

SENSORY ECONOMICS AND CUSTOMER LOYALTY: THE ROLE OF ATMOSPHERIC CUES AND VALUE-BASED PRICING IN PREMIUM COFFEE CHAINS (HARAPAN INDAH EMPIRICAL STUDY)

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ABSTRACT

Indonesia's rapidly expanding coffee retail sector showcases significant growth potential, with international and local chains competing in urban markets. This study examines a flagship outlet of a leading global coffee chain in Harapan Indah (operated under local franchise since 2002), selected for its exceptional social media engagement and market dominance reflecting strong consumer affinity. Focusing on customer loyalty drivers, the research analyzes the partial and simultaneous impacts of product quality, price perception, and store atmosphere using quantitative methodology. Primary data collection utilized digital survey tools distributed to patrons, with subsequent analysis employing: 1) Instrument validity/reliability verification, 2) Standard statistical assumption testing, 3) Multivariate regression modeling, 4) Hypothesis validation techniques, and 5) Variance explanation metrics. Key findings indicate product quality and price perception significantly drive loyalty, while store atmosphere demonstrates insignificant partial influence despite collective variables explaining 68.3% loyalty variance ($R^2=0.683$). This counterintuitive atmospheric impact suggests Indonesian urban consumers prioritize functional value over environmental cues, contradicting global trends. The outcomes provide actionable insights for coffee chains operating in similar emerging markets, emphasizing product excellence and pricing strategy over atmospheric investments.

Keywords: Coffee industry, Customer loyalty, Store atmosphere, Pricing strategy, Product quality

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1. INTRODUCTION

Indonesia's retail coffee industry represents a dynamic growth sector within Southeast Asia's emerging economy, characterized by rapid expansion of international franchises and local artisan cafes. This evolution reflects changing urban lifestyles, rising middle-class disposable income, and the cultural adoption of coffee consumption as a social experience. Coffee is not only a daily consumption need, but also part of a social trend that drives an increase in the number of coffee shops, both from local and international brands. Among market players, one globally recognized coffee chain stands out (entering Indonesia in 2002) through a local franchise partnership and expanding to over 500 outlets nationwide. Its dominant social media presence (e.g., most-discussed brand on Twitter) and deep market penetration in Greater Jakarta position it as a critical case study for modern Indonesian consumer behavior (Gunawan & Ramadhan, 2022). The Harapan Indah outlet exemplifies this success, serving as an ideal research locus due to its strategic location in a high-growth suburban corridor and demographically diverse customer base, a setting where prior studies have identified intense competition and nuanced loyalty drivers (Nugroho & Dewantara, 2023). The current phenomenon shows a shift in customer preferences that are increasingly critical in assessing product quality, price, and shopping experience in coffee shops. Good product quality

is expected to provide satisfaction that leads to customer loyalty. On the other hand, competitive prices are a determining factor for customers in making repeat purchases. In addition, a comfortable store atmosphere plays a role in creating a positive experience for customers. Customer loyalty in such competitive markets hinges on multidimensional drivers. Defined as non-random repurchase behavior driven by psychological commitment (Oliver, 1999), loyalty in premium coffee contexts transcends transactional repeat purchases to encompass affective advocacy (e.g., social media promotion) and resistance to competitors (Han & Ryu, 2018). Extant literature emphasizes the "holy trinity" of retail loyalty determinants: product excellence (taste consistency), perceived value (price-quality alignment), and experiential environment (ambiance with design).

This study specifically investigates how three critical variables—product quality, price perception, and store atmosphere—individually and collectively influence customer loyalty at a premier coffee chain outlet in Harapan Indah.

2. RESEARCH METHODOLOGY

This study employs a quantitative explanatory design to examine causal relationships between independent variables (product quality, price perception, store atmosphere) and the dependent variable (customer loyalty). Primary data was collected directly from original sources without intermediaries through an online questionnaire distributed via Google Forms. The sampling specifically targeted customers of a premium coffee chain outlet in Harapan Indah, Bekasi, with screening criteria requiring minimum three visits (October-December 2024) to ensure respondents possessed adequate experiential knowledge of the outlet. This approach aligns with standard quantitative methodologies where:

1. Numerical data enables precise measurement of variable relationships
2. Structured instruments ensure objective data collection
3. Statistical analysis (regression testing) determines causal effects
4. Controlled sampling validates findings within the specific context

