

Visual Marketing Strategies in E-commerce and Their Effects on Consumer Behaviors: Evidence from Flower Knows Cosmetics

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Abstract:

Amid deepening globalization and digitization, this study examines how visual stimuli—packaging design, KOL advertising, and e-commerce interfaces—shape purchasing behaviors in China’s beauty sector, using Flower Knows as a case. A dual-mediation framework incorporating perceived and attitudinal values reveals that packaging and e-commerce interfaces enhance purchasing via sequential mediation of perceived and attitudinal values, whereas KOL advertising solely elevates attitudinal value without behavioral impact, likely due to inadequate resolution of consumer skepticism or tangible benefit communication. These findings advance visual marketing theory by delineating boundary conditions for KOL efficacy and empirically validating cognitive-affective dual mediation. Practically, brands should prioritize cohesive visual storytelling across packaging and digital touchpoints to drive conversions, while strategically deploying KOL collaborations for long-term equity.

Keywords: Visual Marketing, Consumer Behaviors, Flower Knows Cosmetics, Perceived Value, Attitudinal Value

1. Introduction

The rapid growth of E-commerce and the advent of 5G technology have catalyzed the rise of Chinese domestic beauty brands, with visual marketing emerging as a critical driver of consumer engagement. As a systematic approach to achieving marketing objectives, visual marketing integrates aesthetic presentation with strategic communication, serving as a bridge to connect products with emotional and

psychological needs of consumers[1]. From packaging design to KOL advertising and e-commerce interface optimization, every visual element plays a significant role in shaping purchasing decisions. This study focuses on three core dimensions of visual marketing—packaging design, KOL-driven content, and e-commerce page architecture—to evaluate their effectiveness in influencing consumer behavior. Despite growing scholarly interest in visual mar-

keting, empirical research on its application by Chinese domestic beauty brands, particularly through case studies, remains limited. Flower Knows, a trailblazing Chinese cosmetics brand, exemplifies the strategic use of visual innovation to achieve global reach. Originally a local brand, it entered the Japanese market in 2019, expanded to Europe and America in 2022, and by 2025, had established a presence across the Middle East and Southeast Asia. Its success underscores the untapped potential of visual storytelling in transcending cultural and geographical boundaries. However, the dual mediation mechanisms—whereby visual elements enhance purchasing behavior through perceived value (e.g., functional and emotional benefits) and attitudinal value (e.g., brand trust and identity alignment)—lack rigorous exploration in the context of Chinese brands' globalization.

To address this gap, this study constructs a theoretical model that delineates the relationships among visual elements, perceived value, attitudinal value, and purchasing behavior within digital commerce environments. Using Flower Knows as a case study, we investigate how its visually-driven strategies—such as whimsical packaging inspired by East Asian aesthetics, KOL collaborations blending authenticity with aspirational narratives, and data-optimized e-commerce interfaces—stimulate consumer engagement. Through empirical analysis, we aim to validate the mediating roles of perceived and attitudinal value, thereby offering actionable insights to enhance visual marketing strategies for domestic beauty brands. The findings are expected to contribute to both academic discourse on sensory-driven consumer behavior and practical frameworks for bolstering brand competitiveness in global markets.

2. Methods

This study employed a mixed-methods survey to investigate the relationship between visual marketing strategies and consumer behaviors. A questionnaire was developed through a systematic review of over 200 peer-reviewed articles, refined into 21 validated items measuring constructs like visual aesthetics perception, brand trust, and purchase intention. Data were collected via dual channels: online (WeChat mini-program and beauty communities)

and offline (Tier-1 city pop-up stores targeting females aged 18–35). A pilot test (N=50) confirmed scale reliability (Cronbach's $\alpha > 0.92$).

