

**REVISITING THE MEDIATING ROLE OF CONSUMER
SATISFACTION: A MULTIVARIATE ANALYSIS OF HALAL
LABELING, PRICE, AND DIGITAL MARKETING ON
CONSUMER LOYALTY AMONG GEN Z IN INDONESIA**

Mochlasin

Faculty of Islamic Economics and Business, Salatiga State Islamic University
(UIN), Central Java, Indonesia, Salatiga Ring Road Km. 2, Pulutan, Sidorejo,
Salatiga City, 50716
E-Mail: mochlassofyan@gmail.com

Dina Utari*

Faculty of Islamic Economics and Business, Salatiga State Islamic University
(UIN), Central Java, Indonesia, Salatiga Ring Road Km. 2, Pulutan, Sidorejo,
Salatiga City, 50716
E-Mail: naatthr@gmail.com

*Correspondance

ABSTRACT

This study investigates the mediating effect of consumer satisfaction on the relationship between halal labeling, price, and digital marketing, and consumer loyalty toward Hilo milk products among Generation Z consumers in Indonesia. Using a structured questionnaire and a purposive sampling approach, data were collected from 100 respondents aged 15–28 years in Salatiga, Central Java. Statistical analysis was conducted using SPSS, with reliability and validity checks, normality tests, multicollinearity analysis, and path analysis including the Sobel test to evaluate mediation. Findings indicate that while halal labeling shows no significant direct or indirect influence on consumer loyalty, both price and digital marketing significantly enhance consumer satisfaction, which in turn positively mediates their impact on loyalty. The model explains 47.7% of the variance in consumer satisfaction and 45.2% in consumer loyalty. These results provide managerial implications for halal food producers to shift focus from certification-centered marketing to consumer-centric strategies emphasizing affordability and digital engagement. This study contributes to the limited empirical literature on Muslim Gen Z consumption behavior in Southeast Asia.

Keywords: Halal labeling, digital marketing, consumer satisfaction, price sensitivity, Gen Z, loyalty, Indonesia, Islamic marketing

INTRODUCTION

In recent years, the significance of halal labeling has grown alongside the rise of the global halal economy and consumer awareness, particularly in Muslim-majority countries like Indonesia. Halal certification is commonly viewed as a key driver of purchasing behavior and brand loyalty among Muslim consumers, who perceive it as an assurance of product permissibility and ethical standards (Indraputra, 2024). However, empirical studies yield conflicting evidence about the extent to which halal labeling alone influences consumer loyalty. For instance, Anggraini and Suryoko (2018) demonstrated a positive and significant impact of halal labeling on loyalty among cosmetic users in Semarang. Contrarily, Rahayu (2023) reported that halal labels on Pond's facial soap did not significantly influence loyalty among female students in East Java. This discrepancy suggests that halal certification, although normatively critical in Islamic consumption, may not consistently translate into behavioral loyalty—particularly when baseline halal expectations are already institutionalized in consumer perception. The question then arises whether halal labeling remains a differentiating factor or is increasingly viewed as a commodified baseline rather than a brand advantage.

Moreover, existing literature in Islamic marketing tends to treat halal labeling as a direct predictor of behavioral outcomes, often overlooking the mediating psychological constructs that explain why or how such labels may—or may not—drive loyalty. Few studies, especially in the Indonesian context, have explored the role of consumer satisfaction as a mediating variable that connects marketing strategies (such as halal labeling, price sensitivity, or digital engagement) with loyalty outcomes. For example, while price and digital marketing have been shown to directly enhance satisfaction and, subsequently, loyalty (Widodo, 2024; Musrifah, 2023), the position of halal labeling within this relational framework remains empirically underexplored. The present study seeks to address this lacuna by situating halal labeling not as an isolated determinant, but as part of a broader behavioral model, testing its mediated effects via consumer satisfaction. This approach not only responds to the inconclusive findings in prior works but also advances the analytical sophistication of Islamic marketing research through the incorporation of mediation models (Pardede & Haryadi, 2017; Novia et al., 2023).