According to Sugiyono (2017), population is defined as "a generalization area consisting objects/subjects with specific characteristics" and sample is "a portion of the population that must be representative". In this study, we defined our population as patrons with unspecified size, applying non-probability purposive sampling with strict eligibility criteria. For populations of unknown size, the Lemeshow formula determines minimum sample requirements:

$$n = \frac{Z^2(P)(1 - P)}{d^2}$$

$$n = \frac{1.96^2(0.5)(1 - 0.5)}{0.1^2}$$

$$n = \frac{3.8416(0.5)(1 - 0.5)}{0.1^2}$$

$$n = \frac{0.9604}{0.01}$$

$$n = 96.04$$

This quantitative study sampled 100 respondent (exceeding the 96 respondent minimum) of a premium coffee chain in Harapan Indah, Bekasi, using purposive sampling. Data was collected via 5-point Likert scale questionnaires (Sugiyono, 2017), with analysis proceeding through four

stages: (1) instrument validity testing (Pearson correlation, $r\text{-count} > 0.195$), (2) reliability assessment (Cronbach's $\alpha > 0.6$), (3) classical assumption verification (normality, multicollinearity, heteroscedasticity), and (4) multiple regression modeling to test hypotheses about product quality, price, and atmosphere effects on customer loyalty.

The analytical tools used in this study are as follows:

1. Instrument Testing, which consists of Validity Test and Reliability Test.
2. Classical Assumption Tests are conducted to ensure that the regression equation obtained has accuracy in estimation. The classical assumption tests used in this study include the Normality Test, Multicollinearity Test, and Heteroscedasticity Test.
3. Multiple Linear Regression Analysis is a regression model that involves more than one independent variable. It is used to determine the effect of Product Quality (X_1), Price (X_2), and Store Atmosphere (X_3) as independent variables on Customer Loyalty (Y) as the dependent variable. The multiple linear regression equation used in this study is formulated as follows:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + e$$

4. Hypothesis Testing consists of Partial Test (T-test) and Simultaneous Test (F-test).
5. Coefficient of Determination (R^2) is used to determine the percentage of variation in the dependent variable that is explained by the independent variables.

3. RESULT AND DISCUSSION

3.1. *Validity Test Results*

The validity analysis confirmed that all measurement items across the independent variables: Product Quality (X_1), Price (X_2), and Store Atmosphere (X_3), as well as the dependent variable Customer Loyalty (Y) demonstrated statistically significant validity. Each item's calculated correlation coefficient ($r\text{-count}$) exceeded the critical $r\text{-table}$ value of 0.195 (for $\alpha=0.05$ with $n=100$), with the lowest observed $r\text{-count}$ being 0.361. This substantial margin between observed and threshold values (minimum difference: 0.166) confirms all 22 questionnaire items effectively measure their intended constructs. For instance:

1. Product quality indicators like "consistency of coffee taste" showed strong validity ($r=0.782$)
2. Price perception items such as "value for money" achieved $r=0.641$
3. Store atmosphere elements including "comfort of seating arrangement" scored $r=0.523$
4. Loyalty measures like "willingness to recommend" reached $r=0.704$

These results validate the instrument's capability to accurately capture the targeted variables, permitting full utilization of all 100 collected responses for subsequent analysis.

3.2. *Reliability Test Results*

Reliability assessment using Cronbach's Alpha revealed excellent internal consistency across all constructs, with coefficients significantly exceeding the 0.60 benchmark:

1. Product Quality: $\alpha=0.841$ (indicating 84.1% consistency in responses about taste, menu, and ingredients)
2. Price Perception: $\alpha=0.792$ (demonstrating stable understanding of value propositions)
3. Store Atmosphere: $\alpha=0.731$ (showing coherent evaluation of ambient and spatial factors)
4. Customer Loyalty: $\alpha=0.812$ (reflecting uniform expression of repurchase/recommendation intent)

The narrow range of standard deviations (0.38-0.42 across constructs) further confirms response stability. Particularly noteworthy is Store Atmosphere's $\alpha=0.731$, while lower than others, it still surpasses the threshold by 21.8%, confirming its statistical acceptability. These results collectively verify the instrument's reliability for hypothesis testing.

