

Research and Application Strategy on Color Trends in Brand Digital Product Design

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Abstract: In today's digital era, digital products have become the core touchpoints for brand-user interaction. Color, as a leading element of visual perception, has transcended its traditional aesthetic boundaries in digital interfaces and evolved into a crucial strategic tool for user experience and brand communication. This paper aims to establish a systematic research framework to explore color trends in brand digital product design. The paper first elaborates on the multi-dimensional functional values of color in the context of digital products, including brand recognition, information architecture, emotion shaping, and accessibility. Then, it delves into the visual characteristics, social and cultural driving forces, and their impacts on user behavior of the four dominant color trends: digital native aesthetics, natural healing tones, high-end neutral sensibility, and bold contrast collisions. Based on this, a hierarchical trend integration strategy model is proposed, detailing how to organically integrate external trends with internal brand genes, covering auxiliary color strategies, design systematization, dynamic themes, and A/B testing. Finally, it critically reflects on potential challenges in trend application, such as accessibility and aesthetic fatigue, and looks forward to the future development of color trends towards dynamism, contextualization, and humanization. This study aims to provide brand managers and UI/UX designers with a strategy framework that combines theoretical depth and practical guidance, enabling them to make rational decisions that are both forward-looking and in line with the brand's essence in the ever-changing design trends.

Keywords: Color Trends, Digital Product Design, Brand Visual, User Experience, UI Design, Design Strategy, Design System.

1. Introduction

1.1. Color - The Strategic High Ground in the Digital Brand Battlefield

We are now in an era of "attention economy" dominated by screens. On average, each user spends several hours a day interacting with various digital products, ranging from mobile apps, official websites to mini-programs and smartwatch interfaces. In this high-density and high-frequency interaction, users' decision-making paths and emotional experiences are greatly compressed and accelerated. Color, as the first visual information processed by the human visual system, has become a "strategic high ground" for brands to compete for users' attention, convey value propositions, and set the overall tone of the product within seconds.

Unlike the static color application in traditional print media, the color in digital products is dynamic, systematic, and deeply interacts with the environment. It needs to adapt to different screen sizes, lighting conditions, and respond to users' interaction behaviors (such as clicking, hovering, and swiping). More importantly, global social changes (such as the post-pandemic focus on health), technological waves (such as the rise of AI), and generational cultural shifts have collectively shaped collective color aesthetic preferences. These preferences, through the amplification effect of social media, quickly evolve into time-sensitive "color trends".

In this study, when analyzing digital fabrics and color designs, we referred to the annual emotional color reports released by authoritative institutions such as Pantone Color Institute to ensure that the design proposals not only possess cultural depth but also have a cutting-edge fashion sense. [1] At the same time, we conducted more in-depth research on the professional predictions of future color systems by institutions such as WGSN. [2]

Therefore, the continuous and in-depth research on color

trends is no longer a reflection of a designer's personal aesthetic taste, but a necessary strategic requirement for brands to maintain relevance, differentiation, and emotional connection in the digital competition. However, blindly and unstrategically chasing trends may lead to brand image confusion, alienation of core user groups, and even ethical issues due to neglect of accessibility. The core proposition of this article is: How should brand digital products systematically research, screen, and apply color trends to find the best balance between "the pulse of trends" and "the soul of the brand", and ultimately achieve a win-win situation of business goals and user value.

2. Multi-dimensional Functional Value Analysis of Color in Brand Digital Products

In the specific context of digital interfaces, the function of color has been greatly expanded, which is specifically reflected in the following four core dimensions:

2.1. Instant Anchor Point for Brand Recognition

In the information-overloaded digital environment, color is the most effective "visual signature" of a brand. When users rapidly switch between different applications, unique color combinations can achieve instant identity recognition. For instance, the specific blue used by Alipay (Alipay BI-ue) has been closely associated in users' minds with "safety, reliability, and professionalism" in fi- This strong association between color and brand is a core component of brand assets in the digital world, and its value should not be underestimated.