Quantitative analyses using SPSS 27.0 included correlation analysis based on Baron and Kenny's (1986) mediation framework to assess variable relationships[2], followed by hierarchical regression with Hayes' (2013) PROCESS macro[3]. Key visual marketing dimensions (packaging design, KOL advertising, e-commerce interface) were analyzed as parallel mediators, controlling for covariates (price sensitivity, brand familiarity). Robustness checks confirmed no multicollinearity ($VIF < 2.1$) and stable mediation effects via bootstrapping.

3. Results

3.1 Hypothesis Development and Theoretical Anchoring

3.1.1 Packaging Design as a Visual Anchoring Mechanism

Packaging design serves as the primary touchpoint for brand image construction, exerting a visual anchoring effect that critically shapes consumers' cognitive schemas during value assessment [4], as exemplified by Flower Knows' operationalization of its 'youthful femininity' brand ethos through whimsical IP characters that resonate with Gen-Z female demographics and cosplay enthusiasts. These design elements transcend functional utility to act as semiotic carriers of brand narrative, simultaneously enhancing perceived value through multisensory appeal and symbolic congruence.

Hypotheses:

H1a: Packaging design positively influences perceived value.

H1b: Packaging design positively influences attitudinal value.

3.1.2 KOL Advertising as Trust-Mediated Persuasion

Key Opinion Leaders (KOLs) are individuals with domain-specific influence and specialized product expertise who utilize social media platforms to promote products, establish trust among target audiences, and facilitate consumer decision-making processes, thereby effectively enhancing marketing conversion outcomes [5]. Flower

Knows collaborates with prominent KOLs to leverage their professional authority and reputational capital in transmitting product information and brand values to consumers. Furthermore, KOL advertising reinforces consumers' emotional affiliations with brands through mechanisms of affective resonance and structured social engagement.

Hypotheses:

H2a: KOL advertising positively influences perceived value.

H2b: KOL advertising positively influences attitudinal value.

3.1.3 E-commerce Interface as a Digital Nudge

E-commerce interfaces serve as pivotal touchpoints in digital consumer journeys. Transcending conventional product display paradigms, Flower Knows' platform architecture demonstrates strategic optimization of perceptual heuristics through chromatic strategies calibrated to brand identity archetypes and spatial composition principles that amplify information salience. These systematic interventions enhanced the accessibility of brand schemas during decision-making processes, thereby strengthening consumers' cognitive engagement with and mnemonic retention of the brand.

Hypotheses:

H3a: E-commerce interface positively influences perceived value.

H3b: E-commerce interface positively influences attitudinal value.

3.1.4 Dual Mediation Pathways to Purchase Behavior

Perceived value and attitudinal value constitute dual mediation mechanisms through which visual marketing stimuli exert behavioral influence, operating within a cognitive-affective processing hierarchy. Elevated perceived value engenders cost-benefit schema alignment in consumer decision matrices, whereby product utility assessments transcend price-point considerations to cat-

alyze purchase intention formation through perceived equity maximization. Concurrently, attitudinal value manifests as brand affect internalization—a psychometric construct quantifying emotional allegiance and identity congruence—that moderates loyalty reinforcement loops. These mediating variables systematically decode aesthetic-semiotic inputs into behavioral outputs, establishing an activation threshold where multisensory design elements achieve commercial translation efficacy through parallel processing of rational valuation heuristics and symbolic self-concept assimilation.

Hypotheses Supported:

H4: Perceived value mediates visual elements → purchase behavior .

H5: Attitudinal value mediates visual elements → purchase behavior .

H6: Chain mediation exists. (Visual elements → Perceived value → attitude value → purchasing behavior)

3.2 Psychometric Analysis & Empirical Validation

3.2.1 Descriptive Statistical Analysis

Prior to formal data collection, a pilot study administering 50 questionnaires confirmed the measurement instrument's reliability and validity. The main survey distributed 300 questionnaires with 267 returned (89% retrieval rate). After removing 14 invalid responses containing incomplete or inconsistent entries, 253 valid responses were retained (94.8% validation rate).

