

# Color Psychology and Analysis of Purchase Decision Path

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**Abstract.** As social media has become a core battleground for brand marketing, the visual presentation of advertisements profoundly impacts information delivery efficiency and consumer behavior. Color, one of the most visually impactful elements in advertising, plays a significant role in capturing user attention, influencing emotions, and shaping purchasing decisions within the high-frequency, fragmented communication environment of social media. This paper explores the current state, mechanisms, and optimization strategies for color usage in social media advertising, grounded in color psychology theory and supported by literature reviews and case studies. Findings reveal differentiated color preferences across industries and platforms: beauty ads predominantly employ high-saturation warm colors to convey vitality and fashion; tech products favor low-saturation cool tones to project professionalism and reliability; while Fast Moving Consumer Goods (FMCG) brands utilize bright hues to create a lighthearted, enjoyable atmosphere. Simultaneously, short-video platforms favor high-contrast color schemes to rapidly capture attention, while social platforms lean toward medium-saturation, comfortable tones to enhance acceptance. The study further reveals that color influences consumer purchasing paths through a three-tiered mechanism: “attention and emotional stimulation—reinforcement of brand memory—contextual adaptation and interaction facilitation.” Based on this, the paper proposes a phased color optimization strategy for advertising design, emphasizing the scientific application of color across stages of attention capture, message delivery, and behavioral conversion. This research enriches color psychology theory within the digital marketing context and provides empirical guidance for businesses seeking to enhance visual communication effectiveness and conversion rates in social media advertising.

**Keywords:** Color psychology, purchase decision path, digital technology.

## 1. Introduction

As a ubiquitous visual element in marketing, color exerts a significant influence on consumer perception and behavior. Research indicates that up to 90% of the initial judgments formed within 90 seconds of encountering a product are determined by visual cues such as color [1]. Appropriate color usage not only helps brands stand out in competitive landscapes but also impacts consumer emotions and attitudes, thereby influencing purchase intent. For instance, careful color selection can differentiate products, positively or negatively affect customer moods, and consequently alter their attitudes toward products [2]. Numerous prior studies emphasize color's crucial role in marketing and branding, where color choices shape brand image and consumer purchasing intent—mechanisms extensively explored [3]. For instance, Singh et al's empirical marketing research found that for certain goods, up to 90% of consumers' quick purchase decisions rely solely on color [2]. These findings underscore color psychology's significance in marketing. Concurrently, the rise of social media has transformed the advertising landscape, creating an environment markedly different from traditional channels. User attention has become increasingly fragmented, and aesthetic preferences more personalized. Consequently, applying color psychology to social media advertising to influence purchasing decisions presents a compelling research topic. Given the extensive prior research on color's impact on consumer behavior, yet the nascent stage of studies within the social media advertising context, this paper focuses on the relationship between color selection and purchasing decisions specifically within this digital environment. This paper first analyzes the current state of color usage in social media advertising, including distinct characteristics across industries and platforms. It then explores the underlying mechanisms through which color influences consumer purchasing decisions, deconstructing these effects in terms of attention, emotion, brand perception,

and contextual fit. Subsequently, it proposes optimization strategies for businesses and platforms, detailing how color can be effectively employed at various stages of ad design to enhance conversion rates. Finally, the paper concludes with a summary and outlook on future research directions.