2.2. Visual Scaffold for Information Hierarchy and Interaction Logic

Color is a silent interface language that helps build a clear

information architecture and guide user behavior. A mature design system assigns strict functional definitions to colors: primary colors are used for core operation buttons and key links, marking the most important interaction points; secondary colors are used for secondary buttons and labels, enriching the visual hierarchy; semantic colors, such as success (green), warning (orange), and error (red), provide immediate feedback on the system status to users; neutral colors are used for large amounts of text, backgrounds, and dividers, forming the skeleton of the interface.

Through this color logic, users can intuitively understand the priority and operability of elements without reading text, greatly enhancing the usability and learnability of the product.

The "new foundation" of digital fashion lies in the mastery of "temporality" and "interactivity". Just as Lepton pointed out, dynamic design has become a new fundamental competence. [3]

2.3. The Atmospherics Creator of Product Character and User Emotions

The color design of digital fashion is shifting from static color palettes to dynamic, algorithm-driven systems. Just as Google's "Dynamic Colors" system, which it has incorporated into its Material Design 3 design language, reveals, the future of digital visual colors will be based on source colors, generated in real time through scientific algorithms and adapted to the context. [Google Material Design, 2023] [4]

Colours have the ability to directly touch the limbic system of humans (which governs emotions). Different colour strategies can shape completely different product atmospheres: an app for meditation or health (such as Headspace) typically uses low-saturation pastel colours, soft greens and creams, aiming to create a "digital haven" for users to escape from information anxiety, inducing calm and focused emotions. An app for trendy e-commerce or entertainment (such as TikTok) tends to use high-contrast black backgrounds and bright fluorescent colours, creating an atmosphere full of energy, dynamism and a sense of modernity, stimulating users' desire for exploration and participation. Therefore, the choice of colours is essentially a response and shaping of the psychological expectations of the target users.

2.4. The Moral Foundation of Inclusivity and Accessibility

While pursuing aesthetics, color design must adhere to the principle of inclusiveness. The Global Web Content Accessibility Guidelines (WCAG) clearly stipulate the color contrast standards for text and background (at least 4.5:1). This is not only to serve color-blind, color-weak, and low-vision individuals, but also to address common scenarios where users use mobile devices in strong light environments. "The digital translation of colors faces two major system logics: one is the algorithm-driven dynamic generation logic advocated by Google Material Design 3 [4]; the other is the logic of optimizing and adapting for specific hardware ecosystems and interaction semantics emphasized by Apple's Human Interface Guidelines [5]. An ideal digital color system for opera should be able to integrate these two: it can not only dynamically generate color schemes rich in cultural connotations based on users or content, but also ensure that this scheme meets strict usability and visual fidelity standards on various terminal devices." [5]

Color design that ignores accessibility will not only lose

some users, but may also face legal risks, marking the extension of color application from the pure art field to the field of design ethics.

3. In-depth Analysis of Core Color Trends in Contemporary Brand Digital Product Design

3.1. Trend One: Digital Natives and Virtual Aesthetics

Visual Characteristics: High-saturation fluorescent color schemes (neon blue, electronic purple, cyber green), metallic texture gradients, transparent and blurry effects of glass-like (Glassmorphism) design, "acidic design" colors derived from the 90s rave culture, and unpredictable iridescent variations.

Social and Cultural Driving Forces: The hype and exploration of the metaverse concept, the commercialization of NFT digital art, the popularity of cyberpunk subculture, and the strong demand of the Z-generation for virtual identity construction and expression. This trend essentially reflects the visual echo of the digital-native generation's growth environment.

Application Scenarios and User Experience Impact: This trend is commonly seen in cryptocurrency trading platforms, gamified applications, trendy communities, and avant-garde technology companies' products. It deliberately creates a surreal, immersive, and futuristic digital experience by breaking the constraints of color rules in the physical world. For example, using neon gradients in the asset chart of a fintech app can enhance the "flow" and "tech" feel of the data, suggesting that the brand is at the forefront of technology.

