JPPIPA 11(4) (2025)

Jurnal Penelitian Pendidikan IPA

Journal of Research in Science Education

http://jppipa.unram.ac.id/index.php/jppipa/index

Application of The Marketing Mix Model in Consumer Behavior Analysis and Its Educational Implications: Case Study of Specialty Organic Coffee at Waroeng Kopi Kayumas

Nia Rahmi Setiawati[1*], Abdul Wahib Muhaimin[1], Agustina Shinta Hartati Wahyuningtyas[1]

[1] Agribusiness, Brawijaya University, Malang, Indonesia

Received: December 16, 2024
Revised: March 21, 2025
Accepted: April 25, 2025
Published: April 30, 2025

Corresponding Author:
Nia Rahmi Setiawati
niarahmisetiawati1224@gmail.com

DOI: 10.29303/jppipa.v11i4.10063

Abstract: This study explores the influence of the marketing mix on consumer purchasing decisions for specialty organic coffee at Waroeng Kopi Kayumas in Situbondo Regency. It also examines how consumer attitudes and purchase intentions mediate this relationship. Using an accidental sampling method, data were collected from visitors at the café. The results indicate that while the marketing mix does not directly affect purchase decisions significantly, it has a strong and significant impact on consumer attitudes and purchase intentions. In turn, both these factors significantly influence purchasing decisions. Furthermore, the marketing mix indirectly affects purchase decisions through its influence on attitudes and intentions. These findings contribute to a deeper understanding of consumer behaviour, particularly in niche markets like organic products. They also offer practical and educational value providing a model that can be applied in teaching consumer decision-making, marketing strategies, and sustainability practices in agribusiness and entrepreneurship education.

Keywords: Marketing Mix; Purchase Decision; Consumer Attitude; Purchase Intention; Specialty Organic Coffee.

Introduction

Changes in public preferences regarding health and food safety have emerged as critical factors influencing consumer purchasing power. In recent years, consumers have increasingly sought food products that prioritize health, sustainability, and transparency in their production processes. Research by Sesini et al., (2020) highlights this trend, emphasizing the significance of responsible consumption patterns that benefit both personal health and the environment. This shift has notably impacted the food and beverage sector, including the coffee industry. Specialty organic coffee, with its sustainable practices and health benefits, is a product that resonates with these evolving consumer preferences. Such trends present opportunities for micro, small, and medium enterprises (MSMEs) in Indonesia to align their products with market demands, creating a need for targeted educational initiatives in economic science and agribusiness (Nurhasna et al., 2022).

Indonesia's coffee industry, a leading sector in its agricultural economy, has grown in response to rising global coffee demand. However, challenges persist, particularly in the certification of coffee plantations. The absence of certification limits the competitiveness of Indonesian coffee in international markets, resulting in lower prices for farmers (Lerner et al., 2021). Certification not only ensures quality but also enhances market value, providing economic benefits for farmers while meeting global standards (Gichuki et al., 2020). Integrating marketing strategies and certification processes into MSMEs training programs can help farmers optimize their production and expand market

How to Cite:
Setiawati, N. R., Muhaimin, A. W., & Maulidah, S. (2025). Application of the Marketing Mix Model in Consumer Behavior Analysis and Its Educational Implications: Case Study of Specialty Organic Coffee At Waroeng Kopi Kayumas. *Jurnal Penelitian Pendidikan IPA, 1*(1), 1-11. https://doi.org/10.29303/jppipa.v1i1.264

reach (Olazo, 2023). By addressing these gaps, the local coffee industry can boost its competitive advantage while fostering sustainable practices.

The marketing mix model, which encompasses product, price, place, and promotion, plays a pivotal role in influencing consumer purchase decisions. Nuraini & Kurnianingsih (2021) underscore the importance of these variables in shaping consumer experiences and attitudes. An integrated marketing strategy, grounded in Theodore Levitt's theory, focuses on creating and maintaining customers by delivering value through a synergistic approach (Kumar & Rodrigues, 2020). For instance, high-quality products, competitive pricing, strategic distribution, and targeted promotions can significantly enhance consumer satisfaction and brand loyalty. These insights serve as a foundation for developing educational content for MSMEs training programs, particularly in the context of the coffee sector.

Consumer behavior analysis reveals that attitudes and purchase intentions are influenced by the quality of marketing mix variables. Gichuki et al. (2020) assert that positive consumer attitudes and high purchase intentions increase the likelihood of product purchases. Specialty organic coffee at Waroeng Kopi Kayumas exemplifies this dynamic. By adhering to organic farming standards and offering superior bean quality, Waroeng Kopi Kayumas positions itself as a health-conscious choice for consumers. Organic coffee's appeal lies in its reduced chemical exposure and higher antioxidant levels, catering to consumers prioritizing wellness. Integrating these qualities into marketing efforts can enhance consumer engagement and loyalty, as noted by Kisa et al., (2021), who emphasized the role of product quality in shaping purchasing decisions.

This study aims to evaluate the influence of the marketing mix on consumer purchasing decisions for specialty organic coffee at Waroeng Kopi Kayumas, with a focus on consumer attitudes and purchase intentions as mediating variables. The findings will inform the development of educational programs for MSMEs in the coffee and agribusiness sectors. These programs will emphasize economic science-based strategies, leveraging data on sales and consumer behavior to enhance decision-making processes. By equipping local entrepreneurs with these tools, the initiative seeks to promote sustainable growth, improve market competitiveness, and address consumer demands. This integrated approach not only benefits individual businesses but also contributes to the broader economic development of the local agribusiness sector.

Method

This research was conducted at Waroeng Kayumas Cafe in Situbondo. The respondents used in this study were selected using a sampling method called Accidental Sampling. Accidental Sampling is a technique where every individual encountered by the researcher by chance is considered as a data source (Solimun et al., 2017). The respondents selected must meet several criteria, namely: being at least 17 years old and having visited the cafe at least twice. A total of 100 samples were used for this study. The research framework shown in Figure 1.