This study draws upon the integration of Expectation-Confirmation Theory (ECT) and Halal Consumer Behavior Framework to explain the complex relational dynamics between marketing variables and consumer loyalty. ECT, as originally conceptualized by Oliver (1980), posits that consumer satisfaction arises when product performance aligns with or exceeds prior expectations, thereby fostering repeat purchases and long-term loyalty. Within this model, price and digital marketing are not merely transactional elements but serve as critical expectation-

shaping agents. When pricing is perceived as fair and digital engagement is perceived as responsive and personalized, consumers are more likely to experience satisfaction that evolves into affective loyalty (Pardede & Haryadi, 2017; Widodo, 2024). Hence, consumer satisfaction is conceptualized as an intervening psychological mechanism that captures the subjective appraisal of marketing stimuli—mediating the link between external marketing strategies and behavioral loyalty outcomes.

In Islamic marketing literature, the halal label is often treated as both a symbolic cue and a trust mechanism, rooted in *shariah compliance* and ethical consumption values. However, recent developments suggest that halal certification has undergone a process of normalization, particularly among younger Muslim consumers for whom halal status is often assumed (Rahayu, 2023). This raises questions about its motivational potency when juxtaposed with more dynamic and experiential variables like digital marketing. The Halal Consumer Behavior Model further suggests that religious assurance (e.g., halal labeling) must be complemented by perceived value, product quality, and marketing relevance to generate meaningful consumer loyalty (Anggraini & Suryoko, 2018; Musrifah, 2023). Thus, this study frames halal labeling not as a standalone determinant but as a potentially moderated or mediated variable, whose effectiveness in fostering loyalty depends on its ability to enhance satisfaction within a competitive marketing environment. The combined use of ECT and Islamic consumption frameworks enables a nuanced investigation into how satisfaction operates as a conduit between halal-oriented marketing stimuli and consumer loyalty within the Muslim Gen Z demographic.

This study aims to dissect the relational influence of halal labeling, price, and digital marketing on consumer loyalty by positioning consumer satisfaction as a mediating construct. Given the increasing complexity of consumer decision-making in Muslim-majority markets and the evolving expectations of Gen Z, the research seeks to clarify whether traditional cues such as halal labels retain their salience, and how experiential variables—price fairness and digital engagement—interact with consumer perceptions to build loyalty.

Based on the theoretical lens of Expectation-Confirmation Theory (ECT) and Islamic consumption behavior, the following objectives are proposed:

1. To examine the direct effects of halal labeling, price, and digital marketing on consumer satisfaction and loyalty.
2. To assess the mediating role of consumer satisfaction between these marketing stimuli and consumer loyalty.

3. To provide empirical evidence on the shifting influence of halal labeling in the consumption behavior of Gen Z Muslim consumers in Indonesia.

Accordingly, ten hypotheses are developed to structure the empirical investigation:

1. H1: Halal labeling has a significant positive effect on consumer loyalty.
2. H2: Price has a significant positive effect on consumer loyalty.
3. H3: Digital marketing has a significant positive effect on consumer loyalty.
4. H4: Consumer satisfaction has a significant positive effect on consumer loyalty.
5. H5: Halal labeling has a significant positive effect on consumer satisfaction.
6. H6: Price has a significant positive effect on consumer satisfaction.
7. H7: Digital marketing has a significant positive effect on consumer satisfaction.
8. H8: Consumer satisfaction mediates the relationship between halal labeling and consumer loyalty.
9. H9: Consumer satisfaction mediates the relationship between price and consumer loyalty.
10. H10: Consumer satisfaction mediates the relationship between digital marketing and consumer loyalty.

These hypotheses are tested through path analysis and mediation testing using the Sobel method. The outcomes are expected to reveal the differential strength of each predictor in explaining loyalty, while highlighting the central role of satisfaction in the loyalty-building process among halal-conscious Gen Z consumers.

METHODS

Research Design

This study employed a quantitative, cross-sectional design to examine the causal relationship between halal labeling, price, and digital marketing on consumer loyalty, with consumer satisfaction as a mediating variable. The design is aligned with the predictive nature of the research objectives and the statistical methods adopted, enabling the assessment of both direct and indirect effects among constructs.

Sampling and Population

The target population comprised Generation Z consumers (ages 15–28) in Salatiga, Central Java, Indonesia, who had previously purchased Hilo milk products and possessed basic financial autonomy. The sampling criteria also required respondents to be aware of halal certification and have access to digital media. Using Cochran's formula for minimum sample size estimation and assuming a 95% confidence level, a sample of 100 valid respondents was collected through purposive sampling. This non-probability technique was deemed appropriate given the research aim to reach informed and behaviorally relevant consumers.