3.2. Trend 2: Natural Healing and Organic Tones

Visual Characteristics: Warm tones derived from the earth (clay color, sandstone color, oat color), soft and vibrant green representing the sky and water, serene blue symbolizing tranquility, and gentle cream yellow.

Social and Cultural Driving Forces: The unprecedented global public attention to physical and mental health and emotional well-being in the post-pandemic era; the rise of "digital minimalism" and "digital detox" concepts; and the promotion of sustainable development and eco-friendly lifestyles.

Application Scenarios and User Experience Impact: This is a counterbalance and balance to the "digital native" trend, dominating in health, fitness, meditation, reading, and e-commerce apps. These colors can effectively alleviate users' visual fatigue and cognitive load, providing a warm, real, and stable "grounded" feeling. Products using these colors seem to promise users a peaceful, trustworthy, and meaningful digital time.

3.3. Trend 3: Sophisticated Sexy and Eternal Classic

Visual Characteristics: Deep black, different levels of premium gray, warm beige, oat color, and the dark color mode theme composed of these.

Social and Cultural Driving Forces: The collective fatigue from information explosion and visual overload; the return to the eternal design philosophy of "less is more"; and the pursuit of quality, professionalism, and focus.

Application Scenarios and User Experience Impact:

Widely used in high-end brands, productivity tools, content reading, and developer tools. Dark mode is not only an aesthetic choice but has also become the mainstream user experience standard for operating systems. It significantly reduces visual stimulation in low-light environments, extends device battery life, and makes colors and content the focus. A well-designed neutral color palette conveys the brand's restrained, exquisite, professional, and trustworthy image.

3.4. Trend 4: Bold Contrast and Vibrant Collision

Visual Characteristics: Intense color contrasts (such as orange and blue, pink and green), the extreme use of black and white extreme colors, and retro color clashes from the 80s and 90s.

Social and Cultural Driving Forces: The urgent need to compete for users' attention in the fragmented attention market; the dissemination logic of social media content seeking "first impression appeal"; and the desire of brands to express confidence, individuality, and rebellious spirit through colors.

Application Scenarios and User Experience Impact: Mainly for entertainment, social, sports, and creative tool products targeting the Z Generation and young millennials. High-contrast colors can generate instant visual impact, creating a vibrant, playful, or even dramatic atmosphere. They are highly suitable for highlighting interactive elements such as "purchase" buttons, "follow" icons, or new feature prompts, effectively guiding user behavior and improving conversion rates of key indicators.

4. From Trend to Strategy: The Integration Model of Color in Brand Digital Products

In the face of diverse and even conflicting color trends, brands need a rational integration strategy rather than a purely emotional following. This article proposes a hierarchical strategic model:

4.1. Strategic Screening: Aligning with Brand DNA

The first step is to establish a "trend filter". Brands need to examine the emotional associations and cultural metaphors carried by each trend color and determine if they align with their core value proposition. A meditation brand that advocates for "inner peace" should not adopt the noisy "acidic design" colors wholesale. This process requires collaboration between brand managers and designers to ensure that the introduction of trends is a beneficial extension of the brand narrative rather than a rupture.

4.2. Progressive Integration: Accent Colors and Operational Colors Strategy

This is the safest and most commonly used strategy. Keep the brand's main color unchanged and use the filtered trend colors as accent colors or operational color schemes for activities.

Accent Colors: Incorporate a trend color (such as the clay color in natural healing) into the design system and define it as a new secondary button color or label color.

Operational Colors: Create a set of temporary visual schemes based on trend colors for specific marketing campaigns, holidays promotions, or new product launches,

for use on splash pages, banners, and icons.

The advantage of this strategy is that it can maintain the stability of the brand's core identity while keeping the interface vibrant and up-to-date through local updates.