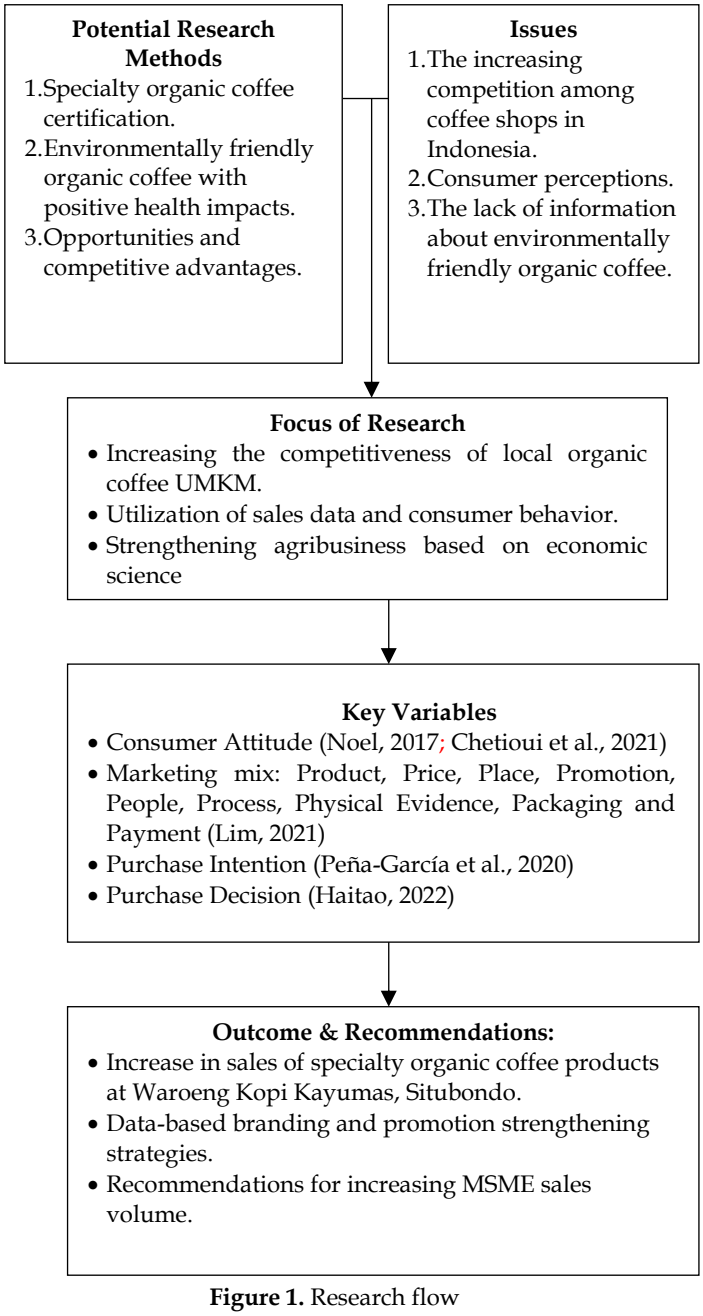

Figure 1. Research flow

The variables and indicators used in this study can be seen in Table 1.

Table 1. Research Variable and Indicator Structural Model

Variable	Dimensions	Indicator	Code
Marketing Mix (X1)	Product (X1.1)	-Product Variety (Lim, 2021)	X1.1.1
		- Product Quality (Lim, 2021)	X1.1.2
	Price (X1.2)	-Price Appropriateness (Lim, 2021)	X1.2.1
		-Competitive Price (Lim, 2021)	X1.2.2
	Place (X1.3)	-Accessibility (Lim, 2021)	X1.3.1
		- Visibility (Lim, 2021)	X1.3.2
	Promotion (X1.4)	-Word of Mouth (Lim, 2021)	X1.4.1
		- Media (Lim, 2021)	X1.4.2
	People (X1.5)	- Hospitality (Koc & Ayyildiz, 2021)	X1.5.1
		- Fast and responsive (Koc & Ayyildiz, 2021)	X1.5.2
	Process (X1.6)	- Responsive to complaints (Koc & Ayyildiz, 2021)	X1.6.1
		- Services (Koc & Ayyildiz, 2021)	X1.6.2
	Physical evidence (X1.7)	- Atmosphere (Othman et al., 2021)	X1.7.1
		- Layout and product Settings (Othman et al., 2021)	X1.7.2
	Packaging (X1.8)	- Attractive packaging (Othman et al., 2021)	X1.8.1
		- Safe packaging (Othman et al., 2021)	X1.8.2
	Payment (X1.9)	-Payment system (Othman et al., 2021)	X1.9.1
		-Payment process (Othman et al., 2021)	X1.9.2
Consumer Attitude (Y1)		- Cognitive (Trust) (Noel, 2017)	Y1.1
		- Affective (Feelings) (Noel, 2017)	Y1.2
		- Conative (Attitude Tendency) (Noel, 2017)	Y1.3
Purchase Decision (Y2)		- Preferential interest (Arpah & Nabella, 2023)	Y2.1
		- Referential interest (Arpah & Nabella, 2023)	Y2.2
		- Transactional interest (Arpah & Nabella, 2023)	Y2.3
		- Explorative interest (Arpah & Nabella, 2023)	Y2.4
Purchase Intention (Z)		- Decision making (Sarpong et al., 2021)	Z1.1
		- Priority (Sarpong et al., 2021)	Z1.2
		- Awareness of sacrifice (Sarpong et al., 2021)	Z1.3
		- Desire and need for health (Sarpong et al., 2021)	Z1.4

The analysis in this study uses two main approaches, namely descriptive analysis and Structural Equation Modeling (SEM) based on Partial Least Square (PLS). Descriptive analysis is used to provide an overview of the data obtained, including the distribution, characteristics, and patterns that emerge from the research variables. Meanwhile, SEM-PLS is applied to test the structural relationship between variables, both direct and indirect relationships, in accordance with the conceptual model that has been designed. The SEM-PLS method was chosen because of its advantages in processing data with a relatively small sample size, high model complexity, and flexibility in handling data with non-normal distributions. The combination of these two techniques is expected to provide comprehensive and in-depth analysis results to answer research questions.

Result and Discussion

Evaluation of Measurement Models

This study uses reflective variables and SEM-PLS analysis in two stages: outer model and inner model. In the outer model, there are three evaluation stages: reliability, discriminant validity, and convergent validity. The following are the results of the outer model testing under first-order conditions (FOC) and second-order conditions (SOC). The first step is to conduct a Convergent Validity analysis which aims to determine the validity of the variables used. Testing is done by checking the loading factor and AVE values for each indicator from the SEM-PLS results. According to Solimun et al. (2017), an indicator is considered valid if the loading factor> 0.3. The following is a table of convergent validity test results in this study. The results are outlined in Table 2.