## **2. Current State of Color Application in Social Media Advertising**

### **2.1. Industry-Specific Color Application Differences**

Social media advertisements for different product categories exhibit distinct industry-specific color preferences. Beauty and skincare brands often favor high-saturation warm tones—such as true red, rose pink, and bright orange—as primary colors, complemented by metallic accents like gold or silver to convey vitality and fashion-forwardness. These warm hues create an atmosphere of intense energy and passion, aligning with target consumers' expectations for “aesthetic appeal” and “effectiveness.” For instance, research indicates warm colors like red and orange evoke feelings of vitality and excitement. Concurrently, premium beauty brands favor incorporating metallic elements (e.g., gold, silver) to elevate perceived quality. Metallic hues like silver evoke associations with “refined charm,” lending products a visually sophisticated and elegant aura. Surveys indicate metallic packaging—particularly silver—is popular in cosmetics, as its sheen makes products stand out on crowded shelves while signaling luxury and high value [1]. In contrast, advertisements for home appliances and 3C products predominantly use low-saturation cool tones like deep space gray, tech blue, and light silver. This color palette emphasizes technological sophistication and reliability while avoiding the restlessness associated with overly vibrant hues, thereby reducing users' perceived cognitive burden regarding product complexity. This tendency aligns with color psychology principles: cool tones like blue and gray typically evoke feelings of calmness and trustworthiness. Numerous tech brand logos and advertisements employ neutral cool colors like blue, gray, and black to convey a rigorous, professional, and trustworthy brand identity. For instance, blue is often perceived as a symbol of reliability and safety, alleviating user anxiety; while neutral colors like black and gray create a modern, mature atmosphere, frequently used by tech and premium electronics brands to highlight product quality and functionality [4]. Additionally, advertisements for FMCG like snacks and beverages often adopt bright, lively color schemes, favoring medium-to-high saturation hues such as lemon yellow, apple green, and orange, frequently set against white backgrounds. This combination aims to create a relaxed, wholesome atmosphere that sparks immediate appetite and purchase desire. Warm hues like red, yellow, and orange have been proven to physiologically increase appetite and evoke pleasant emotions. Marketing extensively leverages this: numerous food packages and ads employ vivid red or bright yellow to stimulate appetite and project a cheerful, sunny image. For instance, bright red evokes associations of deliciousness and urgency, prompting consumers to “taste it now”; while bright lemon yellow conveys cheerfulness and vitality, making it ideal for positioning snacks and other casual foods as fun and carefree [5]. Simultaneously, pairing these colors with a clean white background enhances the overall freshness of the image. On one hand, white symbolizes purity and health, reinforcing associations with “natural, fresh” foods [6]. On the other hand, white backgrounds increase negative space and contrast, making vibrant products stand out more prominently and preventing background clutter from distracting consumers' attention. This “bright color + white background” design is prevalent in FMCG advertising, aiming to instantly capture attention and convey positive emotions, thereby triggering consumers' impulse to buy.

### **2.2. Color Preferences Across Social Media Platforms**

Color design in social media ads is also influenced by the platform's tone. Different social platforms feature distinct user contexts and content expectations, with successful ads often adapting to the platform's visual style. On short-video platforms (e.g., Douyin, TikTok), users browse content rapidly with short attention spans, requiring ads to grab viewers' attention within seconds. Consequently, ads on these platforms often employ a combination of a high-saturation primary color paired with a single accent color. Research indicates that within fast-scrolling feeds, color richness

exhibits a nonlinear effect on attention: moderate diversity helps ads stand out, while excessive variety can be counterproductive. Consequently, short-form video ads typically select one bold, high-saturation primary color to ensure visual impact, while avoiding excessive use of different hues to prevent visual overload or fatigue in the short term. In fact, large-scale social media data analysis reveals an inverted U-shaped relationship between an image's "color complexity" and user engagement—moderate color variety yields the highest number of likes, whereas overly flashy designs actually reduce participation [7]. This confirms that short video ad color schemes must strike a balance between grabbing attention and avoiding overwhelming the viewer. In contrast, social networking platforms (like WeChat Moments or Facebook) foster user behavior geared toward fragmented text-and-image browsing. In such environments, overly bright or jarring ads risk being quickly skipped or provoking user aversion. Consequently, ads on these platforms often adopt a "dual-color scheme" with medium saturation. For instance, using distinct primary colors for background and foreground with overall moderate saturation—such as "white + low-saturation blue" or "light gray + soft pink"—ensures recognizability in scrolling feeds without causing eye strain, enhancing visual comfort. Colors like white + pale blue convey simplicity and freshness while highlighting key information, aligning with users' desire for a comfortable, relaxed experience when casually scrolling through feeds while still quickly grasping essentials. This relates to the platform's own color scheme and context: for instance, Facebook's interface primarily uses blue and white. If ads mirror these colors exactly, they risk blending into the background and becoming inconspicuous; conversely, overly vibrant colors appear jarring and disruptive. Consequently, advertisers favor color schemes that harmonize with the platform's tone and user mindset, blending into the content stream while maintaining subtle prominence—balancing attention-grabbing appeal with visual coherence [8]. Finally, on image-sharing platforms like Instagram and Xiaohongshu, users prioritize aesthetic quality and tonal consistency. Ads on these platforms often consciously embrace popular visual styles, such as the recent trend of Morandi colors (low-saturation shades like dusty pink, misty blue, and beige-apricot) or macaron pastel palettes. These soft, elegant color schemes feature low saturation and brightness, conveying an overall sophisticated, artistic vibe that aligns perfectly with the community culture of these platforms—focused on aesthetic sharing and lifestyle curation. Research analyzing social media images reveals that users favor pictures with harmonious tones and brightness levels. Moderately soft color palettes increase the likelihood of content being saved and shared [7]. Consequently, brands advertising on platforms like Instagram often minimize overt promotional elements, adopting soft color schemes that align with UGC content to enhance user acceptance and sharing intent. When users proactively like, save, or share ad content, this action itself becomes a word-of-mouth endorsement for other potential consumers, indirectly influencing purchasing decisions. In summary, advertising color strategies across platforms all adhere to the principle of contextual adaptation: adjusting color vibrancy and combinations based on user browsing scenarios and platform aesthetics to achieve eye-catching yet harmonious effects.