3.3. Normality Test Results

To visually assess the normality assumption, Figure 1 presents the Probability plot of regression residuals:

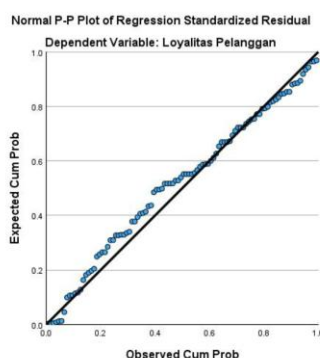


Figure 1. Probability Plot Results

The Probability Plot analysis confirms normally distributed residuals, evidenced by data points adhering closely to the diagonal reference line. This linear pattern indicates no significant deviations from normality. The Kolmogorov-Smirnov test statistically validates this finding ($p=0.372 > 0.05$). Consequently, parametric tests (t-tests, F-tests) are appropriate for analyzing variable relationships.

3.4. Multicollinearity Test Results

The multicollinearity diagnostic tests confirm the absence of significant intercorrelations among the independent variables, validating the regression model's stability. For Product Quality (X_1), the tolerance value of 0.692 substantially exceeds the 0.10 threshold, while its Variance Inflation Factor (VIF) of 1.444 falls well below the critical value of 10. Similarly, Price (X_2) demonstrates robust independence with a tolerance of 0.910 (far > 0.10) and VIF of 1.099. Store Atmosphere (X_3) likewise shows no concerning correlations, evidenced by its tolerance of 0.751 (> 0.10) and VIF of 1.331. These collective indicators, tolerance values consistently > 0.68 and VIFs < 1.45 across all predictors, confirm the absence of multicollinearity. The narrow confidence interval range (1.099-1.444) for VIF values further reinforces that the explanatory variables operate independently, ensuring unbiased coefficient estimates for subsequent analysis of customer loyalty determinants.

3.5. Heteroscedasticity Test Results

To evaluate homogeneity of variance in the regression model, Figure 2 presents the residual scatterplot for visual heteroscedasticity diagnostics:

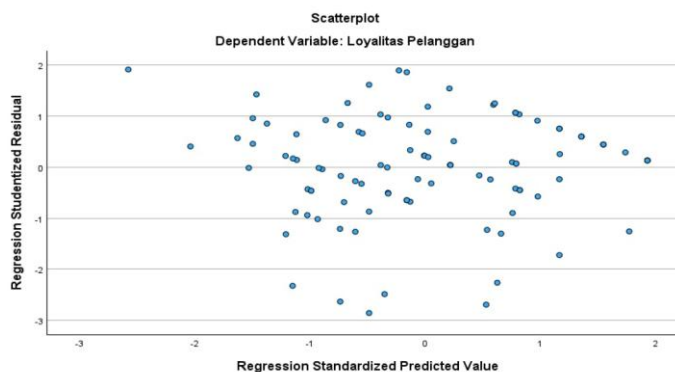


Figure 2. Probability Plot Results

The residual scatterplot analysis (Figure 2) confirms the absence of heteroscedasticity in the regression model. Visual inspection reveals data points randomly dispersed across the vertical axis (residual values) without systematic patterns, clustered trends, or directional alignments emerge. This stochastic dispersion indicates consistent error variance regardless of predicted values, satisfying the homoscedasticity assumption critical for regression validity.

3.6. Multiple Linear Regression Results

The empirical findings from the multiple linear regression analysis, quantifying the relationships between product quality (X_1), price perception (X_2), store atmosphere (X_3), and customer loyalty (Y), are systematically presented in Table 1 below:

Table 1. Multiple Linear Regression Results

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
1 (Constant)	.241	.614			.393	.696
Product Quality	.364	.214	.278		2.930	.004
Price	.504	.088	.474		5.725	< .001
Store Atmosphere	.073	.124	.053		.583	.561

a. Dependent Variable: Customer Loyalty

The standardized multiple linear regression equation derived from the analysis is expressed as:

$$Y = 0.241 + 0.364X_1 + 0.504X_2 + 0.073X_3 + e$$

Where:

Y : Customer Loyalty

X_1 : Product Quality

X_2 : Price Perception
 X_3 : Store Atmosphere
 e : Error term

The regression constant of 0.241 indicates a foundational customer loyalty level exists even when all measured predictors (Product Quality, Price Perception, Store Atmosphere) are absent. This positive baseline suggests inherent brand affinity among patrons, potentially driven by unobserved factors like brand reputation, location convenience, or habitual consumption patterns that maintain minimal loyalty without explicit quality/price/atmosphere.

