

Packaging Semiotics and Consumer Brand Responses: Evidence from Indonesia's Specialty Coffee Market

Aditya Rasyad Harjanto*, Gita Gayatri

Graduate Program in Management Science, Faculty of Economics and Business, Universitas Indonesia, Depok, Indonesia

*Corresponding author. Email: aditya.rasyad@ui.ac.id

ABSTRACT

This study examines how packaging semiotics directly influences repurchase intention, brand loyalty, perceived brand quality, brand image, brand experience, and brand trust in the Indonesian specialty coffee market. The study focuses on Indonesian specialty coffee consumers with prior purchase experience and on direct predictors of repurchase intention and brand loyalty. Using a quantitative cross-sectional survey, data were collected from 276 Indonesian consumers who had purchased at least one packaged specialty coffee product before participation. The constructs were measured using 47 reflective indicators and analyzed using PLS-SEM with a disjoint two-stage approach for two higher-order constructs, namely packaging semiotics as formative and brand experience as reflective. The measurement model showed satisfactory reliability and validity. Based on the direct paths tested in the structural model, packaging semiotics positively affected brand image, brand experience, and perceived brand quality, while its direct paths to repurchase intention and brand loyalty did not show significant direct effects. Brand image emerged as the strongest direct predictor of brand loyalty, and brand loyalty in turn positively affected repurchase intention. The findings highlight the importance of building brand image, perceived quality, and experiential richness through packaging design rather than expecting packaging to drive repurchase intention or brand loyalty directly in the specialty coffee category.

Keywords: packaging semiotics, brand experience, repurchase intention, brand loyalty, specialty coffee.

1. INTRODUCTION

Indonesia is among the world's top five coffee consumers, with domestic consumption projected to reach 112,000 metric tons by 2028 (Reportlinker, 2024) and market value forecast at US\$12.6 billion by 2030 (Grant, 2026). Specialty coffee, defined by the Specialty Coffee Association (SCA, 2024) as achieving a minimum cupping score of 80 out of 100, has grown into a premium category that has spread beyond Jakarta to Surabaya, Bandung, Medan, and Bali (Guimarães et al., 2019). In this growing market, packaging is increasingly used as a brand differentiator because specialty coffee is an experience good with short repeat-purchase cycles. This context makes the Indonesian specialty coffee market a relevant case for examining how packaging semiotics shapes consumer brand responses and repurchase intention.

Packaging semiotics is central to this study. In semiotics, packaging functions as a sign system in which visual elements carry layered meanings that shape consumer perception (Rehman & Elahi, 2024; Spence & Van Doorn, 2022). Four dimensions are commonly used to capture packaging semiotics, namely color, packaging image, printed information, and logo (Sniker & Geraldo, 2014, as cited in Rehman & Elahi, 2024). Color may signal product character through hue and saturation; packaging image may convey product attributes through illustrations; printed information may communicate quality cues and ingredients; and logo may anchor brand recognition. For specialty coffee, these visual elements matter because consumers often use packaging to identify origin, processing method, and roaster identity.

This paper also incorporates brand-level constructs that may directly link packaging semiotics to repurchase intention and brand loyalty. Perceived brand quality refers to consumers' overall judgment of brand superiority (Zeithaml, 1988, as cited in Rehman & Elahi, 2024). Brand image captures consumer associations and impressions of the brand (Godey et al., 2016). Brand experience captures sensory, affective, and cognitive responses to brand-related stimuli (Shukla et al., 2023). Brand trust reflects consumer confidence in brand reliability, while brand loyalty represents attitudinal commitment to the brand (Yoo et al., 2000). In a repeat-purchase category such as specialty coffee, these

constructs may directly shape repurchase intention because consumers form their brand evaluations through prior consumption experience.

This article focuses on direct effects between packaging semiotics, the brand-level constructs, repurchase intention, and brand loyalty. The research question is: do packaging semiotics and the brand-level constructs directly influence repurchase intention and brand loyalty among Indonesian specialty coffee consumers with prior purchase experience? This focus is intended to produce a parsimonious conference model and to clarify which constructs carry the strongest direct influence. The study contributes to packaging, branding, and consumer behavior literature by combining packaging semiotics with multiple brand-level constructs in a single direct-effect model within a specialty coffee context.