The results of the analysis reveal that all the loading factor values are greater than 0.3, which serves as a crucial threshold for determining the validity of the indicators. This finding signifies that the indicators employed in the study's model have successfully passed the convergent validity test, thereby confirming their relevance and reliability in representing the constructs under investigation. The validity of these indicators is further substantiated by the Average Variance Extracted (AVE) values, which exceed the recommended threshold of 0.5. An AVE value above 0.5 indicates that the constructs adequately explain the variance of their respective indicators, underscoring the robustness of the measurement model. This dual validation—via loading factor and AVE values—reinforces the theoretical

foundation and empirical reliability of the study, as outlined in Tables 2 and 3. Together, these metrics confirm that the indicators are both valid and suitable for accurately capturing the phenomena being studied, paving the way for subsequent analysis with confidence in the structural integrity of the model (Kisa et al., 2021).

Table 2. Convergent Validity (FOC)

Indicator	Loading Factor	P Value
X1.1.1	0.900	<0.001
X1.1.2	0.900	<0.001
X1.2.1	0.883	<0.001
X1.2.2	0.883	<0.001
X1.3.1	0.830	<0.001
X1.3.2	0.830	<0.001
X1.4.1	0.806	<0.001
X1.4.2	0.806	<0.001
X1.5.1	0.860	<0.001
X1.5.2	0.860	<0.001
X1.6.1	0.785	<0.001
X1.6.2	0.785	<0.001
X1.7.1	0.714	<0.001
X1.7.2	0.714	<0.001
X1.8.1	0.939	<0.001
X1.8.2	0.939	<0.001
X1.9.1	0.887	<0.001
X1.9.2	0.887	<0.001

Table 3. Convergent Validity (SOC)

Indicator	Loading Factor	P Value
X1.1.1	0.900	<0.001
X1.1.2	0.900	<0.001
X1.2.1	0.883	<0.001
X1.2.2	0.883	<0.001
X1.3.1	0.830	<0.001
X1.3.2	0.830	<0.001
X1.4.1	0.806	<0.001
X1.4.2	0.806	<0.001
X1.5.1	0.860	<0.001
X1.5.2	0.860	<0.001
X1.6.1	0.785	<0.001
X1.6.2	0.785	<0.001
X1.7.1	0.714	<0.001
X1.7.2	0.714	<0.001
X1.8.1	0.939	<0.001
X1.8.2	0.939	<0.001
X1.9.1	0.887	<0.001
X1.9.2	0.887	<0.001

Table 4. Average Variance Extracted (FOC)

Latent Variable	AVE Value
Product	0.810
Price	0.779
Place	0.690
Promotion	0.649
People	0.740
Process	0.617
Physical evidence	0.510
Packaging	0.882
Payment	0.788

Table 5. Average Variance Extracted (SOC)

Latent Variable	AVE Value
Marketing Mix 9p	0.530
Consumer Attitude	0.773
Purchase Decision	0.673
Purchase Intention	0.767

Based on the findings presented in Tables 4 and 5, the Average Variance Extracted (AVE) values for the indicators were found to be greater than or equal to 0.5. This result provides strong evidence that the indicators exhibit a good ability to represent their corresponding latent variables effectively. An AVE value of 0.5 or higher signifies that at least 50% of the variance in the observed variables can be explained by the latent construct they are intended to measure. This level of explanatory power is essential for ensuring the accuracy and reliability of the measurement model. The results not only validate the adequacy of the indicators in reflecting the underlying constructs but also enhance the overall robustness of the study's theoretical framework.

Discriminant Validity

The discriminant validity test assesses whether the constructs in the study correctly explain the phenomena (Zuniarto et al., 2024). This test is performed by comparing the loading factor values with the cross-loading values in the SEM-PLS data. Below are the results of the discriminant validity test for the study.

Table 6. Average Variance Extracted (SOC)

	PRO	HRG	TMPT	PROM	ORG	PROS	BF	PACK	Pay
X1.1.1	0.90	0.06	-0.07	0.24	-0.11	0.10	-0.14	0.24	-0.27
X1.1.2	0.90	-0.06	0.07	-0.24	0.11	-0.10	0.14	-0.24	0.27
X1.2.1	-0.02	0.88	-0.09	-0.02	0.11	-0.13	-0.01	-0.14	0.24
X1.2.2	0.02	0.88	0.09	0.02	-0.11	0.13	0.01	0.14	-0.24
X1.3.1	-0.14	0.14	0.83	0.08	-0.20	-0.13	0.27	0.02	-0.26
X1.3.2	0.14	0.14	0.83	-0.08	0.20	0.13	-0.27	-0.30	0.26
X1.4.1	0.08	0.18	-0.30	0.81	-0.40	-0.23	0.11	-0.30	0.17

	PRO	HRG	TMPT	PROM	ORG	PROS	BF	PACK	Pay
X1.4.2	-0.08	-0.18	0.30	0.81	0.40	0.23	-0.11	0.30	-0.17
X1.5.1	0.10	-0.01	0.04	0.03	0.86	0.14	0.01	-0.04	-0.10
X1.5.2	-0.10	0.01	-0.04	-0.03	0.86	-0.14	-0.01	0.04	0.10
X1.6.1	0.19	-0.02	0.30	-0.19	0.34	0.79	-0.16	0.15	-0.07
X1.6.2	-0.19	0.02	-0.30	0.19	-0.34	0.79	0.16	-0.15	0.07
X1.7.1	-0.12	-0.05	0.01	0.15	-0.10	0.01	0.71	-1.02	0.18
X1.7.2	0.12	0.05	-0.01	-0.15	0.10	-0.01	0.71	1.02	-0.18
X1.8.1	0.01	-0.02	0.06	-0.15	0.08	0.00	0.13	0.94	0.03
X1.8.2	-0.01	0.02	-0.06	0.15	-0.08	0.00	-0.13	0.94	-0.03
X1.9.1	-0.01	-0.08	0.04	-0.09	0.03	0.05	-0.05	0.72	0.89
X1.9.2	0.01	0.08	-0.04	0.09	-0.03	-0.05	0.05	-0.72	0.89

Table 7. Discriminant Validity (SOC)