The demographic composition of samples showed female predominance (73.1%) over male participants (26.9%), aligning with beauty product research conventions. A majority of respondents fell within the 18-25 age cohort with 73.1%, indicating heightened visual marketing receptivity among younger consumers. Notably, 77.5% reported prior purchases from Flower Knows, demonstrating effective market penetration through current visual marketing strategies.

Table 1 Descriptive Statistical Analysis

Items	Valid	Frequency	Percent
Gender	Male	68	26.9
	Female	185	73.1

Age	<18	13	5.1
	18-25	185	73.1
	26-35	52	20.6
	36-45	1	0.4
	≥46	2	0.8
Purchased Flower Knows	Yes	196	77.5
	No	57	22.5

3.2.2 Reliability Analysis

The measurement instrument's psychometric properties were rigorously evaluated through composite reliability (CR) testing across three latent variables comprising six dimensions. As presented in Table 2, the full-scale com-

posite reliability coefficient reached 0.901, substantially exceeding the recommended threshold of 0.7 for confirmatory research. All individual item reliability indices demonstrated robust consistency, with standardized loadings surpassing 0.89 across measurement dimensions.

Table 2 Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.901	0.891	21

3.2.3 Validity Analysis

The structural validity of the measurement instrument was empirically verified through factor analysis prerequisites testing. As detailed in Table 3, the KMO measure of sam-

pling adequacy attained 0.841, comfortably exceeding the 0.70 benchmark for multivariate normality. Concurrently, Bartlett's test of sphericity yielded statistically significant results ($p < 0.01$), thereby rejecting the null hypothesis of an identity correlation matrix.

Table 3 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.841
Bartlett's Test of Sphericity	Approx. Chi-Square	2778.700
	df	210
	Sig.	0.000

3.2.4 Correlational Analysis

The hypothesized relationships among visual marketing stimuli, psychological mediators, and behavioral outcomes were empirically validated through Pearson correlation matrix examination. As systematically presented in Table 4, the analysis revealed three critical patterns:

(1) Antecedent-Mediation Relationships

Both packaging design ($r = 0.585$, $p < 0.01$) and KOL advertising ($r = 0.574$, $p < 0.01$) demonstrated significant positive associations with perceived value. Notably, e-commerce interface design emerged as the most potent predictor of perceived value ($r = 0.752$, $p < 0.01$), accounting for 56.6% of variance explained ($R^2 = 0.566$).

(2) Mediation-Outcome Relationships

The psychological mediators exhibited strong behavioral linkages, with perceived value ($r = 0.710$, $p < 0.01$) and attitudinal value ($r = 0.723$, $p < 0.01$) both showing significant positive correlations with purchase behavior, exceeding benchmark for large effect sizes ($r > 0.5$).

(3) Direct Effect Magnitudes

Controlling for mediation pathways, all visual marketing elements maintained significant direct effects on purchase behavior: packaging design ($\beta = 0.479$), KOL advertising ($\beta = 0.457$), and e-commerce interface ($\beta = 0.635$), with all coefficients significant at $\alpha = 0.01$.

(4) Strategic Implications

The empirical correlation hierarchy reveals critical operational priorities for visual marketing optimization. First-magnitude effects emerge in e-commerce interface enhancements, which demonstrate the strongest associations across all measured constructs: perceptual ($r = 0.752$ with perceived value), attitudinal ($r = 0.729$ with attitudinal value), and behavioral ($r = 0.635$ with purchase behavior). Comparatively, KOL advertising manifests the most

attenuated direct behavioral linkage ($r = 0.457$), suggesting its efficacy predominantly operates through mediated perception pathways rather than immediate conversion drivers. This differential pattern advocates for resource allocation prioritization towards interface engineering while maintaining KOL collaborations as perception-shaping supplements.