1.1. Literature Review and Hypothesis Development

Within the Stimulus-Organism-Response framework (Mehrabian & Russell, 1974), packaging semiotics can act as a stimulus that directly shapes consumer brand responses. Prior studies indicate that packaging semiotics directly influences brand image and perceived brand quality (Rehman & Elahi, 2024) and shapes brand experience across sensory, affective, and cognitive dimensions (Shukla et al., 2023). Packaging semiotics may also directly affect repurchase intention and brand loyalty through visual cues that consumers re-encounter at the point of purchase. Therefore, this study proposes:

- H1: Packaging semiotics positively affects repurchase intention.
- H2: Packaging semiotics positively affects brand loyalty.
- H3: Packaging semiotics positively affects perceived brand quality.
- H4: Packaging semiotics positively affects brand image.
- H5: Packaging semiotics positively affects brand experience.

Perceived brand quality, brand image, and brand experience are also expected to directly affect brand trust. Quality signals can build trust because they confirm brand reliability; brand image can build trust through consistent identity; and brand experience can build trust through accumulated affective confirmation (Shukla et al., 2023). Accordingly, the following hypotheses are proposed:

- H6: Perceived brand quality positively affects brand trust.
- H7: Brand image positively affects brand trust.
- H8: Brand experience positively affects brand trust.

The same brand cognitions may also directly drive repurchase intention and brand loyalty. Higher perceived quality, stronger brand image, and richer brand experience are each expected to contribute positively to behavioral outcomes, consistent with the customer-based brand equity framework (Keller, 1993; Yoo et al., 2000). The following hypotheses are proposed:

- H9: Perceived brand quality positively affects repurchase intention.
- H10: Brand image positively affects repurchase intention.
- H11: Brand experience positively affects repurchase intention.
- H12: Perceived brand quality positively affects brand loyalty.
- H13: Brand image positively affects brand loyalty.
- H14: Brand experience positively affects brand loyalty.

Brand trust is expected to directly predict both repurchase intention and brand loyalty. Critically, established brand loyalty may also directly predict repurchase intention because attitudinal loyalty can act as a motivational stock that generates subsequent purchase behavior (Oliver, 1999; Gemilang & Marsasi, 2023; Irshad et al., 2024). Therefore, the following hypotheses are proposed:

- H15: Brand trust positively affects repurchase intention.
- H16: Brand trust positively affects brand loyalty.
- H17: Brand loyalty positively affects repurchase intention.

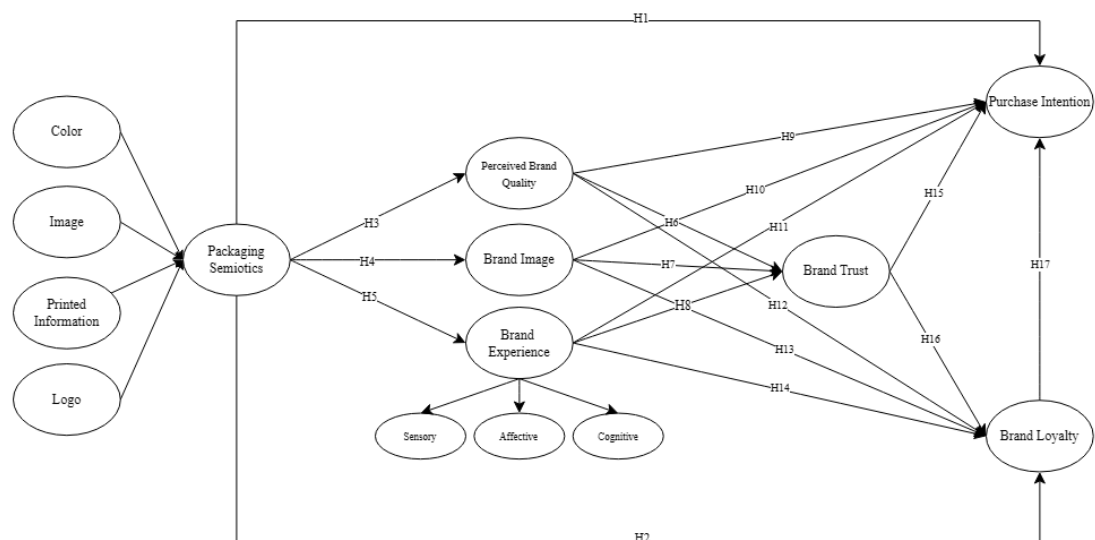


Figure 1. Research model. PS = Packaging Semiotics (formative HOC: Color, Image, Printed Information, Logo); BE = Brand Experience (reflective HOC: Sensory, Affective, Cognitive); PBQ = Perceived Brand Quality; BI = Brand Image; BT = Brand Trust; PI = Purchase/Repurchase Intention; BL = Brand Loyalty.

2. RESEARCH METHODS

A cross-sectional survey was conducted targeting Indonesian consumers of packaged specialty coffee. Purposive sampling required respondents to have purchased at least one packaged specialty coffee product prior to participation, ensuring that evaluations were grounded in actual brand experience. A total of 276 valid responses were obtained, satisfying the minimum threshold for PLS-SEM with the model complexity (Hair et al., 2019).