	MM	KS	MB	KP1
X1.1	0.745	-0.176	0.092	-0.182
X1.2	0.545	-0.426	-0.063	0.318
X1.3	0.550	0.149	0.087	-0.544
X1.4	0.794	0.120	-0.010	-0.324
X1.5	0.668	0.169	-0.242	-0.031
X1.6	0.579	-0.509	-0.271	0.417
X1.7	0.662	0.043	0.171	-0.139
X1.8	0.688	0.204	0.067	0.259
X1.9	0.709	0.210	0.082	0.358
Y1.1	0.039	0.825	0.070	-0.043
Y1.2	-0.014	0.937	-0.006	-0.092
Y1.3	-0.022	0.872	-0.060	0.140
Y2.1	0.073	0.082	0.780	-0.005
Y2.2	0.011	0.138	0.854	0.022
Y2.3	0.109	-0.178	0.800	-0.143
Y2.4	-0.182	-0.047	0.844	0.118
Z1.1	-0.064	-0.023	0.158	0.849
Z1.2	-0.161	0.267	-0.045	0.886
Z1.3	0.052	0.086	-0.116	0.900
Z1.4	0.172	-0.338	0.012	0.868

Tables 6 and 7 show that all indicators passed the discriminant validity test because their loading values were higher than the cross-loading values.

Reliability

The composite reliability and Cronbach's Alpha values were analyzed from the SEM-PLS data output. Solimun et al. (2017) state that for the indicators to be deemed reliable, the Composite Reliability (CR) value should exceed the threshold of 0.70, indicating a strong internal consistency among the indicators in capturing the constructs. Similarly, Cronbach's Alpha values should be greater than 0.6, signifying acceptable reliability of the scale used. These criteria ensure that the constructs are consistently measured across different items, contributing to the robustness of the model. The results of the reliability tests, as summarized below, confirm that the indicators meet these requirements, thereby validating the consistency and dependability of the measurement model.

Table 8. Composite Reliability and Cronbach's Alpha (FOC)

Variabel	Composite Reliability	Alpha Cronbach
Standar Nilai	>0.70	>0.60
Product	0.895	0.766
Price	0.876	0.716
Place	0.816	0.650
Promotion	0.787	0.660
People	0.851	0.649
Process	0.763	0.678
Physical evidence	0.775	0.638
Packaging	0.937	0.866
Payment	0.881	0.730

Table 9. Composite Reliability and Cronbach's Alpha (SOC)

Variabel	Composite Reliability	Alpha Cronbach
Standar Nilai	>0.70	>0.60
Marketing Mix 9p	0.869	0.829
Consumer Attitude	0.911	0.852
Purchase Decision	0.891	0.837
Purchase Intention	0.930	0.899

Based on tables above, it can be seen that all the variables used in the study passed the reliability test, measured through composite reliability and Cronbach's Alpha tests. This is evident as all the results from the composite reliability test have values ≥ 0.70. Similarly, for the Cronbach's Alpha test, all variables have values ≥ 0.6. Therefore, it can be concluded that this study has passed the reliability test.

Evaluation of the Structural Model

This study employs reflective variables and utilizes Structural Equation Modeling-Partial Least Squares (SEM-PLS) as the primary analytical approach. The analysis is conducted in two distinct stages: the outer model and the inner model. The outer model assessment focuses on evaluating the measurement model's reliability and validity, which ensures that the constructs are appropriately represented by their respective indicators. The evaluation of the outer model includes three critical stages: reliability testing, discriminant validity, and convergent validity. These stages are integral to confirming the quality and consistency of the measurement model. The results of the outer model testing under first-order conditions (FOC) and second-order conditions (SOC) are presented below. These results provide a thorough validation of the model's measurement framework, ensuring its robustness and suitability for further structural analysis.

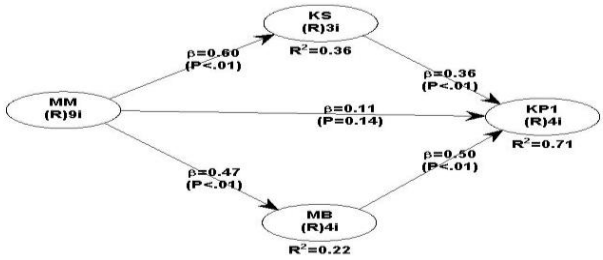

Figure 2. Path Coefficients

Based on the diagram above, all variables have positive path coefficients (+1). The relationships between X1 and Y1, X1 and Y2, Y1 and Z1, and Y2 and Z1 show a positive and strong significant direction (P<0.01). For example, the relationship between X1 (Marketing Mix) and Y1 (Consumer Attitude) has a path coefficient of 0.60, indicating that the marketing mix positively influences consumer attitude. However, the relationship between X1 (Marketing Mix) and Z1 (Purchase Decision) shows a path coefficient of 0.11 with a P-value of 0.14, which is not significant. Next, the R-square test is used to assess the influence of independent variables on the dependent variable, with values ranging from 0 to 1. The higher the R-square value, the more accurate the prediction (Zuniarto et al., 2024). Below are the results of the R-square test for this study.

Table 10. R-squares

Variable Respons	R-squares
Consumer Attitude (Y1)	0.36
Purchase Decision (Y2)	0.22
Purchase Intention(Z1)	0.71

The results show that the purchase decision variable has an R2 value of 0.71, meaning the research model explains 71% of the purchase decision variable. This model also explains consumer attitude by 36% and purchase intention by 22%. According to Wang (2021), R-Squared values are categorized into three criteria: strong (above 0.67), moderate (above 0.33), and weak (above 0.19). The last measurement is Goodness of Fit. According to Solimun et al. (2017), The Goodness of Fit (GoF) serves as a comprehensive measure to evaluate the overall fit of the model, encompassing 10 essential criteria that assess the relationship between latent variables and their underlying assumptions. These criteria provide a holistic view of the model's adequacy in capturing the data's structure and theoretical framework. Based on the results of the goodness-of-fit test, all the specified criteria were successfully met in this study. This outcome indicates that the model aligns well with the empirical data and satisfies the theoretical assumptions underpinning the relationships among the latent variables. The fulfillment of these criteria underscores the robustness and reliability of the model, affirming its suitability for exploring the constructs and hypotheses outlined in the research.

