

Research on the Innovation Model of Beauty E-commerce Based on Private Domain Operation and Customization

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Abstract: In the context of the digital economy, beauty e-commerce is grappling with the diminishing dividends of online traffic, escalating customer acquisition costs in public domains, and intensifying homogeneous competition, while simultaneously facing the growing demand for personalization and participation from Generation Z. Currently, the industry's private domain operations are mired in the superficiality of traffic harvesting, with customization services often reduced to symbolic gestures like engraving or color selection. Moreover, the data between these two areas remains fragmented, leading to insufficient synergy. Compounded by issues such as misaligned organizational structures and unactivated user willingness, the industry struggles to meet market demands. This study proposes an integrated innovation model that combines "private domain + customization." By constructing a tiered and refined private domain operation system and developing gradient-based, in-depth customization services—supported by AR, AI technologies, and flexible supply chains—a synergistic closed loop of "Data Accumulation—demand identification—product co-creation—Content Recirculation" is formed. This model transforms consumers into co-creators, effectively activating their psychological ownership, enhancing user value and brand loyalty, and facilitating the beauty e-commerce industry's transition from traffic-driven to user-value-driven growth. It provides theoretical and practical references for the industry to break through the challenges of competing in a saturated market.

1. Introduction

Amidst the wave of the digital economy, the beauty e-commerce sector continues to expand, serving as a critical conduit for consumption upgrades and Demand for Customization. However, as traffic dividends gradually fade and the costs of bidding for traffic in public domains rise, brands' profit margins are increasingly squeezed amidst intensifying homogeneous competition. Simultaneously, Generation Z consumers are emerging as the primary market force, with their growing demands for self-expression, exclusivity, and a sense of participation driving beauty brands to transition from standardized products to personalized services. Private domain operations and customization services have thus emerged as critical pathways for the industry to navigate these challenges.

2. Analysis of the Current State and Problems of Private Domain Operations and Customization Services in Beauty E-commerce

As early as 2024, scholars calculated and concluded that the current state of private domain operations and customization services in beauty e-commerce reveals systemic challenges, which can be summarized as "five lows and one high": the conversion rate from public domains continues to decline; the activity level in private domain communities remains persistently low; the proportion of deeply customized products is negligible; the rate of system integration is limited; the repeat purchase rate of existing customers is far below the platform average; all while customer acquisition costs rise year by year [1]. These challenges manifest as three core problems: First, the low efficiency of private domain operations. Most brands still rely primarily on WeChat groups and official accounts, resulting in severely homogenized content, monotonous interaction formats, and short user lifecycles. There is a disconnect between traffic diversion from public domains and its reception in private domains, with communities degenerating into notification boards for coupons, leading to a continuous decline in activity and retention rates. Second, the superficiality of customization services. Customization in beauty mostly remains at the superficial level, such as engraving or color selection, lacking deep customization based on user data and usage scenarios. Users are unable to participate in core designs like formula, texture, or shape, resulting in a weak sense of participation and difficulty in forming psychological ownership. Third, the fragmentation of data between private domains and customization. User behavior data accumulated in private domains fails to effectively feed back into product R&D and customization services, and the outcomes of customization are not recirculated to private domains to form content assets. Consequently, the traffic pool and value pool remain unintegrated, and the operational closed loop remains broken.

The root cause of these problems lies in the private domain operations teams' sole focus on the single label of "selling goods." They have neither established deep labeling systems for user interests and scenarios nor cultivated a warm brand persona, ultimately leading to a low user willingness to stay. Consequently, much of the data accumulated in private domains is ineffective and cannot support customization services. This can be broken down into five specific dimensions:

2.1. The "Traffic-Oriented" Tendency in Private Domain Operations: Shallow Relationship Accumulation

Although most brands have established a private domain matrix centered around enterprise WeChat, communities, and official accounts, their operational logic remains stuck in the stage of traffic harvesting: communities are filled with coupons and live-streaming previews, lacking emotional value and interactive warmth, resulting in short lifecycles; user labels are roughly divided only by consumption amount or frequency, with deeper dimensions such as interests, scenarios, and emotions absent, leading to a significant deviation between recommended content and actual preferences; customer-service-style responses replace personalized IPs, creating a thin community atmosphere, with relationship strength consistently hovering at weak ties. This fails to accumulate high-value data, nor can it foster the psychological trust and emotional stickiness necessary for customization [3].

