458	0.212	1	
Purchasing Decision (η_6)	0.378	0.163	0.337	0.413	0.020	1

Iteration 3

1. Indicator Reliability
Value greater than/closer to 0.7; iteration 3 limit is 0.6. The loading factors in Figure

6 below 0.6 are Social Class (ξ_{16}), price indicator (ξ_{18}), Promotion (ξ_{20}), role, and status indicators (ξ_9) with values of 0.521, 0.595, 0.572, and 0.563 respectively.

2. Internal Consistency Reliability
The composite reliability value in Table 6 must be more than 0.6. All indicators are above 0.6.
3. Convergent Validity
The Average Variance Extracted (AVE) value cannot be less than 0.5.
4. Discriminant Validity
The value of Latent Variable Correlations must exceed the value in another column or row. All indicators have met the requirements.

Table 6. Internal Consistency Iteration 3

Latent Variable	Composite Reliability	(AVE)
Personal Factor (η1)	0.803	0.580
Social Factor (η2)	0.731	0.484
Psychological factor (η3)	0.860	0.607
Culture Factor (η4)	0.789	0.566
Marketing Mix (η5)	0.867	0.485
Purchasing Decision (η6)	0.740	0.514

In the third iteration (Table 7), the discarded indicators are Social Class (ξ16), price (ξ18), promotion (ξ20) role, and status (ξ9). Continued in Iteration 4.

Table 7. Latent Variable Correlations Iteration 3

Latent Variable	Marketing Mix (η5)	Culture Factor (η4)	Personal Factor (η1)	Psychological Factor (η3)	Social Factor (η2)	Purchasing Decision (η6)
Marketing Mix (η5)	1					
Culture Factor (η4)	0.344	1				
Personal Factor (η1)	0.565	0.523	1			
Psychological Factor (η3)	0.606	0.502	0.568	1		
Social Factor (η2)	0.257	0.368	0.432	0.203	1	
Purchasing Decision (η6)	0.356	0.184	0.346	0.414	-0.025	1

Iteration 4

1. Indicator Reliability
Value greater than/closer to 0.7; iteration four limit is close to 0.7. The entire loading factors in Figure 7 are close to 0.7.
2. Internal Consistency Reliability
The composite reliability value in Table 8 must be more than 0.6. All indicators are above 0.6.
3. Convergent Validity
The Average Variance Extracted (AVE) value cannot be less than 0.5.
4. Discriminant Validity
The value of Latent Variable Correlations must exceed the value in another column

or row. All indicators have met the requirements. In this 4th iteration, zero wasted indicator.

Table 8. Internal Consistency Iteration 4

Latent Variable	Composite Reliability	(AVE)
Personal Factor (η1)	0.804	0.580
Social Factor (η2)	0.727	0.576
Psychological factor (η3)	0.860	0.607
Culture Factor (η4)	0.844	0.731
Marketing Mix (η5)	0.866	0.566
Purchasing Decision (η6)	0.760	0.514

Table 9. Latent Variable Correlations Iteration 4

Latent Variable	Marketing Mix (η5)	Culture Factor (η4)	Personal Factor (η1)	Psychological Factor (η3)	Social Factor (η2)	Purchasing Decision (η6)
Marketing Mix (η5)	1					
Culture Factor (η4)	0.344	1				
Personal Factor (η1)	0.565	0.523	1			
Psychological Factor (η3)	0.606	0.502	0.568	1		
Social Factor (η2)	0.257	0.368	0.432	0.203	1	
Purchasing Decision (η6)	0.356	0.184	0.346	0.414	-0.025	1

3.2 Inner Analysis of Partial Least Square Structural Equation Modeling

The measurement of the inner model uses hypothesis testing in the form of R-Square, Q-Square, and Bootstrapping.

1. R-Square

Table 10. R-Square

Latent Variable	R Square
Culture Factor (η4)	0.122
Personal Factor (η1)	0.328
Psychological Factor (η3)	0.374
Social Factor (η2)	0.059
Purchasing Decision(η6)	0.227

This analysis is the same as regression analysis, where R^2 is used as information about the suitability of a model. The value of the coefficient of determination is between 0 to 1. The R-Squared value of 0.20; 0.50; 0.75 indicates weak, moderate, and strong values.