### **3. Mechanisms Through Which Color Influences Purchase Decisions**

#### **3.1. Attention Capture and Emotional Arousal**

Color influences the initial stages of consumer decision-making by capturing attention and evoking emotions. In information-overloaded social media environments, advertisements must first stand out from the content deluge to attract consumer notice. High-brightness, high-saturation colors, being visually more prominent, tend to grab the eye more readily than low-saturation hues [8]. The warm-cool attributes of colors also elicit distinct psychological effects: Warm colors (red, orange, yellow) generally increase physiological arousal levels, inducing excitement and tension, thereby prompting faster responses to stimuli [4, 9]. For instance, red has been found to elevate heart rate and trigger intense emotional agitation, making it frequently employed in marketing scenarios to grab attention and create urgency [4]. Conversely, cool colors (blue, green, purple) tend to evoke feelings of calmness and relaxation, enhancing focus [10]. When consumers view advertisements, different

colors may also trigger distinct emotional preferences: blue, for instance, connotes trust and security, potentially boosting brand credibility; green evokes associations with nature and health, helping establish product trustworthiness and approachability [4]. In summary, color directly influences attention allocation through visual prominence—vibrant hues are more easily noticed, giving ads greater chances to enter consumers' decision-making field. Simultaneously, color-induced emotions and sensations subtly shape decision tendencies by fostering intuitive likes, dislikes, or interest toward ad content. For instance, a food advertisement using soft blue-green tones may convey health and trustworthiness, establishing positive feelings from the outset; while advertisements dominated by bright reds and purples may appear intimidating or overly jarring, causing users to subconsciously ignore or reject them. Thus, in the initial stages of purchase decisions, judicious color application can lay the groundwork for subsequent persuasion by capturing attention and shaping emotional atmospheres.

### **3.2. Brand Recognition and Memory Reinforcement**

Color also influences consumers' mid-stage decision-making processes by shaping brand perception. Many renowned brands consistently employ specific “brand colors” to forge strong associations between hues and their identities in consumers' minds. Once established, these colors become integral brand assets, rapidly triggering brand recall and associations. Research indicates that effective color usage significantly enhances brand recognition. Data suggests that compared to colorless designs, strategic color applications can boost brand recognition by approximately 80% [5]. When consumers catch a glimpse of a familiar color in social media feeds, they may recognize the advertiser before even reading the brand name, reducing cognitive effort. This rapid recognition is particularly advantageous for capturing attention in fragmented scenarios. Furthermore, consistent brand colors convey stability and reliability, enhancing consumer familiarity and trust in the brand. Research indicates that consistently using fixed colors across different communication channels helps establish long-term, consistent brand identity. After repeated exposure to a brand's signature color, consumers develop a conditioned reflex: seeing that color triggers associations with the brand and past experiences. This color-brand connection effectively shortens the time from seeing an ad to recalling the brand, improving decision-making efficiency. For instance, when consumers encounter a green circular logo or background, they instantly associate it with Starbucks coffee products, rapidly retrieving memories of flavor and quality. This demonstrates how color acts as a cue in the decision-making process by reinforcing brand recognition. It reduces the cognitive load of information search and processing, enabling consumers to make judgments based on existing knowledge. Simultaneously, strong brand colors emotionally reinforce brand imagery: Tiffany Blue instantly evokes romantic jewelry and luxury, further driving purchase desire. Thus, color selection in brand building transcends aesthetics—it's a strategic tool influencing consumer cognitive psychology. A consistent and distinctive color strategy significantly elevates a brand's priority in consumer decisions, enabling it to stand out among competitors and be prioritized.