2.2. The "Symbolic" Nature of Participation in Customization Services: Difficulty in Forming Psychological Ownership

Customization services are characterized by "symbolic" participation. The so-called "customization" offered by current beauty brands is essentially pseudo-customization, such as engraving, selecting cases, or choosing colors. Users are excluded from core designs like formula,

texture, and shape, being only able to make limited choices without any sense of co-creation participation. Brands neither retain customization data nor iterate recommendations based on it, terminating data association once the transaction is completed. As a result, psychological ownership is not activated, and trust is instead overdrawn due to "form over substance" [2], reducing customization to a one-time gimmick that fails to accumulate into sustained purchase motivation.

2.3. Data Silos and Systemic Fragmentation Hindering the Synergistic Implementation of "Private Domain + Customization"

Private domains and customization should ideally run through the cycle of "data accumulation—demand identification—product co-creation—content recirculation." However, the reality is that private domain labels only record "what was bought," remaining nearly blank regarding core needs that support customization, such as "why they bought it, where they use it, and what style they like." Furthermore, the color combinations users painstakingly assemble, the images they upload, and the usage feedback they share are not structurally retained, missing opportunities for secondary dissemination and emotional amplification. Consequently, the two tracks operate independently, with data silos standing high [4]. Resources are repeatedly invested without yielding synergistic gains, leaving users with only fragmented perceptions of the brand.

2.4. Misaligned Organizational Structure and Incentive Mechanisms: Lack of Cross-Departmental Collaboration Mechanisms

Private domain teams take Gross Merchandise Volume (GMV) and repurchase rate as their core indicators, while customization teams are assessed based on conversion rate and average order value. The non-recognition of Key Performance Indicators (KPIs) across teams leads to the same group of users being pulled in different directions by two strategies. Customization requires cross-departmental collaboration involving product, research and development (R&D), supply chain, and customer service, with long cycles, while private domains demand immediate responses. This pacing misalignment directly undermines the user experience. When budgets are tight, low-cost private domain operations remain safe, while high-investment customization initiatives are the first to be cut. Under such resource misallocation, both sides can only focus on their own short-term projects, lacking a unified goal and collaboration mechanism centered on user value. Consequently, strategic integration naturally becomes empty talk.

2.5. User Cognition and Behavioral Pathways Ineffectively Guided: Customization Intent Not Activated

Users' rejection of customization is not due to the absence of demand, but rather because the "activation button" has not been pressed: They default to equating customization with high prices, inconvenience, and slow delivery, having no concept of light customization; lacking gamified tasks, social sharing mechanisms, and emotional bonding elements, the user participation experience feels arduous and tedious; coupled with natural distrust regarding quality, delivery, and after-sales service, off-the-shelf products immediately seem a hundred times more worry-free. Therefore, brands must first do subtraction—lowering barriers, shortening pathways, and making transparent commitments—and then do addition—educating cognition, providing gamified incentives, and creating emotional resonance—in order to translate potential demand into active participation [8].