Data Collection

Primary data were collected during January–February 2025 via an online structured questionnaire, distributed through social media and academic networks. Respondents were required to provide informed consent before participation. The questionnaire utilized a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree) and included sections for demographic information, purchasing behavior, and perceptions regarding halal labeling, price fairness, digital marketing exposure, satisfaction, and loyalty.

Instrumentation and Measurement Validity

The questionnaire items were adapted from previous validated instruments (e.g., Anggraini & Suryoko, 2018; Pardede & Haryadi, 2017) and translated into Bahasa Indonesia with back-translation to ensure semantic equivalence. Validity testing was conducted using Pearson correlation ($r_{\text{table}} > 0.195$, $n = 100$), with all items exceeding the threshold ($r \geq 0.458$). Reliability testing was performed using Cronbach's alpha, with all constructs exceeding the 0.70 benchmark: halal labeling ($\alpha = 0.780$), price ($\alpha = 0.782$), digital marketing ($\alpha = 0.782$), consumer satisfaction ($\alpha = 0.802$), and consumer loyalty ($\alpha = 0.777$), indicating high internal consistency.

Data Analysis

Data were analyzed using SPSS (version 25). The analysis included:

1. Descriptive statistics for demographic profiling,
2. Classical assumption tests, including normality (Kolmogorov-Smirnov), multicollinearity (tolerance > 0.10 , VIF < 10), and heteroscedasticity (scatterplot inspection),
3. Multiple linear regression to assess direct effects,
4. Path analysis to estimate structural relationships among variables, and

5. Sobel test to evaluate the significance of mediating effects.

In addition, the coefficient of determination (R^2) was calculated to measure the explanatory power of the independent variables. The analytical rigor applied ensures the robustness of statistical conclusions and supports generalizability within the defined sample context.

RESULT AND DISCUSSION

Most of the respondents in this study were women, which was 72%, while men were only 28%. This difference is likely to occur because women are more responsive to surveys and tend to be more open in sharing their consumption experiences. In terms of age, the majority of respondents were in the range of 19-23 years (92%), while the age group of 15-18 years was only 3% and the age group of 24-28 years was 5%. The 19-23 year old age group dominates because they are more financially independent and have higher purchasing power than other age groups.

In terms of religion, as many as 96% of respondents are Muslim, while the other 4% are non-Muslim. In terms of income, most respondents (73%) have an income of IDR 500,000–IDR 1,500,000, 12% have an income of IDR 1,500,000 – IDR 2,000,000, and 15% have an income of more than IDR 2,000,000. This shows that the majority of respondents come from the lower middle economic group.

The frequency of purchasing Hilo products by respondents varies, where 75% buy 1-3 times and 25% buy 4-6 times. Consumers who buy more often are likely to have a higher level of loyalty to the product. In terms of domicile area, respondents were spread across various sub-districts in Salatiga, with the distribution of Sidorejo (37%), Sidomukti (25%), Argomulyo (23%), and Tingkir (15%). Although the number of respondents is uneven, this study still provides a fairly representative picture of consumer characteristics in Salatiga.

Validity Test

To ensure construct validity, a Pearson product-moment correlation test was conducted for each item within the five measured variables: halal labeling (X1), price (X2), digital marketing (X3), consumer satisfaction (Z), and consumer loyalty (Y). The critical value for r at $n = 100$ and $\alpha = 0.05$ was 0.195. As presented in Table 1, all items across variables exceeded the minimum threshold, confirming that each indicator exhibits a statistically significant correlation with its respective construct. Therefore, the instrument is deemed valid for further empirical analysis.

Table 1. Validity Test

Variable	Item	r-calculated	r-table	Validity Status
Halal Labeling (X1)	P1	0.646	0.195	Valid
	P2	0.798	0.195	Valid
	P3	0.667	0.195	Valid
	P4	0.723	0.195	Valid
	P5	0.708	0.195	Valid
Price (X2)	P1	0.647	0.195	Valid
	P2	0.748	0.195	Valid
	P3	0.689	0.195	Valid
	P4	0.806	0.195	Valid
	P5	0.740	0.195	Valid
Digital Marketing (X3)	P1	0.719	0.195	Valid
	P2	0.787	0.195	Valid
	P3	0.877	0.195	Valid
	P4	0.458	0.195	Valid
	P5	0.813	0.195	Valid
	P6	0.825	0.195	Valid
	P7	0.648	0.195	Valid
Consumer Satisfaction (Z)	P1	0.773	0.195	Valid
	P2	0.751	0.195	Valid
	P3	0.744	0.195	Valid
	P4	0.658	0.195	Valid
	P5	0.790	0.195	Valid
	P6	0.801	0.195	Valid
	P7	0.798	0.195	Valid