Table 11. Goodness of Fit

Model Fit and Quality Indices	Criteria Fit	Result
Average path coefficient (APC)	p < 0.05	0.406
Average R-squared(ARS)	p < 0.05	0.430
Average adjusted R- squared (AARS)	p < 0.05	0.423
Average block VIF (AVIF)	Diterima jika ≤ 5, idealnya ≤ 3.3	1.797
Average full collinearity VIF (AFVIF)	Diterima jika ≤ 5,idealnya ≤ 3.3	2.509
Tenenhaus GoF (GoF)	Kecil ≥ 0.1, sedang ≥0.25, besar ≥ 0.36	0.533
Simpson's paradox ratio (SPR)	Diterima jika ≥ 0.7,idealnya = 1	1.000
R-squared contribution ratio (RSCR)	Diterima jika ≥ 0.9,idealnya = 1	1.000
Statistical suppression ratio (SSR)	Diterima jika ≥ 0.7	1.000
Nonlinear bivariate causality direction ratio (NLBCDR)	Diterima jika ≥ 0.7	1.000

The results show that the purchase decision variable has an R^2 value of 0.71, meaning the research model explains 71% of the purchase decision variable. This model also explains consumer attitude by 36% and purchase intention by 22%. According to Wang (2021), R-Squared values are categorized into three criteria: strong (above 0.67), moderate (above 0.33), and weak (above 0.19). The last measurement is Goodness of Fit. According to Solimun et al. (2017), Goodness of Fit is an indicator that includes 10 criteria related to the relationship between latent variables in the model and its assumptions. Based on the test, the results show that all Goodness of Fit criteria were met in this study.

Hypothesis Testing

Hypothesis testing in this study uses the provision that if the p-value ≤ 0.05 with an alpha of 5%, then the hypothesis can be accepted. If the p-value is greater than 0.05, the hypothesis is rejected. The following are the results of hypothesis testing in the table below.

Table 12. Hypothesis Testing

Hypothesis	Coefficient	*P-values*	Result
A. Direct Effect			
H1: The marketing mix influences purchasing decisions	0.11	<0.137	Rejected
H2: The marketing mix influences consumer attitudes.	0.60	<0.001	Accepted
H3: The marketing mix influences consumer purchase intention	0.47	<0.001	Accepted
H4: Consumer attitudes influence purchase decisions	0.36	<0.001	Accepted
H5: Purchase intention influences purchase decisions	0.50	<0.001	Accepted
B. Indirect Effects			
H6: The marketing mix influences purchase decisions through consumer attitudes	0.21	<0.009	Accepted
H7: The marketing mix influences purchase decisions through consumer purchase intention	0.25	0.001	Accepted

Hypothesis 1: Based on the research findings, it was identified that the marketing mix variable has a path coefficient value of 0.11 and a significance p-value of < 0.137. This indicates that the marketing mix variable does not have an influence on purchase decisions, as the p-value exceeds 0.05. These results are supported by studies conducted by Nagara & Hendrati (2022) and Nuraini & Kurnianingsih (2021), who concluded that the marketing mix has a negative and insignificant partial influence on purchasing decisions for clothing products. A previous study by Lim (2021) also concluded that certain elements of the marketing mix have no partial effect on purchasing decisions. These findings underscore the importance of contextual understanding in the application of marketing mix strategies. In educational contexts, this offers opportunities to teach students through applied learning scenarios, such as sustainable agriculture or local food systems, in evaluating which marketing mix elements are most effective in specific scenarios (Nurdiana et al., 2024) . In training programmes for MSMEs (Micro, Small and Medium Enterprises) in the coffee and agribusiness sectors, this insight can be utilised to develop modules focused on data-driven decision-making (Ridho et al., 2020). According to Yasin *et al.* (2024), using such case studies enables students to simulate marketing strategies, analyse consumer behaviour data, and adjust their approaches to effectively respond to market dynamics.

Hypothesis 2: From the results of the above study, the marketing mix variable has a path coefficient value of 0.60 with a p-value of <0.001, indicating that the marketing mix has a positive and significant influence on consumer attitudes. Thus, Hypothesis 2 is accepted. This finding suggests that consumer attitudes are significantly associated with the marketing mix variable, implying that changes in the marketing mix elements can influence changes in consumer attitudes. This result aligns with the study by Elisa *et al.*, (2022), who stated that consumer attitudes are strongly influenced by the marketing mix. Similarly, Zuniarto *et al.* (2024) emphasised that this creates opportunities for educational programmes to highlight the role of marketing mix elements in shaping consumer perceptions. Furthermore, according to Asgar & Sofyan (2023), by integrating this concept into training modules for local agribusiness MSMEs, participants can learn how to utilise marketing tools to foster positive consumer attitudes toward their products. Maryani et al., (2022) reinforced this by stating that data-driven education enables coffee producers to apply this knowledge to develop branding strategies aligned with sustainability principles, thereby enhancing consumer loyalty and contributing to sustainable development goals. Competency-based training may include exercises in analysing sales data and consumer behaviour to refine marketing strategies (Wahyu et al., 2020).

Hypothesis 3: The research findings indicate that the marketing mix variable has a path coefficient value of 0.47 with a highly significant p-value (<0.001). This suggests that the marketing mix variable has a positive and significant influence on consumers' purchase

intentions. Therefore, Hypothesis 3 is accepted. These findings are consistent with the research by Elisa *et al.*, (2022), which revealed that the marketing mix significantly affects purchase intentions. In the context of applied education, this finding can be translated into practical modules for students and MSME participants to explore ways to leverage marketing mix strategies to attract consumer interest (Supriadi et al., 2020). Pebrianti dan Suryani (2024) exemplified that business actors can learn to create promotional campaigns highlighting unique qualities of speciality coffee, such as sustainability certifications or distinctive brewing techniques. According to Purnama et al., (2024), such training may also include analysis of consumer purchasing patterns, allowing participants to adjust their strategies to more effectively target market segments.

Hypothesis 4: According to the research results, the consumer attitude variable has a path coefficient value of 0.36 and a highly significant p-value (<0.001). This indicates that consumer attitude has a positive and significant influence on purchase decisions. Thus, Hypothesis 4 is accepted. These findings are in line with previous research by Wijaya et al., (2022), which found that consumer attitudes significantly affect purchasing decisions. Educational initiatives may utilise this hypothesis to teach participants about the importance of shaping consumer attitudes through effective communication and marketing strategies (Farahdiba, 2020). MSMEs in the coffee sector can benefit from understanding how to build positive consumer attitudes through quality assurance, storytelling, and customer engagement (Harto et al., 2023). Consistent with Hidayah et al. (2023), incorporating digital aspects such as customer feedback platforms can further enhance their ability to align consumer perceptions with their brand values.