3. Exploring the Integrated and Innovative Development Path of Private Domain Operations and Customization in Beauty E-commerce

Amidst the deepening development of the digital economy and the upgrading of consumer demands, beauty e-commerce is mired in a triple dilemma: the peaking of traffic dividends, soaring customer acquisition costs in public domains, and intensifying homogeneous competition. Traditional traffic-driven growth models are becoming unsustainable. The industry grapples with core problems such as the superficiality of private domain operations, the formalization of customization services, data fragmentation, and the lack of cross-departmental collaboration, resulting in insufficiently tapped user value. Against this backdrop, transitioning towards "deep cultivation of user value" has become an inevitable path to break through the deadlock, with the construction of an integrated "private domain + customization" innovation model serving as the key. This model leverages private domains to accumulate emotional trust and comprehensive dimensional data, while utilizing customization to activate users' willingness to co-create and their psychological ownership. Through "data interoperability, scenario complementarity, and value mutual nourishment," it transforms consumers into brand participants, co-creators, and advocates, opening up a high-value growth track for beauty e-commerce.

3.1. Constructing a Tiered and Refined Private Domain Operation System

Brands should integrate public domain traffic entry points such as e-commerce platforms, social media, and offline stores, guiding users to add enterprise WeChat or register for brand mini-programs through "scenario-based content seeding + exclusive benefit hooks," while simultaneously completing "basic label collection" to avoid disconnection after traffic diversion. Within this framework, enterprise WeChat focuses on 1v1 precise service and demand exploration, mini-programs handle customization ordering and data accumulation, and membership communities concentrate on interactive co-creation and emotional connection, forming a seamless "diversion-reception-accumulation" pipeline. On this basis, a tiered system of "regular members" and "premium members" with clear growth pathways is established. Regular member communities focus on information releases, promotional notifications, and daily services, while premium member communities offer exclusive benefits such as new product testing, formula seminars, and priority participation in brand events. Through user tiering, community stratification, and well-defined growth incentive designs, private domain user retention and sense of belonging can be significantly enhanced [5].

Simultaneously, private domain operations must transcend mere product promotion, continuously delivering value around brand philosophy, signature products, usage tutorials, and aesthetic culture through diverse formats such as live streaming, short videos, and graphic content, cultivating a professional, trustworthy, and warm brand image. Furthermore, based on users' content preferences, consultation records, event participation, and consumption data within the private domain, a dynamic user profile and label system covering the four dimensions of "basic attributes-interaction behavior-consumption preferences-customization needs" is constructed. Private domain interactions, customization processes, and consumption feedback all synchronously supplement labels, enabling precise content delivery, product recommendations, and service outreach. This transforms "broadcasting widely" into "precise drip irrigation," significantly enhancing marketing efficiency and user satisfaction.

3.2. Developing Diversified and Deeply Engaging Customization Service Products

3.2.1. Tiered Customization Schemes

Beauty e-commerce brands implement tiered customization schemes, dividing services into two categories: "mass-market light customization" and "in-depth personalized customization." Among these, mass-market light customization targets the general consumer base, meeting basic personalization needs within standardized processes by offering modular customization options such as selectable product color ranges, making it conducive to large-scale promotion. In contrast, in-depth personalized customization is introduced for high-value customers who pursue ultimate uniqueness and exclusive services. Brands provide high-value customers with "haute couture"-like in-depth services, including one-on-one color consultation, exclusive formula blending, full-cycle participation in production, and gift box design incorporating personal elements, thereby transforming products into emotional carriers imbued with personal sentiments and stories. Engaging users in in-depth customization that involves core design aspects can effectively activate consumers' psychological ownership, thereby enhancing purchase intention and brand loyalty [2].

3.2.2. Enhancing Customization Experience through Technological Innovation

In the process of construction and development, beauty brands must enhance user participation and their sense of belonging to the brand. Only when users have high brand loyalty is it more conducive to the brand's sustainable development. Establishing a user co-creation platform—an online platform or mini-program function that allows users to freely blend colors and textures within certain parameter ranges, and even participate in new product concept voting—gamifies and makes the customization process interactive, reinforcing users' sense of participation and creative enjoyment. Building on this, integrating technological tools such as AR virtual try-on and AI skin analysis can effectively address the "high trial-and-error cost" problem in online beauty consumption, while simultaneously enhancing user engagement and decision-making accuracy [6]. Through these technological means, brands not only lower the barrier to user customization decisions but also optimize the online customization experience, making "try before you customize" a reality.