Consumer Loyalty (Y)	P1	0.882	0.195	Valid
	P2	0.876	0.195	Valid
	P3	0.909	0.195	Valid
	P4	0.727	0.195	Valid
	P5	0.789	0.195	Valid
	P6	0.715	0.195	Valid

Source: Primary data processed, 2025

All items demonstrated statistically valid correlation coefficients, affirming their appropriateness in representing the respective latent constructs. This foundational step ensures data quality for subsequent analyses, including reliability testing, regression modeling, and mediation testing.

Reliability Test

To assess the internal consistency of the measurement scales, a Cronbach's alpha coefficient was calculated for each construct. Cronbach's alpha values above 0.70 are generally considered acceptable indicators of reliability (Nunnally & Bernstein, 1994). As shown in Table 2, all constructs in the questionnaire—including halal labeling, price, digital marketing, consumer satisfaction, and consumer loyalty—exhibited alpha values exceeding the threshold, confirming the scales' reliability and internal coherence.

Table 2. Reliability Test Results

Variable	Cronbach's Alpha	Threshold	Reliability Status
Halal Labeling (X1)	0.780	≥ 0.70	Reliable
Price (X2)	0.782	≥ 0.70	Reliable
Digital Marketing (X3)	0.782	≥ 0.70	Reliable
Consumer Loyalty (Y)	0.777	≥ 0.70	Reliable
Consumer Satisfaction (Z)	0.802	≥ 0.70	Reliable

Source: Results of SPSS 29.0 Data Management

The high internal consistency of each construct confirms that the items are measuring a coherent and unified concept. This reliability strengthens the credibility of the subsequent statistical analysis, ensuring that the variations observed in consumer responses are attributable to actual differences in perception rather than measurement error.

Normality Test

To verify whether the dataset conforms to the assumption of normal distribution—a prerequisite for parametric statistical techniques such as linear regression—a Kolmogorov-Smirnov (K-S) test was employed on the unstandardized residuals. The results are presented in Table 3.

Table 3. Kolmogorov–Smirnov Normality Test Results

One-Sample Kolmogorov-Smirnov Test			
			Unstandardized Residual
N			100
Normal Parameters a,b	Mean		0
	Std. Deviation		1
Most Extreme Differences	Absolute		.098
	Positive		.059
	Negative		-.098
Kolmogorov-Smirnov Z			.980
Asymp. Sig. (2-tailed)			.292
Monte Carlo Sig. (2-tailed)	Mr.		.264c
	99% Confidence Interval	Lower Bound	.252
		Upper Bound	.275
a. Test distribution is Normal.			
b. User-Specified			
c. Based on 10000 sampled tables with starting seed 215962969.			

Source: Primary data processed, 2025

Note: Test distribution is normal; Monte Carlo estimation based on 10,000 samples with seed 215962969.

The test returned an Asymp. Sig. (2-tailed) value of 0.292, which exceeds the conventional significance level of 0.05. This result suggests insufficient

evidence to reject the null hypothesis of normal distribution. Hence, it can be concluded that the residuals are normally distributed.

Meeting the assumption of normality ensures the appropriateness of parametric techniques used in this study, such as multiple regression and path analysis. Violating this assumption could lead to biased parameter estimates and unreliable statistical inferences. Therefore, the confirmation of normality enhances the credibility and robustness of the results derived from the regression models used.

Multicollinearity test

To examine the presence of multicollinearity among independent variables, the study utilized tolerance values and Variance Inflation Factor (VIF) derived from the regression outputs. Multicollinearity is considered absent when tolerance values exceed 0.10 and VIF values remain below 10.00. The analysis was conducted for two regression models: the first with consumer satisfaction (Z) as the dependent variable, and the second with consumer loyalty (Y) as the dependent variable. The results are detailed in Tables 4 and 5.