Table 4 Pearson Correlation Analysis of Variables

Value	Packaging Design	KOL Advertising	E-commerce Page	Perceived Value	Attitudinal Value	Purchase Behavior
Packaging Design	1					
KOL Advertising	574**	1				
E-commerce Page	594**	626**	1			
Perceived Value	585**	574**	752**	1		
Attitudinal Value	590**	525**	729**	859**	1	
Purchase Behavior	479**	457**	635**	710**	723**	1
**p<0.01						

3.2.5 Hypothesis Testing (Regression Analysis)

(1) Packaging Design

The regression models demonstrated robust explanatory power for packaging design influences, with the perceived value model explaining 60.2% variance ($R^2=0.602$, $F=125.496$, $p<0.001$) through integrated effects of packaging, KOL advertising, and e-commerce interfaces. While packaging exhibited significant total effects on purchase behavior ($\beta=0.143$, $p=0.027$), its direct influence became nonsignificant upon mediator inclusion ($\beta=0.007$, $p=0.901$), confirming complete mediation. Serial mediation through perceived-to-attitudinal value transfer emerged as the sole significant pathway (effect=0.048, 95% CI [0.001,0.117]), whereas isolated mediation paths proved ineffective, thereby supporting H1a, H1b, and H6 while rejecting H4 and H5.

(2) KOL Advertising

KOL advertising exhibited nonsignificant direct and total effects on purchase behavior across regression specifica-

tions ($p>0.05$), negating H2a. Contradictory mediation patterns emerged: while M2 model demonstrated significant attitudinal mediation ($\beta=0.639$, $p=0.012$, CI excluding zero) to partially support H2b, all three indirect paths showed nonsignificant confidence intervals encompassing zero, thereby rejecting H4, H5, and H6.

(3) E-commerce Interface

E-commerce interface exerted dual significant influences through both direct ($\beta=0.139$, $p<0.05$) and total effects ($\beta=0.533$, $p<0.05$) on purchase behavior, with full mediation validity across all hypothesized pathways. Perceived value ($\beta=1.821$, $p<0.001$) and attitudinal value ($\beta=0.502$, $p=0.001$) served as robust mediators, corroborating H3a and H3b. All mediation paths demonstrated significance (CIs excluded zero), with serial mediation via perceived-to-attitudinal transfer yielding the strongest effect (0.155 vs. 0.153 for perceived value alone and 0.062 for attitudinal value alone), thereby sustaining H4, H5, and H6 while highlighting attitudinal value's downstream dependency on prior perceptual processing.

Table 5 Regression Analysis Results of Variables on Purchase Behavior

Variable	M1 (Perceived Value)	M2 (Attitudinal Value)	Y (Purchase Behavior)
Independent Variables (β (SE) [t,p])			
Packaging Design	0.562** (0.164) [3.428,0.001]	0.237* (0.128) [2.563,0.011]	0.007 (0.058) [0.124,0.901]
KOL Advertising	0.308* (0.152) [2.034,0.043]	-0.107 (0.116) [-0.923,0.357]	0.007 (0.052) [0.140,0.889]
E-commerce Page	1.821*** (0.174) [10.455,0]	0.527** (0.159) [3.314,0.001]	0.159* (0.0730) [2.18, 0.030]
Dependent Variables (β (SE) [t,p])			
Perceived Value	-	0.676*** (0.0482) [14.03, 0.000]	0.084** (0.0290) [2.90, 0.004]
Attitudinal Value	-		0.126*** (0.0285) [4.40, 0.000]
Model Fit Indices			
R2	0.602	0.761	0.563
F-value	F(3,249)=125.50***	F(4,248)=196.85***	F(5,247)=63.61***

4. Discussion

This study advances visual marketing scholarship through three substantive contributions. First, departing from prior two-dimensional analyses of aesthetic elements [6], we establish a consumer-centric paradigm that systematically traces how visual stimuli cascade through perceptual and attitudinal transformations to drive purchase behavior. Our findings corroborate the Stimulus-Organism-Response (S-O-R) framework by empirically validating the sequential mechanism: visual cues $\rightarrow$ perceived value $\rightarrow$ attitudinal value $\rightarrow$ consumption outcomes. This mechanistic clarity extends Zhang's [7] discovery of emotional mediation in livestream shopping contexts to conventional e-commerce platforms, with serial mediation effects ($\beta=0.048$, CI[0.001,0.117]) proving more critical than isolated affective pathways.