Hypothesis 5: Based on the research findings, the purchase intention variable has a path coefficient value of 0.50 with a p-value of less than 0.001. This demonstrates that the higher the consumer's purchase intention, the greater the likelihood of making a purchase decision for speciality organic coffee products. This finding is consistent with the study by Komalasari (2021), which emphasised the importance of purchase intention as a precursor to purchase decisions. Similarly, according to Masithoh & Anintyawati (2022), within an educational framework, this insight can be applied to train participants in the coffee and agribusiness sectors on how to cultivate purchase intention. As stated by Angreni *et al.* (2024), integrating lessons on consumer psychology and data analysis allows students and MSME participants to develop skills for measuring and influencing purchase intentions. Training may include creating marketing campaigns and using customer data to predict buying patterns, ensuring that their strategies are effective and responsive to market demand (Digdowiseiso & Ria, 2023).

Hypothesis 6: According to the research, the indirect effect of the marketing mix variable on purchase decisions through consumer attitudes has a path coefficient value of 0.21 and a significance p-value of <0.009. This suggests that the marketing mix variable has a positive and significant effect on purchase decisions via consumer attitudes, thereby confirming Hypothesis 6. These findings are consistent with the research by Pura & Madiawati (2021), which demonstrated that consumer attitude mediates the relationship between marketing mix elements and purchase decisions. In line with Sulistyawati & Munawir (2024), within educational and training contexts, this hypothesis can be used to highlight the interconnected nature of marketing strategies and consumer psychology. According to Juhainah *et al.* (2024), applying this principle to case studies in the coffee industry enables participants to learn how to leverage consumer attitudes to drive purchasing decisions. Workshops can include practical exercises in designing marketing mix strategies and measuring their impact on consumer attitudes using digital marketing analytics tools (Sarfika et al., 2024).

Hypothesis 7: Based on the research results, the path coefficient value is 0.25 with a p-value of <0.001. This demonstrates that the marketing mix plays a significant role in increasing consumer purchase intention for organic coffee products, which subsequently influences purchase decisions. Hence, Hypothesis 7 is accepted. The study by Kusuma & Wijaya (2022) further highlights the role of purchase intention as a mediator in this relationship. This finding aligns with the explanation by Maulana *et al.* (2024), who underscore the importance of integrating marketing strategies with consumer education in MSME training programmes. According to Wang (2021), by understanding the dynamics of purchase intention, participants can develop more effective marketing campaigns. Training programmes may incorporate tools such as behavioural data analysis and market segmentation to help coffee producers and agribusiness entrepreneurs design tailored marketing approaches that enhance purchase intention and, consequently, purchase decisions (Owan et al., 2023).

Conclusion

Based on the findings of this study, it can be concluded that the marketing mix exerts a positive but statistically insignificant direct effect on purchase decisions. However, it has a positive and significant influence on consumer attitudes and purchase

intentions, both of which, in turn, significantly affect purchase decisions. Indirectly, the marketing mix significantly influences purchase decisions when mediated by consumer attitudes and intentions. These findings offer meaningful insights for educational contexts, particularly within entrepreneurship and sustainable agribusiness learning. They suggest that students should not only understand the components of the marketing mix but also recognise the strategic role of shaping consumer perceptions and behavioural intentions. Integrating these insights into teaching can enrich the development of entrepreneurial skills, especially in promoting locally produced, environmentally sustainable products. Thus, this study contributes not only to marketing theory but also to interdisciplinary educational practices that support sustainable business development.

Acknowledgments
We extend our heartfelt gratitude to the research respondents and the management of Waroeng Kopi Kayumas for their invaluable support and cooperation in facilitating this study. Their willingness to participate and provide access has greatly contributed to the successful completion of this research.

Author Contributions
Conceptualization, N. R. S. and A. W. M. and A. S. H. W.; methodology, N. R. S. and A. W. M.; validation, A. W. M. and A. S. H.; formal analysis, N. R. S.; investigation, N. R. S.; resources, N. R. S.; data curation, N. R. S. and A. W. M. and A. S. H.; writing—original draft preparation, N. R. S.; writing—review and editing, N. R. S. and A. W. M. and A. S. H.; visualization, N. R. S.
All authors have read and agreed to the published version of the manuscript.

Funding
This research received no external funding.

Conflicts of Interest
The authors declare no conflict of interest.

References

Angreni, T., Hanitha, V., Oktari, Y., & Novianti, R. (2024). Analisis Bibliometrik: Perilaku Konsumen Generasi Y (Milenial) dan Generasi Z (Zoomer). *RUBINSTEIN*, *3*(1), 63–78. https://doi.org/10.31253/rubin.v3i1.3582

Arpah, M., & Nabella, S. D. (2023). The Effect of Trust, Perception of Risk and Security on Consumer Purchase Interest in Lazada (Empirical Study on Students of The Faculty of Economics and Business, Ibn Sina University). *International Journal of Accounting, Management, Economics and Social Sciences (IJAMESC)*, *1*(4), 304–316. https://doi.org/10.61990/ijamesc.v1i4.40

Asgar, H., & Sofyan, A. T. (2023). Application of BUMDES and MSME Technology through Collaborative Model Village Marketplace Design: Rasch Model Analysis of West Sumbawa Community Perceptions. *Jurnal Penelitian Pendidikan IPA*, *9*(1), 211–218. https://doi.org/10.29303/jppipa.v9iSpecialIssue.6434

Chetioui, Y., Lebdaoui, H., & Chetioui, H. (2021). Factors influencing consumer attitudes toward online shopping: the mediating effect of trust. *EuroMed Journal of Business*, *16*(4), 544–563. https://doi.org/10.1108/EMJB-05-2020-0046

Digdowiseiso, K., & Ria, R. (2023). Pengenalan Digital Marketing Bagi Pelaku UMKM di Kelurahan Jatisampurna Kota Bekasi. *Jurnal Abdimas Bina Bangsa*, *4*(1), 608–620. https://doi.org/10.46306/jabb.v4i1.452

Elisa, E., Prabandari, A. M., Istighfarini, E. T., Alivia, H., & Nuraini, L. (2022). Digital module innovation based on exploration of physics concepts containing local wisdom" making traditional snacks" to support the formation of pancasila students. *Jurnal Penelitian Pendidikan IPA*, *8*(6), 2923–2932. https://doi.org/10.29303/jppipa.v8i6.2171