Table 4. Multicollinearity Test – Model 1 (Dependent Variable: Z)

Model	Unstandardized Coefficients	Standardized Coefficients	t	Mr.	Collinearity Statistics
	B	Std. Error	Beta		
1					
(Constant)	7.448	7.777		0.958	0.341
X1	-0.265	0.200	-	-	0.187
			0.122	1.328	
X2	0.868	0.205	0.419	4.239	0.000
X3	0.394	0.070	0.459	5.655	0.000

Note: a. Dependent Variable: Z

Source: Primary data processed, 2025

Table 5. Multicollinearity Test – Model 2 (Dependent Variable: Y)

Model	Unstandardized Coefficients	Standardized Coefficients	t	Mr.	Collinearity Statistics
	B	Std. Error	Beta		
1					
(Constant)	5.306	4.023		1.319	0.190
X1	0.097	0.104	0.061	0.938	0.350
X2	0.206	0.115	0.135	1.793	0.076

X3	0.013	0.041	0.020	0.313	0.755
With	0.556	0.053	0.753	10.575	0.000

Note: a. Dependent Variable: Y

Source: Primary data processed, 2025

The findings confirm that all tolerance values exceed 0.10 and VIF scores are well below 10, thus eliminating concerns of multicollinearity. This indicates that the independent variables do not exhibit problematic intercorrelation and that each variable contributes uniquely to the model. Accordingly, the regression models can be considered statistically robust and appropriate for further causal inference.

Heteroscedasticity test

To evaluate the assumption of homoscedasticity—i.e., the constancy of residual variance across levels of the independent variables—a visual inspection of the scatterplot of standardized residuals versus predicted values was conducted. The scatterplot is shown in Figure 1.

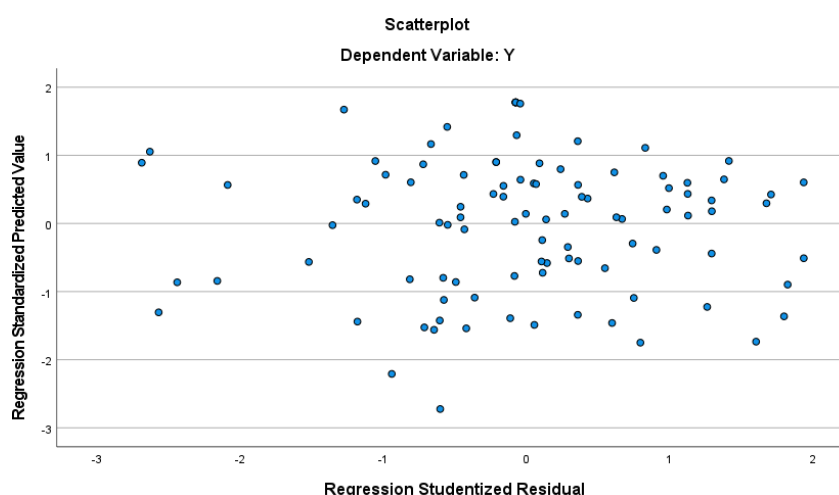


Figure 1. Scatterplot for Heteroscedasticity Test

Source: Primary data processed, 2025

Upon visual examination, the residuals appear to be randomly distributed around the horizontal axis (zero line) without forming any discernible pattern, funnel shape, or systematic clustering. This pattern suggests that the variance of the error terms remains constant across predicted values, thereby meeting the assumption of homoscedasticity.

The fulfillment of this assumption affirms the appropriateness of the regression model for unbiased estimation. A violation of homoscedasticity could

lead to inefficient parameter estimates and invalid significance tests. However, the absence of heteroscedasticity in this model supports the statistical reliability of the regression and path analysis conducted in subsequent sections.

Partial Effects (t-Test)

To assess the significance of individual predictors in explaining the dependent variables, a partial t-test was performed on two regression models. The first model investigates the direct effects of halal labeling (X1), price (X2), and digital marketing (X3) on consumer loyalty (Y). The second model evaluates the same predictors' influence on the mediating variable, consumer satisfaction (Z). A significance threshold of $\alpha = 0.05$ was applied. The critical value of t for $n = 100$ and $df = 95$ is 1.66039.