2. Q-Square

It is calculated using the current Q-Square value of 0.286. Therefore, the Q-Square number has exceeded 0. Zero

indicates that the construct is solid and reasonable, and the model has moderate to high predictive relevance.

3. Bootstrapping

Table 11. T-statistic Bootstrapping

Latent Variable	T Statistics (O/STDEV)
Marketing Mix (η5) -> Culture Factor (η4)	4.817
Marketing Mix (η5) -> Personal Factor (η1)	11.002
Marketing Mix (η5) -> Psychological Factor (η3)	10.179
Marketing Mix (η5) -> Social Factor (η2)	2.740
Marketing Mix (η5) -> Purchasing Decision (η6)	2.086
Culture Factor (η4) -> Purchasing Decision (η6)	0.318
Personal Factor (η1) -> Purchasing Decision (η6)	1.573
Psychological Factor (η3) -> Purchasing Decision (η6)	2.509
Social Factor (η2) -> Purchasing Decision (η6)	1.663

According to table 11, the factors that influence the decision to purchase coffee during the pandemic are Psychological Factors and Marketing Mix.

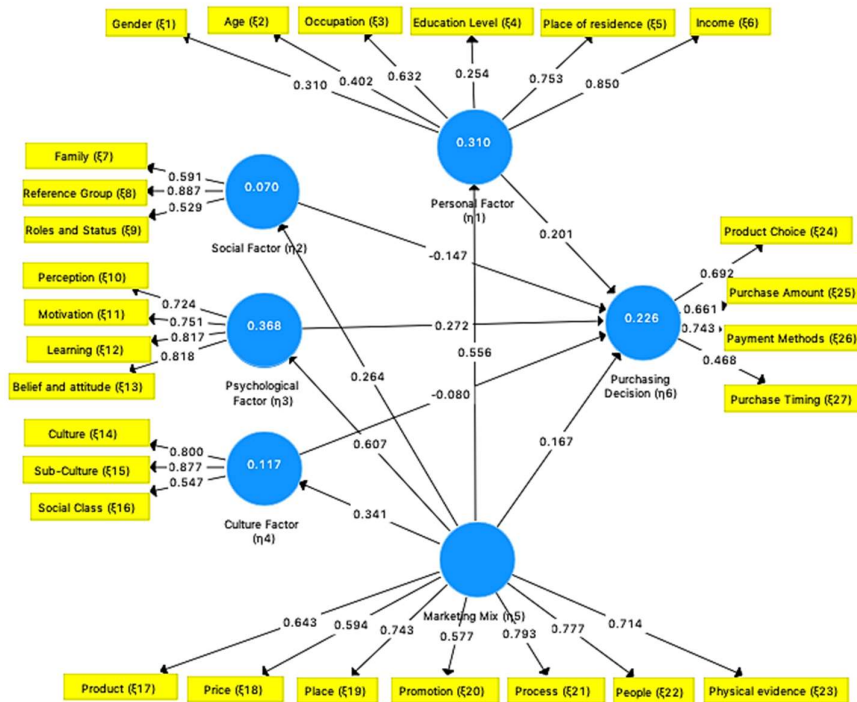


Figure 4. PLS-SEM Model Iteration 1

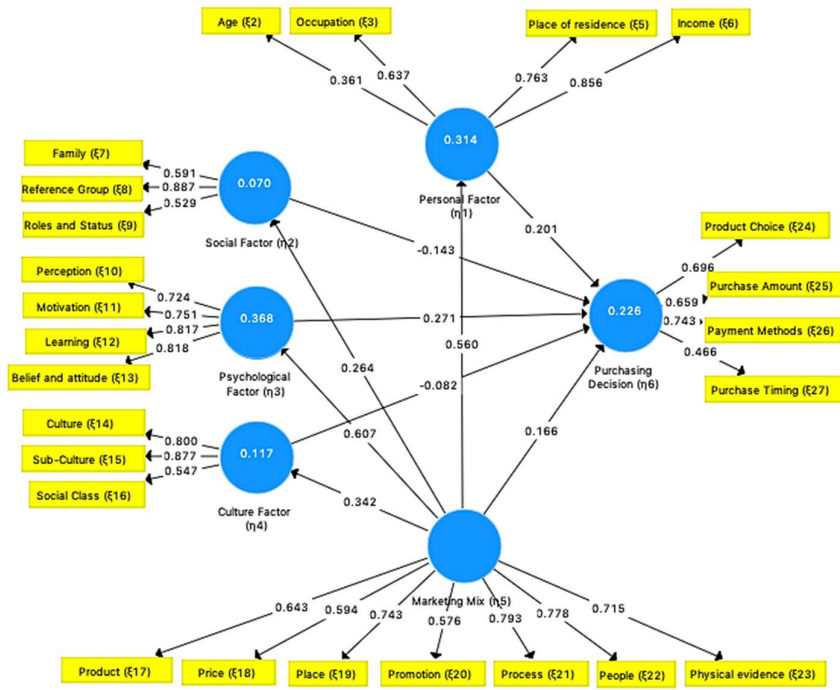


Figure 5. PLS-SEM Model Iteration 2

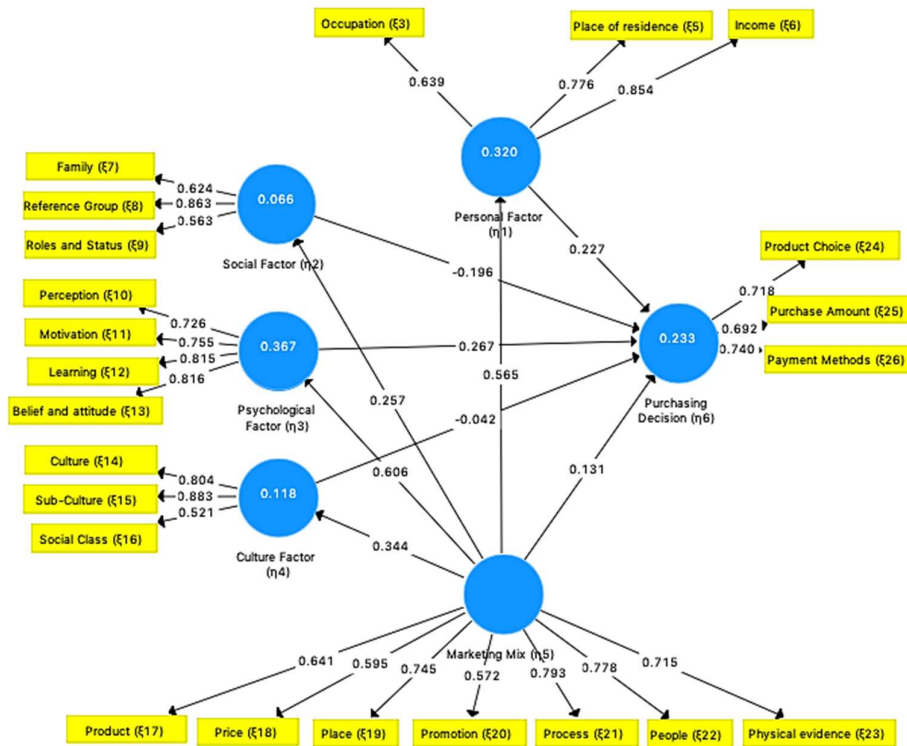


Figure 6. PLS-SEM Model Iteration 3

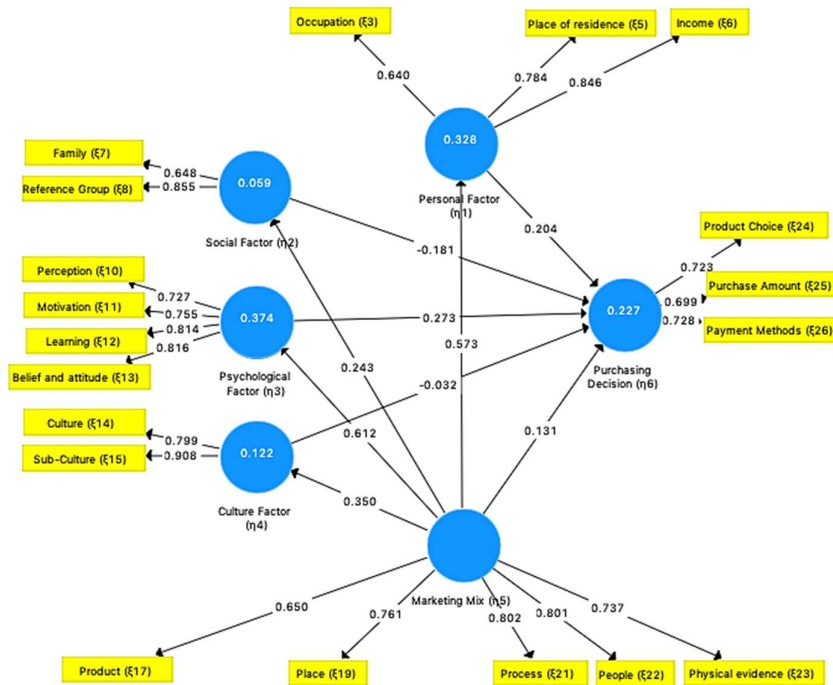


Figure 7. PLS-SEM Model Final

3.3 Importance Performance Analysis (IPA) of the Marketing Mix at Coffee Shops in Sleman