### **3.3. Contextual Adaptation and Interaction Intent**

During the conversion phase of purchase decisions, color influences outcomes by affecting contextual suitability and user interaction behavior. Contextual adaptation refers to how well an ad's color scheme aligns with the viewer's environment and psychological state. When an ad's color palette harmonizes with the user's current lighting conditions and mood, it enhances comfort and increases receptivity. For instance, when users browse their phones at night in dim surroundings, ads with high brightness and saturation may cause eye strain and discomfort. Conversely, low-saturation, dark-toned color schemes offer a softer alternative that minimizes disruption to nighttime vision. Interface design research indicates that using dark backgrounds in low-light conditions reduces visual fatigue and enhances user comfort [10]. Many apps and websites offer night modes based on this principle. Similarly, ad placements can factor in time and context by automatically switching to darker color schemes during nighttime hours, reducing visual stimulation. This allows users to browse

comfortably while being more receptive to the message conveyed by the ad. Conversely, in bright daytime environments, ads can utilize more vibrant colors to enhance visibility. By dynamically adjusting colors to match user contexts, advertisements can subtly improve brand perceptions and increase conversion rates. Furthermore, color influences user engagement behaviors—such as liking, commenting, and sharing—which in turn influence subsequent purchasing decisions among other users and the consumers themselves. When an ad's color scheme aligns with the platform's dominant aesthetic or the user's personal preferences, engagement is more likely. For instance, on Xiaohongshu, ads using popular soft-toned filters are more likely to be perceived as regular posts, prompting users to like or save them. When users observe an ad receiving numerous likes or positive feedback, social proof kicks in, fostering positive impressions of the product. Research indicates that community feedback like the number of likes on social platforms positively influences consumer purchase intent, with “likes” themselves serving as an endorsement of the product by other consumers [11]. Therefore, when ad color design aligns with the platform's tone and aesthetic appeal, it often sparks more spontaneous user interactions. These interactions further amplify word-of-mouth promotion and enhance the product's favorability in users' minds, driving potential consumers toward final purchase conversion.

## **4. Optimization Strategies for Color Application**

Based on the above mechanism analysis, businesses and platforms can optimize their social media advertising color strategies across three critical stages: attention capture, information delivery, and action conversion.

### **4.1. Attention Capture Stage**

For ad covers or video opening frames, leverage high-contrast color combinations to instantly grab users' attention. Specifically, choose an accent color with strong contrast against the background as a visual anchor. For instance, employ bright buttons or elements against dark backgrounds, or accent minimalist backgrounds with vivid red/orange accents to create visual impact. Research indicates that strategically placing a few “accent colors” with extreme contrast against surrounding elements effectively draws the eye [12]. Simultaneously, avoid excessive color clutter on the cover to prevent users from becoming overwhelmed and losing focus. High-contrast, minimalist color schemes help prolong user dwell time on the ad, creating opportunities for subsequent content exposure. At this stage, color's primary goal is to “pop out” from the feed, prompting users to pause scrolling, spark interest, and either click or continue viewing.

### **4.2. Information Delivery Phase**

When users engage with the ad's core content, color application should clearly present the product and its selling points without overshadowing them. The optimization strategy visually emphasizes the product itself while relegating background or decorative colors to secondary prominence. A common approach is “neutral background + low-saturation product accent color”: for example, using white or light gray backgrounds to make the product's color the most eye-catching element, or reducing background transparency and saturation to avoid distracting from the subject. This design reduces cognitive load, helping users focus on product details and key information. Cognitive neuroscience research supports this approach—when product backgrounds feature subdued hues, consumers experience reduced cognitive conflict during decision-making, leading to more efficient information processing. Simply put, lowering background saturation eases mental strain, enabling users to grasp product features more effortlessly [12]. Additionally, when pairing text elements with color blocks, ensure high readability and appropriate contrast so text isn't overwhelmed by complex backgrounds. By streamlining the color palette and emphasizing focal points, advertisements can smoothly convey product value propositions to consumers during this phase, reducing information asymmetry and decision-making resistance.