Table 6. Regression Coefficients – Model 1 (Dependent Variable: Consumer Loyalty – Y)

Model	Unstandardized Coefficients	Standardized Coefficients	t	Mr.
	B	Std. Error	Beta	
1				
(Constant)	5.306	4.023		1.319
X1	0.097	0.104	0.061	0.938
X2	0.206	0.115	0.135	1.793
X3	0.013	0.041	0.020	0.313
Z	0.556	0.053	0.753	10.575

Note: a. Dependent Variable: Y

Source: Primary data processed, 2025

Interpretation:

1. Halal labeling (X1) has no significant effect on loyalty ($p = 0.350 > 0.05$; $t = 0.938 < 1.66039$).
2. Price (X2) shows a positive direction but is not statistically significant ($p = 0.076 > 0.05$; $t = 1.793 > 1.66039$), suggesting marginal significance.
3. Digital marketing (X3) does not significantly affect loyalty ($p = 0.755 > 0.05$; $t = 0.313$).
4. Consumer satisfaction (Z) has a strong and significant positive effect on loyalty ($p < 0.001$; $t = 10.575 > 1.66039$).

Table 7. Regression Coefficients – Model 2 (Dependent Variable: Consumer Satisfaction – Z)

Model	Unstandardized Coefficients	Standardized Coefficients	t	Mr.
	B	Std. Error	Beta	
1				
(Constant)	7.448	7.777		0.958
X1	-0.265	0.200	-	-
			0.122	1.328
X2	0.868	0.205	0.419	4.239
X3	0.394	0.070	0.459	5.655

Note: a. Dependent Variable: Z

Source: Primary data processed, 2025

Interpretation:

1. Halal labeling (X1) does not significantly influence satisfaction ($p = 0.187 > 0.05$; $t = -1.328$).
2. Price (X2) exerts a positive and significant influence on satisfaction ($p < 0.001$; $t = 4.239 > 1.66039$).
3. Digital marketing (X3) also shows a significant positive effect on satisfaction ($p < 0.001$; $t = 5.655 > 1.66039$).

The results reveal that consumer satisfaction plays a central role in this model. While direct effects from halal labeling and digital marketing to loyalty are insignificant, their indirect effects—particularly via satisfaction—may be more meaningful, as tested further in mediation analysis.

Simultaneous Effects (F-Test)

To determine whether the independent variables—halal labeling (X1), price (X2), and digital marketing (X3)—simultaneously influence the dependent variables, ANOVA (Analysis of Variance) was applied to both regression models. The F-test assesses the joint significance of predictors at a confidence level of 95% ($\alpha = 0.05$), with the critical F-table value approximately 2.699 for df (3, 96).

Table 8. ANOVA Results – Model 1 (Dependent Variable: Consumer Loyalty – Y)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	2346.974	3	782.325	26.356	0.000 ^b
Residual	2849.586	96	29.683		
Total	5196.560	99			

Note: a. Dependent Variable: Y

b. Predictors: (Constant), X3, X1, X2

Source: Primary data processed, 2025

The results demonstrate that the combined effect of X1, X2, and X3 on Y is statistically significant ($p < 0.001$; $F = 26.356 > 2.699$). This indicates that the model collectively predicts consumer loyalty at a high level of confidence.

Table 9. ANOVA Results – Model 2 (Dependent Variable: Consumer Satisfaction – Z)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	4554.057	3	1518.019	29.205	0.000 ^b
Residual	4989.903	96	51.978		
Total	9543.960	99			

Note: a. Dependent Variable: Z

b. Predictors: (Constant), X3, X1, X2

Source: Primary data processed, 2025

Similarly, the F-statistic in Model 2 confirms that the independent variables significantly influence consumer satisfaction ($F = 29.205 > 2.699$; $p < 0.001$), justifying the model's use for subsequent mediation analysis.

Coefficient of Determination (R^2 Test)

The coefficient of determination (R^2) provides a measure of the proportion of variance in the dependent variable that is predictable from the independent variables. Both regression models demonstrate moderate explanatory power.

Table 10. Model Summary – Model 1 (Dependent Variable: Consumer Satisfaction – Z)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.691	0.477	0.461	7.20959

Source: Primary data processed, 2025

This model explains **47.7%** of the variance in consumer satisfaction (Z), with an adjusted R² of 0.461. The remaining **52.3%** of variance may be attributed to unobserved factors. The standard error of **7.20959** indicates a moderate prediction error, leaving room for further model refinement.