1. Calculation of the Total Score of the Questionnaires

The average of importance and performance obtained are 108.63 and 103.13 respectively. The average is recalculated from the average results using the formulas (2) and (3) to get 4.53 and 4.30 respectively. This value will be used as the limit on the Cartesian diagram.
2. Placement of Attributes on Cartesian diagrams will explain the attribute placement in Figure 8. Meanwhile, attributes located in quadrant one is:
 - a. Quality of drinks
 - b. The taste of the drink
 - c. Hygiene of beverage products
 - d. Cozy atmosphere
 - e. The layout of the coffee shop is neat and comfortable
 - f. Smooth air circulation (indoor and outdoor)
 - g. There is a clear price list
 - h. Polite baristas/staff
 - i. Barista/staff explaining according to SOP

- j. Health protocols that apply to baristas
 - k. Easy flow of purchase process from starts to payment
 - l. Various Payment Methods (cashless) in the Pandemic Period
 - m. Health protocols for consumers and overall (Provision of Handwashing Places, Temperature Checks, Distance between chairs and tables, etc.)
 - n. Cleanliness of the place
- Subsequently, the attribute contained in quadrant two is the price being proportional to the drink purchased. Meanwhile, quadrant three contains the following attributes:
- a) Packaging of beverage products
 - b) Variety of drinks available