Farahdiba, D. (2020). Konsep dan strategi komunikasi pemasaran: perubahan perilaku konsumen menuju era disrupsi. *Jurnal ilmiah komunikasi makna*, *8*(1), 22–38. http://dx.doi.org/10.30659/jikm.8.1.22-38

Gichuki, C. N., Gicheha, S. K., & Kamau, C. W. (2020). Do food certification standards guarantee small-sized farming enterprises access to better markets? Effectiveness of marketing contracts in Kenya. *International Journal of Social Economics*, *47*(4), 445–459. https://doi.org/10.1108/IJSE-08-2019-0501

Haitao, N. (2022). Analysis of price perception, purchase interest and marketing performance on purchase decisions. *Dinasti International Journal of Digital Business Management*, *3*(4), 693–702. https://doi.org/10.31933/dijdbm.v3i4

Harto, B., Pramuditha, P., Rukmana, A. Y., Sofyan, H., Rengganawati, H., Dwijayanti, A., & Sumarni, T. (2023). Strategi Social Media Marketing Melalui Dukungan Teknologi Informasi dalam Kajian Kualitatif Pada UMKM Kota Bandung. *Komversal*, *5*(2), 244–261. https://doi.org/10.38204/komversal.v5i2.1499

Hidayah, Y., Ulfah, N., & Trihastuti, M. (2023). Memperkuat integrasi nasional di era digital: Penguatan resolusi konflik di era digital sebagai perwujudan warga negara yang baik. *Antroposen: Journal of Social Studies and Humaniora*, *2*(2), 105–115.

https://doi.org/10.33830/antroposen.v2i2.5483

Juhainah, J., Mukodimah, S., Muslihudin, M., & Fitrian, Y. (2024). Penggunaan Media Sosial Untuk Pemasaran Produk Home Industri Kain Perca Banyumas Pringsewu. *Jurnal PKM Pemberdayaan Masyarakat*, *5*(1), 8–18. https://doi.org/10.56327/jurnalpkm.v5i1.113

Kisa, D., Mwaura, P., & Tanui, J. K. (2021). The Influence of Marketing Mix Strategies on the Sales Performance of Small Scale Bixa Ollerana Farmers in Kwale County, Kenya. *Kabarak Journal of Research & Innovation*, *11*(1), 69–84. https://doi.org/10.58216/kjri.v11i1.95

Koc, E., & Ayyildiz, A. Y. (2021). Culture's influence on the design and delivery of the marketing mix elements in tourism and hospitality. *Sustainability*, *13*(21), 11630–11650. https://doi.org/10.3390/su132111630

Komalasari, R. (2021). Manfaat Teknologi Informasi dan Komunikasi di Masa Pandemi Covid 19. *TEMATIK : Jurnal Teknologi Informasi Dan Komunikasi*, *7*(1), 38–50. https://doi.org/https://doi.org/10.38204/tematik.v7i1.369

Kumar, M., & Rodrigues, V. S. (2020). Synergetic effect of lean and green on innovation: A resource-based perspective. *International Journal of Production Economics*, *2*(19), 469–479. https://doi.org/10.1016/j.ijpe.2018.04.007

Kusuma, A. F., & Wijaya, T. (2022). Pengaruh electronic word of mouth terhadap minat beli: Peran mediasi citra merek. *Jurnal Fokus Manajemen Bisnis*, *12*(1), 30–42. https://doi.org/10.12928/fokus.v12i1.5717

Lerner, D. G., Pereira, H. M. F., Saes, M. S. M., & Oliveira, G. M. D. (2021). When unfair trade is also at home: the economic sustainability of coffee farms. *Sustainability*, *13*(3), 1–15. https://doi.org/10.3390/su13031072

Lim, W. M. (2021). A marketing mix typology for integrated care: the 10 Ps. *Journal of Strategic Marketing*, *29*(5), 453–469. https://doi.org/10.1080/0965254X.2020.1775683

Maryani, M., Nisak, M. S., & Supriadi, B. (2022). Implementasi media pembelajaran berbasis web Google Sites untuk meningkatkan kemampuan memecahkan masalah siswa SMA pokok bahasan gelombang bunyi. *Jurnal Penelitian Pendidikan IPA*, *8*(4), 2136–2144. https://doi.org/10.29303/jppipa.v8i4.2037

Masithoh, D., & Anintyawati, R. (2022). Penyuluhan Program Penghijauan untuk Menanamkan Pendidikan Karakter" Cinta Lingkungan" di Sekolah Dasar. *Lamahu: Jurnal Pengabdian Masyarakat Terintegrasi*, *1*(2), 47–51. https://doi.org/10.34312/ljpmt.v1i2.15529

Maulana, A., Haeran, H., Munip, A., & Saputra, A. E. (2024). Strategi Pemasaran Layanan Keuangan dalam Meningkatkan Transaksi di Kantor Pos KCP Rantau Rasau. *Jurnal Bangun Abdimas*, *3*(2), 289–295. https://doi.org/10.56854/ba.v3i2.409

Nagara, D. N., & Hendrati, H. (2022). Pengaruh Bauran Pemasaran terhadap Keputusan Pembelian Produk Pakaian dengan Kualitas Pelayanan Sebagai Variabel Moderasi. *Jurnal Riset Manajemen Dan Bisnis*, *2*(1), 55–61. https://doi.org/10.29313/jrmb.v2i1.1001

Noel, H. (2017). *Basics Marketing 01: Consumer Behaviour*. Bloomsbury Publishing.