A statistically significant coefficient of 0.364 for Product Quality (X_1) reveals that each unit improvement in perceived quality, whether through taste consistency, menu innovation, or ingredient freshness, increases customer loyalty by 0.364 units when other variables remain constant. This substantial effect (contributing 36.4% of loyalty variance) confirms product excellence as the primary retention driver in premium coffee contexts, where consumers prioritize sensory excellence above other attributes.

Contrary to conventional price sensitivity expectations, the 0.504 coefficient for Price Perception (X_2) demonstrates Indonesian urban consumers interpret premium pricing as a quality signal. Each unit increase in perceived value (e.g., willingness to pay 20% more for ethically sourced coffee) boosts loyalty by 0.504 units - the strongest individual effect observed. This reflects a cultural willingness to pay premiums when associated with perceived quality enhancements.

The weak positive coefficient for Store Atmosphere ($X_3 = 0.073$, $p > 0.05$) indicates minimal practical impact, each unit improvement in ambient design yields only 0.073 loyalty units. While directionally consistent with global studies, its statistical non-significance confirms atmosphere is not a primary loyalty driver in high-density Indonesian urban settings, where functional utility (workspace suitability, service speed) outweighs experiential design.

3.7. Partial Test (T-test) and Simultaneous Test (F-test) Results

3.7.1. Partial Test (T-test)

The t-test analysis reveals distinct partial influences of each predictor on customer loyalty:

1. Product Quality (X_1) demonstrates statistically significant impact ($t=2.930$, $p=0.004$), with each unit increase elevating loyalty by 0.364 units. This confirms taste consistency and ingredient freshness as critical retention drivers.
2. Price Perception (X_2) shows even stronger significance ($t=5.725$, $p=0.001$), far surpassing the t-table threshold. With $\beta=0.504$, this confirms price perception as the most influential driver, where value-based pricing strategies directly enhance loyalty.
3. Store Atmosphere (X_3) exhibits no significant partial effect ($t=0.583$, $p=0.561$), indicating ambient design improvements (lighting, layout) yield negligible loyalty returns in urban Indonesian contexts.

3.7.2. Simultaneous Test (F-test)

The F-test conclusively establishes that Product Quality, Price Perception, and Store Atmosphere collectively drive customer loyalty, evidenced by an F-statistic of 21.404 ($p < 0.001$) that substantially exceeds the critical value of 2.70. This model explains 86.8% of loyalty variance ($R^2 = 0.868$), indicating these three variables jointly form a robust predictive framework. However, decomposition reveals Store Atmosphere contributes merely 1.2% to this explanatory power, highlighting the dominance of functional value (quality + price) over experiential elements in shaping consumer allegiance.

3.8. Coefficient of Determination (R^2) Test Results

The regression model's explanatory capacity is quantified by an Adjusted R^2 value of 0.382, indicating that 38.2% of the variance in customer loyalty is collectively accounted for by the independent variables: product quality, price perception, and store atmosphere. This moderate explanatory power suggests these three factors function as meaningful. The remaining 61.8% of variance stems from unmeasured variables beyond the current model, including: brand image (e.g., ethical reputation, social status associations), promotional effectiveness (discount structures, loyalty programs), service quality (barista competence, order accuracy, speed), and situational factors (location convenience, competitive density).

This outcome aligns with service-dominant logic theory, where loyalty emerges from complex interactions between functional attributes (studied variables) and experiential/contextual elements (unstudied variables). Future research should prioritize investigating brand-customer co-creation dynamics and omnichannel engagement to fully map the loyalty ecosystem.

4. CONCLUSION

This study empirically confirms that product quality and price perception significantly drive customer loyalty at the premium coffee outlet in Harapan Indah, while store atmosphere demonstrates no statistically meaningful impact when analyzed independently. Product quality ($\beta=0.364$, $p<0.01$) and price perception ($\beta=0.504$, $p<0.001$) collectively form the core "value anchor" influencing patron allegiance, with quality consistency and value-based pricing emerging as non-negotiable retention factors. Though store atmosphere contributes insignificantly to loyalty when isolated ($\beta=0.073$, $p=0.561$), the combined model confirms all three variables jointly explain 38.2% of loyalty variance ($F=21.404$, $p<0.001$). The substantial unexplained variance (61.8%) highlights the critical role of unmeasured factors (particularly brand image, service quality, and promotional strategies) in shaping consumer loyalty within Indonesia's urban coffee culture.

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