 - c) Portion or amount of each drink
 - d) Presence of an aesthetic corner
 - e) Availability of a spot outdoor during the pandemic
 - f) There are discounts available
 - g) There is a promo that applies
 - h) Interesting social media content

The attribute in quadrant 4 is the strategic location of the coffee shop.

Point or (P) in figure 8 means:

P1	Quality of drinks
P2	The taste of the drink
P3	Packaging of beverage products
P4	Hygiene of beverage products
P5	Variety of drinks available
P6	Portion or amount of each drink
P7	The strategic location of the coffee shop
P8	Cozy atmosphere
P9	Presence of an aesthetic corner
P10	The layout of the coffee shop is neat and comfortable
P11	Availability of a spot outdoor during the pandemic
P12	Smooth air circulation (indoor and outdoor)

P13	Price being proportional to the drink purchased
P14	There is a clear price list
P15	There are discounts available
P16	There is a promo that applies
P17	Interesting social media content
P18	Polite baristas/staff
P19	Barista/staff explaining according to SOP
P20	Health protocols that apply to baristas
P21	Easy flow of purchase process from start to payment
P22	Various Payment Methods (cashless) in the Pandemic Period
P23	Health protocols for consumers and overall (Provision of Handwashing Places, Temperature Checks, Distance between chairs and tables, etc.)
P24	Cleanliness of the place