### 4.3. Action Conversion Stage

Driving consumers to purchase is the ultimate goal. Color elements at this stage should serve two purposes: guiding attention and building trust. First, for action buttons like “Buy Now” or “Add to Cart,” use colors that are complementary to the page's primary palette and highly saturated to ensure the buttons stand out immediately. High-contrast button colors create a visual focal point, prompting and encouraging users to click. Reports indicate that simply altering CTA button colors can significantly impact conversion rates: experiments show that changing a green purchase button to a more striking red increased conversions by approximately 34% [13]. This demonstrates how prominent and appropriately chosen button colors can stimulate user urgency and action. Generally, warm-toned buttons like orange or red are commonly used in e-commerce to drive impulse clicks [6]. However, specific choices should also consider contrast with the page's primary color scheme and brand identity. Once users reach the payment checkout page, the color palette should shift toward low-saturation cool tones (such as light blue or grayish white). This aims to create a secure, trustworthy atmosphere, alleviating users' last-minute hesitations. Calm hues like blue are frequently employed to convey safety and professionalism [4]. Many payment interfaces employ pale blue or gray-white precisely to help users feel calm and confident at the critical moment. Conversely, overly vivid or stimulating colors may induce anxiety during this phase and should be avoided. By adjusting color temperature and brightness at conversion points, platforms can soothe user emotions and bolster confidence in the transaction. Overall, optimizing color strategies requires consideration across all user journey stages: first capturing attention with striking contrast, then highlighting product information with restrained palettes during the middle phase, and finally catalyzing conversion and payment reassurance through carefully selected button and background colors. This end-to-end color control maximizes the psychological impact of color, enhancing the return on investment for social media advertising.

## 5. Conclusion

This study explores color psychology and consumer purchasing decisions in social media advertising, employing a combination of literature analysis and case study methods. It systematically outlines current color application trends, the underlying mechanisms influencing decision-making, and optimization strategies. Key findings include First, color choices exhibit industry-specific and platform-specific trends—beauty ads favor high-saturation warm tones to convey vibrancy and fashion, tech products use low-saturation cool colors to emphasize professionalism and reliability, while FMCG ads prefer bright hues to create a joyful atmosphere. Platform-wise, short-video platforms favor minimalist, high-contrast palettes for instant visual impact; social media ads pursue medium-saturation color schemes balancing comfort and attention, while image-sharing platforms integrate popular soft tones to align with aesthetic preferences. These applications demonstrate that color strategies must adapt to specific contexts. Second, color influences purchasing decisions through three sequential mechanisms: “Attention-Emotion,” “Brand Recognition,” and “Contextual Fit-Social Interaction.” Vivid colors seize initial attention and trigger emotions; consistent brand colors reinforce memory and reduce cognitive effort; appropriate color schemes enhance user comfort and prompt interaction in specific contexts. These layers collectively propel consumers from awareness to action. Third, addressing these mechanisms, this paper proposes an optimized color strategy for social media ads: employ high-contrast colors in the initial stage to capture attention; use neutral backgrounds during information presentation to highlight products; and in the conversion stage, utilize striking complementary colors to guide clicks while employing cool-toned backgrounds to soothe payment hesitation. These tactics aim to make color selection more scientific and refined, thereby enhancing ad effectiveness and consumer experience. In summary, this study enriches people’s understanding of color psychology in digital marketing contexts, demonstrating that strategic color application can serve as a powerful lever influencing consumer purchasing decisions. In practice, businesses should develop color schemes tailored to their industry attributes and platform

characteristics, continuously optimizing through data-driven testing. Future research could further quantify the effectiveness differences of various color combinations in social media ads, examine the moderating role of cultural factors on color preferences, and explore how Artificial Intelligence and personalized technologies can dynamically adjust ad colors to suit different user preferences. Color psychology retains vast development potential in the digital era, and its relationship with purchasing decisions warrants continued in-depth exploration.

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