The survey comprised 47 reflective items across seven constructs on five-point Likert scales (1 = strongly disagree to 5 = strongly agree). Packaging semiotics was operationalized as a second-order formative construct with four lower-order components, namely color (4 items), packaging image (4 items), printed information (6 items), and logo (4 items), adapted from Sniker and Geraldo (2014, as cited in Rehman & Elahi, 2024). Perceived brand quality (3 items) was adapted from Dodds et al. (1991, as cited in Rehman & Elahi, 2024); brand image (4 items) from Godey et al. (2016); brand experience was a second-order reflective construct with sensory, affective, and cognitive dimensions (11 items) adapted from Shukla et al. (2023); brand trust (3 items), purchase intention (5 items, framed as repurchase intention), and brand loyalty (3 items) were adapted from Shukla et al. (2023), Rahimi et al. (2025), and Yoo et al. (2000), respectively. Data were analyzed using SmartPLS 4 (Ringle et al., 2024) via a disjoint two-stage approach per Hair et al. (2019), with measurement model criteria of outer loadings > 0.70, AVE > 0.50, composite reliability and Cronbach's alpha > 0.70, HTMT < 0.90 for reflective constructs, and VIF < 5.0 with significant outer weights for the formative construct. Structural paths were assessed via bootstrapping with 5,000 subsamples, and SRMR < 0.08 indicated acceptable model fit (Henseler et al., 2015).

3. RESULTS AND DISCUSSION

3.1. Measurement Model

The descriptive results show generally favorable perceptions toward the retained constructs. The mean construct scores were 4.27 for packaging semiotics, 4.52 for perceived brand quality, 4.09 for brand image, 4.17 for brand experience, 4.41 for brand trust, 4.33 for repurchase intention, and 3.74 for brand loyalty. These values indicate that respondents tended to agree that packaging cues were meaningful, brand evaluations were favorable, and repurchase intention was present among consumers with prior purchase experience, while attitudinal loyalty was relatively more moderate.

The measurement model met the key PLS-SEM criteria. All outer loadings for the reflective constructs were above 0.70, ranging from 0.740 to 0.918. Cronbach's alpha and composite reliability were above 0.70 for all reflective constructs, while AVE values were above 0.50. Discriminant validity was acceptable because all HTMT values were below 0.90, with the highest value being 0.807 between brand image and brand loyalty.

Table 1. Reliability and convergent validity of reflective constructs

Construct	Cronbach's alpha	Composite reliability	AVE
BE	0.874	0.922	0.798
BI	0.809	0.874	0.635
BL	0.819	0.892	0.735
BT	0.829	0.898	0.746
PBQ	0.809	0.887	0.724
PI	0.903	0.928	0.722

For the formative PS construct, three of four dimension weights were statistically significant: Printed Information ($w = 0.502$, $t = 5.74$, $p < 0.001$), Logo ($w = 0.387$, $t = 4.48$, $p < 0.001$), and Image ($w = 0.288$, $t = 3.12$, $p = 0.002$). Color's weight was non-significant ($w = 0.105$, $t = 1.17$, $p = 0.242$), but its outer loading (0.662) exceeded the 0.50 retention threshold; the indicator was retained for theoretical completeness (Hair et al., 2019). All inner VIF values were below 3.3, confirming no multicollinearity.

3.2. Structural Model

The saturated model SRMR of 0.063 confirms acceptable fit. R^2 values indicate substantial explanatory power: PI (0.621), BL (0.512), BE (0.502), BT (0.489), BI (0.241), and PBQ (0.231). Table 2 presents the direct-effect results for all 17 hypotheses.

Table 2. Structural Model Results ($n = 276$)

H	Path	Path Coefficient	t	p	Decision
H1	PS $\rightarrow$ PI	0.081	0.80	0.424	Rejected
H2	PS $\rightarrow$ BL	0.069	0.84	0.400	Rejected
H3	PS $\rightarrow$ PBQ	0.481	10.15	< 0.001	Supported
H4	PS $\rightarrow$ BI	0.491	10.18	< 0.001	Supported
H5	PS $\rightarrow$ BE	0.708	15.24	< 0.001	Supported
H6	PBQ $\rightarrow$ BT	0.400	6.34	< 0.001	Supported
H7	BI $\rightarrow$ BT	0.314	5.17	< 0.001	Supported
H8	BE $\rightarrow$ BT	0.122	2.07	0.038	Supported
H9	PBQ $\rightarrow$ PI	0.276	3.79	< 0.001	Supported
H10	BI $\rightarrow$ PI	0.157	2.61	0.009	Supported
H11	BE $\rightarrow$ PI	-0.081	0.77	0.439	Rejected
H12	PBQ $\rightarrow$ BL	0.018	0.29	0.776	Rejected
H13	BI $\rightarrow$ BL	0.426	6.26	< 0.001	Supported
H14	BE $\rightarrow$ BL	0.202	2.17	0.030	Supported
H15	BT $\rightarrow$ PI	0.157	2.19	0.029	Supported