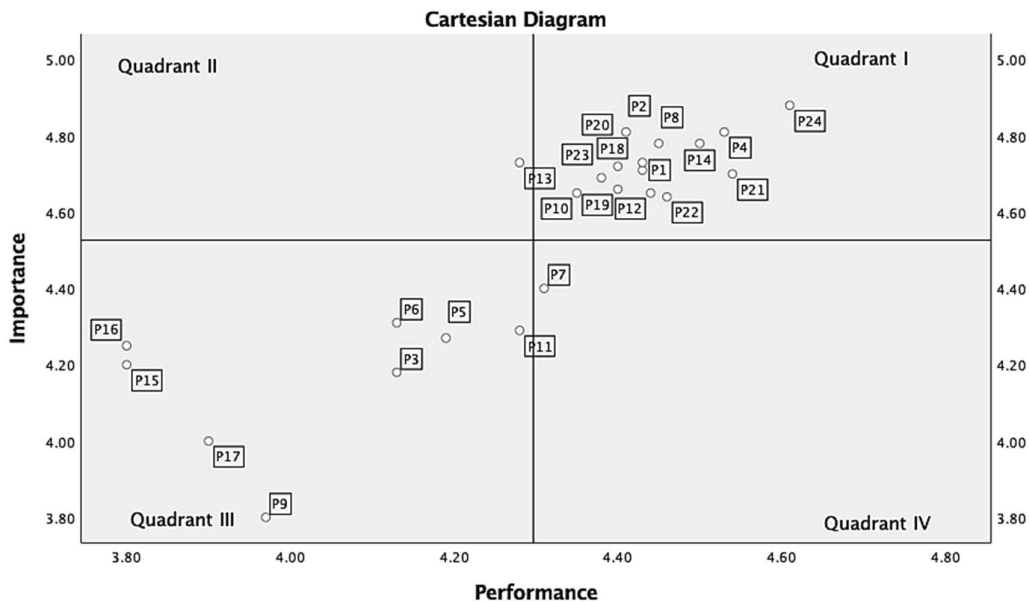


Figure 8. Cartesian Diagram Marketing Mix Coffee Shop in Sleman Regency

4. CONCLUSIONS

1. According to the PLS-SEM analysis, psychological factors and marketing mix are the significant factors influencing consumer behavior and coffee purchasing decisions during this pandemic. Psychological factors have the highest loading factor with a value of 0.273. In contrast, personal, social, and cultural factors do not affect coffee purchases during the pandemic.
2. The marketing mix of coffee purchased during this pandemic period has two attributes. The first attribute is the price comparable to the coffee drink purchased. Consumers consider these attributes necessary, however, the performance remains low leaving consumers dissatisfied.

The second attribute is a strategic location, and it is found to perform well. Therefore, emphasis on this attribute should be avoided by other coffee shops because consumers do not consider it essential when purchasing coffee in Sleman Regency, DIY.

3. The proposed improvement at the Coffee shops in Sleman Regency, involves engagement of various elements that build the psychological factors of consumers. Sub-factors such as perception and motivation are addressed by improving performance in terms of comparable pricing to boost the motivation to buy coffee during the pandemic. Furthermore, sub-factors such as Learning and Trust/Attitude, which involves a positive coffee-buying experience, will instill consumers with a sense of trust in the coffee shop. Learning and experience are closely related; hence, the points in quadrants I and II make a good first impression. Therefore, during this pandemic, consumers have a strong psychological motivation to purchase coffee.

REFERENCES

- Allegra World Coffee Portal. 2020. *Covid-19 wipes out nearly a quarter of US coffee shop market value*.
- (<https://www.worldcoffeeportal.com/Latest/News/2021/January/Covid-19-wipes-out-nearly-a-quarter-of-US-coffee-s>). Accessed on January 11, 2020.
- Hosseini, S. Y. and Bideh, A. Z. 2014. A Data Mining Approach for Segmentation-based Importance-performance Analysis (SOM-BPNN-IPA): A New Framework for Developing Customer Retention Strategies. *Service Business*, Volume 8(2): 295-312. <http://dx.doi.org/10.1007/s11628-013-0197-7>
- Kotler, P. and Armstrong, G. 2018. *Principles of Marketing*. 17th Ed. United Kingdom: Pearson.
- Kotler, P., and Keller, K. L. 2012. *Marketing Management*. 14th Ed. New Jersey: Prentice Hall.
- Schiffman, L. G., Kanuk, L. 2000. *Consumer Behavior*. New Jersey: Prentice Hall.
- Sholiha, E.U.N. 2015. Structural Equation Modeling-Partial Least Square untuk Pemodelan Derajat Kesehatan Kabupaten/kota di Jawa Timur (Studi Kasus Data Indeks Pembangunan Kesehatan Masyarakat Jawa Timur 2013). *Doctoral dissertation*, Surabaya: Institut Teknologi Sepuluh Nopember.
- Zeithaml, V. A., Bitner, M. J., and Gremler, D. D. 2013. *Services Marketing Strategy*. Wiley International Encyclopedia of Marketing.