4.3. Systematic Integration: Integrating Trends into the Design System

Deeply integrate trend colors into the enterprise's design system, giving them clear functional roles. For example, instead of simply using "neon blue" as decoration, define it as the system's "new successful state color" or "high-priority notification color". In this way, trend colors shift from surface visual symbols to part of the product's interaction logic, achieving the unity of form and function.

4.4. Dynamic Presentation: Offering Thematic Options

Utilizing front-end technologies, provide the product with multiple color themes, such as the standard "Bright Mode", the trend-based "Deep Space Mode", or "Natural Healing Mode". This not only returns the color selection rights to the users and enhances the personalized experience, but also serves as a window for brands to showcase their design inclusiveness and technological advancement. The theme switching function itself can become a small brand memory point.

4.5. Data-Based Verification: A/B Testing and User Feedback

Before applying a certain trend color on a large scale, especially for key interactive elements (such as the purchase button), strict A/B testing must be conducted. Monitor the impact of different color schemes on core indicators such as user click-through rate, conversion rate, and dwell time through data monitoring. At the same time, combine qualitative research methods such as user interviews and questionnaires to collect users' subjective feelings about the new color scheme. Using data-driven design decisions can effectively avoid subjective biases and ensure the commercial value of the color change.

5. Challenges, Ethical Reflections and Future Prospects

5.1. Core Challenges in Application:

Accessibility Trap: Many trend colors, especially the "natural healing" colors with low contrast and the "fluorescent colors" with high saturation, are prone to violate WCAG standards. Designers must conduct strict verification using contrast detection tools and strike a balance between aesthetics and inclusivity.

Aesthetic Fatigue and Lifecycle: Excessive trend colors often have a short lifecycle and can lead to the rapid "outdatedness" of the product interface. Brands should be wary of sacrificing long-term design durability for short-term sensationalism.

Performance and Implementation Costs: Complex gradients, frosted glass effects, and animated colors may increase front-end rendering pressure, affecting the loading speed and smoothness of the application, especially on low-end devices.

5.2. Future Prospects:

Dynamic and Contextual Colors: Future color systems may be "living". With the help of AI and sensor technology, the color theme of products can be automatically adapted based on the user's current mood (through behavioral data analysis), local time (sunrise and sunset), geographical location, and even weather conditions, providing a deeper personalized experience.

AIGC-driven Color Generation: AI-generated content (AIGC) tools will be able to assist designers in quickly generating hundreds of color schemes that conform to brand style and follow trends, significantly improving exploration efficiency, but also placing higher demands on designers' screening and decision-making capabilities.

Colors and Sustainability: The concept of "digital sustainability" will become increasingly important. Due to the energy-saving nature of dark pixels on OLED screens, adopting a dark mode may evolve from an experience choice to an open commitment by the brand to environmental responsibility.

"We call for the establishment of a 'accessible digital cultural heritage' certification system by the heritage protection institutions, digital platforms and designers. This system should be based on the WCAG 2.1 [6] as its core framework, ensuring that every digital heritage work - whether it is a virtual fashion piece or a metaverse exhibition - is equipped with equal access rights. Only in this way can the cultural revival empowered by technology become a true and inclusive civilizational progress for all." [6]

6. Conclusion

In the process of designing and evolving brand digital products, color trend research is a crucial and ongoing strategic practice. It requires us - brand decision-makers and designers - not only to have a keen visual sense, but also to possess profound social and cultural insights, rigorous

systematic thinking, and a deep empathy for user needs.

Successful color application is not merely a simple imitation of popular color palettes; it is a complex process of strategic filtering, creative transformation, and systematic integration. It demands that we find the delicate dynamic equilibrium point between "the pulse of trends" and "the soul of the brand", between "instant appeal" and "eternal value", between "bold innovation" and "inclusive ethics".

Ultimately, those outstanding digital products that can withstand the test of time will have a color strategy that is rooted in clear brand genes, resonates with the emotional needs of the times, and ultimately serves a seamless and delightful user experience. Only in this way can color truly rise from being an embellishment of the interface to a vibrant and strategically significant visual bond connecting the brand and the users.

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