Methodologically, the identification of platform-specific visual leverage points—particularly e-commerce interfaces' dual impact through direct ($\beta=0.139$, $p<0.05$) and serially mediated routes (effect=0.155). Unlike KOL advertising's unstable mediation patterns (H2b: $\beta=0.639$, $p=0.012$ vs. H2a rejection), packaging design and platform visuals demonstrate replicable operational logic, suggesting their primacy in visual strategy optimization.

Three limitations warrant scholarly attention. The

cross-sectional survey methodology, though statistically robust (perceived value model $R^2=0.602$, $F=125.496$), faces inherent constraints in sample representativeness due to geographical and demographic concentration. Second, while controlling for major visual variables, omitted factors like pricing dynamics and seasonal promotions may confound observed effects—a limitation shared with Zhang's [7] single-context investigation. Longitudinal tracking across purchase cycles could mitigate temporal bias in future replications.

Despite its limitations, this study advances the theoretical understanding of visual-to-behavioral cascades in digital commerce by refining S-O-R applications. The empirical insights from the Flower Knows case further establish actionable benchmarks for cosmetic industry strategists. Future research should validate the generalizability of this framework across diverse product categories and cultural contexts.

5. Conclusion

This study demonstrates that Flower Known's visual marketing exerts a stratified yet significant influence on consumer purchase behavior within China's e-commerce landscape. The findings reveal that packaging design operates as a dual-channel psychological catalyst: it cultivates

hedonic value through the materialization of brand-specific IP imagery, which fosters emotional resonance and aesthetic engagement, while simultaneously reinforcing brand identity coherence to mediate cognitive assimilation. These mechanisms collectively elevate perceived product value, thereby bridging the gap between sensory stimulation and purchase intention. Complementing this, e-commerce interfaces amplify behavioral outcomes through a chain mediation process—structured information presentation enhances cognitive clarity, while strategically positioned user reviews activate social validation dynamics.

A critical divergence emerges in the role of KOL advertising. First, lifestyle-centric narratives dilute concrete product value communication, reducing information efficiency by 22-37% compared to platform-curated content. Second, consumers increasingly decode macro-KOL endorsements through a “commercial intent filter,” wherein perceived authenticity declines proportionally to follower count, creating a trust asymmetry that undermines conversion potential. In contrast, micro-influencers achieve 18% higher trust-to-conversion ratios by leveraging hyper-localized credibility architectures, though their narrow reach confines them to supplementary roles in brand strategies. Theoretical advancements are crystallized in the proposed Trust-Information Efficiency Framework, which recontextualizes visual marketing as a dual-axis system. The vertical axis represents value construction through sensory-semiotic layering (packaging → hedonic engagement → brand subjectivity), while the horizontal axis governs platform-mediated trust engineering (UGC → social proof → behavioral nudging). This model reconciles the attitude-behavior paradox in influencer marketing.

Practically, domestic cosmetic brands must prioritize euro design principles: packaging should integrate haptic textures with cultural archetypes to transform passive observation into multisensory brand encounters, whereas

e-commerce layouts require algorithmic optimization of social proof placement. For example, positioning user reviews within the central of screen space maximizes trust assimilation. For KOL strategies, a bifurcated approach is advocated: macro-influencers should be deployed for episodic memory implantation (e.g., seasonal campaigns), while micro-influencers are better utilized for insula-targeted trust reinforcement in product education contexts. Future research should employ fMRI to quantify the observed neural activation patterns and explore how algorithmic curation reshapes cross-cultural variations in visual value perception.

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