H	Path	Path Coefficient	t	p	Decision
H16	BT → BL	0.149	2.19	0.029	Supported
H17	BL → PI	0.364	5.81	< 0.001	Supported

Note: PS = packaging semiotics; PBQ = perceived brand quality; BI = brand image; BE = brand experience; BT = brand trust; PI = repurchase intention; BL = brand loyalty.

3.3. Discussion

The direct-effect results indicate that packaging semiotics positively affects perceived brand quality, brand image, and brand experience. This means that visual cues on specialty coffee packaging, such as color, packaging image, printed information, and logo, are read by consumers as quality signals, brand identity cues, and sensory-affective-cognitive stimuli. The strongest direct effect was on brand experience, which is consistent with prior evidence that visual packaging elements activate multisensory consumer responses (Shukla et al., 2023; Spence & Van Doorn, 2022). For specialty coffee, this suggests that packaging is a meaningful semiotic interface that shapes how consumers perceive brand quality and identity beyond the first encounter.

However, packaging semiotics did not directly affect repurchase intention and brand loyalty. This does not mean that packaging is irrelevant for behavioral outcomes. It means that, in the reported direct paths, packaging semiotics did not by itself produce a strong direct effect on repurchase intention or loyalty once brand-level constructs were included. A plausible interpretation is that consumers with prior purchase experience evaluate brand quality, image, and experience first, and these brand-level perceptions carry the behavioral influence forward in the specialty coffee context.

Brand image emerged as the most consistent direct predictor among the brand-level constructs, positively affecting brand trust, repurchase intention, and brand loyalty. The effect of brand image on brand loyalty was particularly strong. This result is consistent with the customer-based brand equity framework, in which favorable, strong, and unique brand associations generate consumer commitment (Keller, 1993; Yoo et al., 2000). In the specialty coffee context, brand image appears to be more decisive than perceived quality alone, indicating that consumer loyalty is anchored in holistic brand impressions such as origin narrative, design aesthetics, and brand personality.

Brand loyalty also positively affected repurchase intention. This finding supports the argument that attitudinal loyalty can act as a motivational stock that generates subsequent purchase behavior (Oliver, 1999; Gemilang & Marsasi, 2023; Irshad et al., 2024). For a repeat-purchase category such as specialty coffee, established loyalty appears to translate directly into renewed purchase intention, which is consistent with consumers returning to brands they already trust. Perceived brand quality also positively affected brand trust and repurchase intention, while its direct effect on brand loyalty was not significant. Brand experience positively affected brand trust and brand loyalty, but its direct effect on repurchase intention was not significant. These results suggest that perceived quality and brand experience work through brand trust and brand loyalty rather than directly producing repurchase intention in this consumer group.

4. CONCLUSION

This study uses a direct-effect model to examine packaging semiotics, perceived brand quality, brand image, brand experience, and brand trust as predictors of repurchase intention and brand loyalty among Indonesian specialty coffee consumers with prior purchase experience. The retained measurement model shows adequate reliability and validity. Based on the direct paths tested, packaging semiotics positively affects perceived brand quality, brand image, and brand experience, while its direct effects on repurchase intention and brand loyalty are not significant. Brand image, brand trust, and brand loyalty positively affect repurchase intention; brand image, brand experience, and brand trust positively affect brand loyalty. Brand image appears to be the strongest direct predictor of brand loyalty, while brand loyalty is the strongest direct predictor of repurchase intention, indicating that holistic brand impressions and established attitudinal loyalty are central in shaping consumer behavioral outcomes in the specialty coffee category.

The study provides managerial implications for specialty coffee brands. Brand managers should evaluate packaging design by its capacity to build brand image, perceived quality, and experiential richness rather than by short-term conversion. Strengthening visual elements that activate brand image, such as origin cues, design coherence, and logo distinctiveness, appears particularly important given the dominant direct role of brand image in driving brand loyalty. Building attitudinal brand loyalty is also strategic because loyalty directly drives repurchase intention in this category. Limitations include the cross-sectional design, the single-category focus on specialty coffee, and the reduced model scope. Future research should test this direct-effect model longitudinally, incorporate customer satisfaction, and examine

gender as a potential moderator of the relationships between packaging semiotics and brand-level constructs in the Indonesian market.

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