Nuraini, R. A., & Kurnianingsih, H. (2021). Marketing Mix Effect on Purchase Decision of Traditional Jamu Sabdo Palon. *Jurnal Mantik*, *4*(4), 2478–2485. https://iocscience.org/ejournal/index.php/mantik

Nurdiana, N., Rahayu, H. M., & Qurbaniah, M. (2024). Ethnobotany study tradition Buang Abu Melayu Sambas as a biology learning resource. *Jurnal Penelitian Pendidikan IPA*, *10*(10), 7894–7903. https://doi.org/10.29303/jppipa.v10i10.8096

Nurhasna, F. N., Dewi, R. S., & Lestari, D. (2022). Pengaruh Kualitas Produk dan Harga dengan Keputusan Pembelian sebagai Variabel Intervening terhadap Loyalitas Konsumen. *Jurnal Ilmu Administrasi Bisnis*, *11*(4), 750–757. https://doi.org/10.14710/jiab.2022.36078

Olazo, D. B. (2023). Marketing competency, marketing innovation and sustainable competitive advantage of small and medium enterprises (SMEs): a mixed-method analysis. *Asia Pacific Journal of Marketing and Logistics*, *35*(4), 890–907. https://doi.org/10.1108/APJML-01-2022-0050

Othman, B. A., Harun, A., De Almeida, N. M., & Sadq, Z. M. (2021). The effects on customer satisfaction and customer loyalty by integrating marketing communication and after sale service into the traditional marketing mix model of Umrah travel services in Malaysia. *Journal of islamic marketing*, *12*(2), 363–388. https://doi.org/10.1108/JIMA-09-2019-0198

Owan, V. J., Abang, K. B., Idika, D. O., Etta, E. O., & Bassey, B. A. (2023). Exploring the potential of artificial intelligence tools in educational measurement and assessment. *Eurasia journal of mathematics, science and technology education*, *19*(8), 1–15. https://doi.org/10.29333/ejmste/13428

Pebrianti, P., & Suryani, O. (2024). Development of the Acid-Base Module Based on Problem Based Learning with Ethnochemisty to Improve Students Science Literacy Ability. *Jurnal Penelitian Pendidikan IPA*, *10*(8), 4634–4640. https://doi.org/10.29303/jppipa.v10i8.8582

Peña-García, N., Gil-Saura, I., Rodríguez-Orejuela, A., & Siqueira-Junior, J. R. (2020). Purchase intention and purchase behavior online: A cross-cultural approach. *Heliyon*, *6*(6), 1–11. https://doi.org/10.1016/j.heliyon.2020.e04284

Pura, M. P., & Madiawati, P. N. (2021). Pengaruh Promotion Mix Dan Gaya Hidup Terhadap Keputusan Pembelian Di Shopee Dengan Perilaku Konsumen Sebagai Variabel Intervening. *JEMMA (Journal of Economic, Management and Accounting)*, *4*(2), 204–216. https://doi.org/10.35914/jemma.v4i2.752

Purnama, R., Rinaldi, A. R., & Fathurrohman, F. (2024). Analisis Pola Pembelian Konsumen Warmindo Dengan Menggunakan Algoritma FP-Growth. *JATI (Jurnal Mahasiswa Teknik Informatika)*, *8*(3), 4217–4222. https://doi.org/10.36040/jati.v8i3.9781

Ridho, S., Ruwiyatun, S., & Marwoto, B. (2020). Analisis kemampuan berpikir kritis siswa pokok bahasan klasifikasi materi dan perubahannya. *Jurnal Penelitian Pendidikan IPA (JPPIPA)*, *6*(1), 10–15. https://doi.org/10.29303/jppipa.v6i1.194

Sarfika, R., Luthan, L., Pratiwi, W., Angraini, E., & Muliantino, M. R. (2024). Pelatihan Pemasaran Sebagai Upaya Optimalisasi Promosi Produk Bagi UMKM Buncha. *JMM (Jurnal Masyarakat Mandiri)*, *8*(6), 6484–6494.

Sarpong, K. A., Amankwaa, G., Frimpong, O., Xu, W., Cao, Y., Ni, X., & Nkrumah, N. K. (2021). Consumers' purchasing intentions for efficient water-saving products: the mediating effects of altruistic and egoistic values. *AQUA — Water Infrastructure, Ecosystems and Society*, *70*(2), 226–238. https://doi.org/10.2166/aqua.2021.100

Sesini, G., Castiglioni, C., & Lozza, E. (2020). New trends and patterns in sustainable consumption: A systematic review and research agenda. *Sustainability*, *12*(15), 5935–5947. https://doi.org/10.3390/su12155935

Solimun, Fernandes, A. A. R., & Nurjannah. (2017). *Metode Statistika Multivariat: Pemodelan Persamaan Struktural (SEM) Pendekatan WarpPLS*. UB Press.

Sulistyawati, U. S., & Munawir, M. (2024). Membangun Keunggulan Kompetitif melalui Platform E-Commerce: Studi Kasus Tokopedia. *Jurnal Manajemen Dan Teknologi*, *1*(1), 43–56. https://doi.org/10.63447/jmt.v1i1.776

Supriadi, S., Wildan, W., & Laksmiwati, D. (2020). Implementasi Model Pembelajaran Berbasis Masalah dan Pengaruhnya terhadap Perkembangan Karakter Mahasiswa. *Jurnal Penelitian Pendidikan IPA*, *6*(1), 63–68. https://doi.org/10.29303/jppipa.v6i1.323

Wahyu, Y., Edu, A. L., & Nardi, M. (2020). Problematika pemanfaatan media pembelajaran IPA di Sekolah Dasar. *Jurnal Penelitian Pendidikan IPA*, *6*(1), 107–112. https://doi.org/10.29303/jppipa.v6i1.344

Wang, C. L. (2021). New frontiers and future directions in interactive marketing: inaugural Editorial. *Journal of Research in Interactive Marketing*, *15*(1), 1–9. https://doi.org/10.1108/JRIM-03-2021-270

Wijaya, I. G. N. S., Pratami, N. W. C. A., & Yasa, I. G. D. (2022). Keputusan pembelian e-commerce selama pandemi: persepsi kegunaan, persepsi kemudahan penggunaan, harga, dan sikap konsumen. *Jurnal Manajemen*, *14*(1), 26–37. https://doi.org/10.29264/jmmn.v14i1.10993

Yasin, M., Ananto, P. K. F., Aji, B. K., & Milad, M. K. (2024). Integrasi Strategis untuk Keunggulan Akademik: Memanfaatkan COBIT dan PMBOK dalam Praktik Audit dan Manajemen Proyek. *Jurnal Penelitian Pendidikan IPA*, *10*(4), 1519–1531. https://doi.org/10.29303/jppipa.v10i4.6887

Zuniarto, A. A., Mahfudh, N., Perwitasari, D. A., & Pandanwangi, S. (2024). Readiness Society to Enter the Era of Halal Drug Certification Mandatory in Terms of Knowledge, Perceptions, and Attitudes. *Jurnal Penelitian Pendidikan IPA*, *10*(3), 429–436. https://doi.org/10.29303/jppipa.v10iSpecialIssue.7771