3.3. Promoting the Synergy and Closed-Loop Construction of Private Domain Operations and Customization Services

The precision users and trust relationships accumulated in private domains provide a high-quality natural traffic pool for customization services, significantly reducing their initiation and communication costs. At the same time, the unique experience brought by customization services is filled with emotional connection throughout the entire process, naturally generating authentic, vivid user stories and finished product displays as high-value content. This content continuously feeds back into private domains, enriching the brand ecosystem, stimulating community engagement, and attracting new users. Thus, a "two-way empowerment" closed loop is formed: private domains supply customer sources and a trust foundation for customization services, while customization services inject exclusive content and vitality into private domains.

3.3.1. Private Domain as the Core Incubation and Promotion Field for Customization Services

Leveraging its unique attributes of high trust, strong interactivity, and cost controllability, the private domain serves as the core platform for the full-process validation and initiation of customization services. As a base for demand detection and concept co-creation, the private domain enables customization services to obtain authentic feedback from core users before launch, helping

brands achieve precise positioning and collaborative optimization. As an optimization pool for internal testing of service processes and experiences, the private domain supports brands in rapidly iterating service details through small-scale user testing, ensuring quality and experience smoothness upon official launch. As a fermentation and amplification pool for initial word-of-mouth and trust, the authentic sharing from internal testing users generates efficient dissemination within the community, completing a high-quality cold start for customization services, accumulating genuine and credible cases, and enriching native content and social assets for subsequent public domain promotion. Through this series of roles, the private domain creates a controllable, iterable, and scalable strategic experimental zone for brands, significantly reducing the blindness and trial-and-error costs of customization services directly targeting the broad market, making the entire process from incubation to promotion more robust, precise, and efficient.

3.3.2. Customization Services Enriching Private Domain Content and Enhancing Value

As a bridge for deep interaction between brands and users, customization services—from personalized demand communication and creative collision during the design phase, to the exquisite presentation of the final product and subsequent usage experience sharing—constitute the most vital, authentic, and credible source of original content within the private domain. These stories and displays originating from real users not only vividly illustrate the brand's service capabilities and product value but also, through resonant influence, effectively ignite the purchase interest and participation enthusiasm of other community members, forming a virtuous drive of "seeing is desiring." Therefore, to stimulate the enthusiasm of high-value customization users to participate in community discussions and content creation, brands should construct multi-faceted user participation reward mechanisms. After users complete customization, customer service can proactively guide them to share photos of the finished products in the community or on the brand's private domain platform, and provide positive incentives. In terms of recognition incentives, high-quality customization cases can be pinned for display, and users can be awarded the title of "Brand Co-Creation Officer." In terms of reward incentives, content creators can be granted "new product priority customization rights" and "exclusive designer access." In terms of emotional incentives, one-on-one thanks can be given through enterprise WeChat, and user stories can be compiled into PGC content. The high-quality UGC content thus generated can be skillfully used for secondary dissemination and content seeding within the community. This completes a full closed loop from "serving users" to "users empowering content" and then to "content attracting new users," continuously injecting fresh blood into the brand's content, enhancing the community's active atmosphere and long-term appeal, thereby continuously driving the enhancement and growth of private domain value.

3.3.3. Constructing a "Service-Data-Optimization" Feedback Closed Loop

To promote deep synergy between private domain operations and customization services, the key lies in constructing a user-centric "service-data-optimization" dynamic feedback closed loop. Firstly, the private domain, as the core incubation field for customization services, while providing a high-trust environment and initial traffic, can collect full-dimensional user data spanning from demand communication and collaborative solution creation to feedback on finished products. The core data generated during the interaction and service process, after systematic collection and analysis, becomes the core fuel driving the next round of optimization and decision-making. On one hand, data insights directly feed back into the iteration of the customization service itself, optimizing design processes, pricing strategies, and user experience. On the other hand, they also precisely guide private domain operation strategies, playing a crucial role in identifying high-potential content creators, adjusting community interaction rhythms, and personalizing the delivery of exclusive customization

benefits, thereby more efficiently stimulating UGC content production and community participation. Thus, from service practice generating data, to data analysis driving optimization, and then applying optimized strategies to enhance service experience and private domain operation efficiency, a self-reinforcing growth cycle is formed. This enables the brand's private domain and customization services to continuously evolve in synergy, jointly constructing hard-to-replicate core competitiveness and achieving sustainable endogenous growth.