Table 11. Model Summary – Model 2 (Dependent Variable: Consumer Loyalty – Y)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.672	0.452	0.435	5.44823

Source: Primary data processed, 2025

The second model demonstrates that 45.2% of the variation in consumer loyalty is explained by the predictors (X1, X2, X3), with an adjusted R² of 0.435. The prediction error, as represented by the standard error of 5.44823, remains within an acceptable range for behavioral studies.

To examine the direct and indirect effects among variables, path analysis was conducted in two regression models:

1. Model 1: Effects of halal labeling (X1), price (X2), and digital marketing (X3) on consumer satisfaction (Z), and
2. Model 2: Effects of X1, X2, X3, and Z on consumer loyalty (Y).
The analysis also includes error term estimations (e_1 , e_2) and Sobel tests to confirm the significance of the mediating role of consumer satisfaction.

Regression Model 1: Predicting Consumer Satisfaction (Z)

Table 12. Model Summary – Path Analysis (Z as Dependent Variable)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.691	0.477	0.461	7.20959

Source: Primary data processed, 2025

Table 13. Coefficients – Model 1 (Z as Dependent Variable)

Variable	B	Std. Error	Beta	t	Sig.
Constant	7.448	7.777		0.958	0.341
X1	-0.265	0.200	-0.122	-1.328	0.187
X2	0.868	0.205	0.419	4.239	0.000
X3	0.394	0.070	0.459	5.655	0.000

Source: Primary data processed, 2025

Interpretation:

1. Halal labeling (X1) has no significant effect on consumer satisfaction.
2. Price (X2) and digital marketing (X3) significantly and positively affect satisfaction.
3. The error term e_1 is calculated as $\sqrt{(1 - R^2)} = \sqrt{(1 - 0.461)} = 0.734$, reflecting the residual variance unexplained by the model.

Regression Model 2: Predicting Consumer Loyalty (Y)

Table 14. Model Summary – Path Analysis (Y as Dependent Variable)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.672	0.452	0.435	5.44823

Source: Primary data processed, 2025

Table 15. Coefficients – Model 2 (Y as Dependent Variable)

Variable	B	Std. Error	Beta	t	Sig.
Constant	5.306	4.023		1.319	0.190
X1	0.097	0.104	0.061	0.938	0.350
X2	0.206	0.115	0.135	1.793	0.076
X3	0.013	0.041	0.020	0.313	0.755
Z	0.556	0.053	0.753	10.575	0.000

Source: Primary data processed, 2025

Interpretation:

1. Only consumer satisfaction (Z) shows a significant and strong effect on loyalty.
2. X1, X2, X3 do not have significant direct effects on loyalty.
3. The residual term e_2 is $\sqrt{(1 - R^2)} = \sqrt{(1 - 0.435)} = 0.758$.

Direct, Indirect, and Total Effects

Table 16. Path Coefficients and Mediation Effects

Variable	X → Y (P ₁)	X → Z (P ₂)	Z → Y (P ₃)	SE (P ₂)	SE (P ₃)	Indirect (P ₂ ×P ₃)	Total Effect
X1	0.097	-0.265	0.556	0.200	0.053	-0.147	-0.050
X2	0.206	0.868	0.556	0.205	0.053	0.482	0.688
X3	0.013	0.394	0.556	0.070	0.053	0.219	0.232

Source: Primary data processed, 2025

Mediation Testing Using Sobel Test

To assess the significance of the mediation paths, **Sobel test statistics** were computed using the product of path coefficients and their respective standard errors:

Halal Labeling (X1) → Satisfaction (Z) → Loyalty (Y)

Sobel $t = 1.16666 < t\text{-table } (1.66039) \rightarrow$ Not significant
 $\Rightarrow$ No mediation effect.

Price (X2) → Satisfaction (Z) → Loyalty (Y)

Sobel $t = 3.9059 > t\text{-table } (1.66039) \rightarrow$ Significant
 $\Rightarrow$ Satisfaction mediates the relationship between price and loyalty.

Digital Marketing (X3) → Satisfaction (Z) → Loyalty (Y)

Sobel $t = 21.795 > t\text{-table } (1.66039) \rightarrow$ Highly significant
 $\Rightarrow$ Satisfaction strongly mediates the relationship between digital marketing and loyalty.

Discussion of Findings

The present study offers significant insights into the dynamics of halal-oriented consumer behavior among Generation Z Muslim consumers in Indonesia, particularly in the context of dairy product consumption. By positioning consumer

satisfaction as a mediating construct, the analysis provides a deeper understanding of how traditional and contemporary marketing variables translate into brand loyalty. The discussion below unpacks the findings in relation to each path and aligns them with theoretical and empirical literature.