3.4. Strengthening the Support System and Expanding Brand Value Extension

The backend supply chain needs to adapt to small-batch, multi-variety customization demands through deep collaboration with more than three R&D and production partners, implementing a strategy of "core materials regularly stocked + customization materials flexibly stocked." The production process should be split into two modules: base product batch manufacturing and customized ingredients added on demand, optimizing mixing and filling efficiency. Establish clear standards of 48-hour delivery for light customization and 15-day delivery for in-depth customization, develop a mini-program progress tracking function to synchronize production nodes in real time, thereby enhancing the responsiveness and transparency of customization services while ensuring quality.

On the premise that the flexible supply chain builds a solid foundation of efficiency and quality for customization services, brands can deepen emotional connections with users through the distinctive narrative of "customization + public welfare," creating a positive bond between personalized consumption and social responsibility. For every customized order completed by a user, brands can allocate a fixed proportion of revenue to public welfare projects such as research and development of environmentally friendly beauty raw materials or beauty skills assistance for rural women, enabling users' exclusive consumption behaviors to simultaneously generate social value. Simultaneously, build visualized communication channels, publicly display public welfare project progress and donation details through mini-programs, complemented by raw material traceability stories and public welfare collaborative documentary content, allowing users to clearly perceive the social significance of their own consumption. Integrating social responsibility projects with a brand-oriented mindset can effectively endow the brand with emotional value and moral sense of identification, thereby enhancing user loyalty [7]. This approach of deeply integrating commercial value with social value not only responds to consumers' growing psychology of value-based consumption but also enables the brand to form a unique emotional and moral label amidst homogeneous competition, further solidifying the brand moat of the integrated "private domain + customization" innovation model.

In summary, the future competitiveness of beauty e-commerce increasingly depends on its ability to deeply operate users and create unique experiences. By systematically constructing a tiered and refined private domain operation system, and on this basis developing deeply interactive, technology-enabled customization services, brands can effectively convert traffic into "retained traffic," and transform users into "fans" and even "co-creation partners." This integrated "private domain + customization" innovation model provides a strategic direction worthy of in-depth exploration for the transformation and upgrading of the entire beauty e-commerce industry. The key to its success lies in consistently adhering to a "user-centric" approach, organically combining technological innovation with humanistic care, and ultimately establishing a hard-to-replicate brand moat in the digital wave.

4. Conclusion

Against the backdrop of the deepening development of the digital economy and the upgrading of consumer demands, beauty e-commerce faces the dual challenges of diminishing traffic dividends

and intensifying homogeneous competition. Transitioning towards a user-value-driven model has become the key to breaking through the deadlock. This study proposes a new growth paradigm for beauty e-commerce powered by user co-creation, whose essence lies in constructing a trust field through private domain operations, subsequently transforming trust into deep value via customization services, and ultimately driving the restructuring of brand-user relationships. The core value of this new paradigm is to transform consumers from passive buyers into active co-creators, leveraging private domains to accumulate emotional trust and precise data, integrating technological innovation with humanistic care, and activating users' psychological ownership and brand loyalty through customization services, thereby achieving a transformation from traffic harvesting to deep cultivation of user value. Looking ahead, with the iteration of AR and AI technologies and the escalation of consumers' personalized demands, the integration boundary of "private domain + customization" will further expand, further releasing the growth potential of beauty e-commerce, helping brands build core competitiveness, and driving the industry's transformation from scale expansion to value enhancement.

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