Halal Labeling: Symbolically Relevant, Behaviorally Marginal

Despite its theological and ethical importance, halal labeling (X1) was found to have no significant direct or indirect influence on consumer loyalty (Y), nor on satisfaction (Z). This finding resonates with prior research (e.g., Rahayu, 2023) that questions the behavioral salience of halal labels in markets where such certification is already normalized and expected by default. The absence of significance suggests that Gen Z consumers may no longer perceive halal labels as a *differentiating factor* but rather as a baseline compliance feature—thus reducing its power to trigger either satisfaction or loyalty. While prior literature (Anggraini & Suryoko, 2018) suggests a positive impact in certain product categories (e.g., cosmetics), the current findings indicate that in the dairy sector, halal assurance alone is insufficient to build consumer loyalty without complementary experiential value.

Price: Indirect Leverage via Satisfaction

Price (X2) showed a positive and significant effect on satisfaction, but no direct effect on loyalty. However, its indirect effect via consumer satisfaction was statistically significant, as supported by the Sobel test ($t = 3.9059 > 1.66039$). This aligns with Expectation-Confirmation Theory (Oliver, 1980), where perceived price fairness contributes to confirmation of value expectations, leading to satisfaction and, in turn, loyalty. Given that most respondents are within the 19–23 age group and earn below IDR 2 million monthly, price sensitivity plays a critical role in shaping satisfaction, which then feeds into their loyalty behaviors. These findings highlight that price remains a core evaluative criterion, particularly for budget-conscious consumers, and exerts its influence indirectly through psychological satisfaction rather than through immediate behavioral loyalty.

Digital Marketing: A Strategic Driver of Experience

The most powerful indirect influence emerged from digital marketing (X3). Although its direct effect on loyalty was not significant, its path through satisfaction was strongly mediated (Sobel $t = 21.795$). This confirms that digital strategies influence loyalty when they contribute meaningfully to consumer experiences, such as interactivity, responsiveness, content relevance, and ease of information access (see also Musrifah, 2023). For digitally native consumers like Gen Z, loyalty is often experience-based rather than merely attribute-based, which explains why

digital engagement significantly boosts satisfaction that then translates to loyalty. The role of digital marketing as an enabler of relational value—rather than transactional messaging—emerges as a vital insight here.

Consumer Satisfaction: The Central Mediating Mechanism

Consumer satisfaction (Z) emerged as a robust and significant predictor of loyalty, and the only variable that had a direct, statistically significant relationship with loyalty ($\beta = 0.753$; $p < 0.001$). This reinforces the centrality of satisfaction as a key psychological mechanism that binds consumers to brands. In line with the Expectation-Confirmation Theory, the fulfillment of perceived quality, affordability, and brand interaction expectations culminates in satisfaction, which directly influences loyalty. Thus, satisfaction serves not merely as an outcome variable but as a strategic lever through which other marketing inputs yield long-term consumer retention.

CONCLUSION

This study examined the mediating role of consumer satisfaction in the relationship between halal labeling, price, and digital marketing on consumer loyalty, with a focus on Generation Z Muslim consumers in Indonesia. The findings reveal that halal labeling, despite its religious significance, does not have a statistically significant impact—neither directly nor indirectly—on loyalty. In contrast, both price and digital marketing significantly influence satisfaction, which subsequently exerts a strong and positive effect on consumer loyalty. Consumer satisfaction thus emerges as the primary pathway through which experiential variables shape behavioral outcomes. This pattern aligns with the Expectation-Confirmation Theory, affirming that loyalty is driven more by value alignment and positive consumption experiences than by symbolic certification alone.

The implications are clear: marketers aiming to cultivate brand loyalty among Muslim Gen Z audiences must prioritize satisfaction-enhancing strategies through fair pricing and engaging digital platforms. Halal assurance, while foundational, must be repositioned as part of a broader ethical narrative rather than as a singular differentiator. These insights suggest a paradigmatic shift in halal consumer behavior—where compliance is expected, but loyalty is earned through perceived value and digital experience. Future research may explore moderating variables such as religiosity or digital literacy to deepen our understanding of how Islamic values interact with evolving consumer expectations.

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