

Scaling Cross-Border Live-Stream E-Commerce Operations: Practical Experience from Building China's 10-Billion-Level Sales Channels to Driving TikTok Shop Growth in the US

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Abstract: Over the past few years, China's cross-border live-stream e-commerce has completed its transition from being driven by traffic dividends to being driven by refined operations, precipitating core transferable capabilities such as team synergy, data-driven decision-making, and agile supply chain responsiveness. The US TikTok e-commerce market is currently experiencing a period of rapid growth. However, migrating China's mature experience to this market poses multiple challenges, including cultural differences, organizational adaptation, and supply chain restructuring. Beginning with the construction logic of China's 10-billion-level sales channels, this paper systematically expounds on the construction methods of three major pillars: the core operational indicator system, the scalable team architecture, and the supply chain response mechanism. It then analyzes the localization pathways for adapting these experiences to US TikTok shop operations, focusing on three migration strategies—building cross-cultural talent echelons, calibrating key indicators overseas, and flexibly adapting cross-border supply chains. This provides a practical framework for the operational scaling of cross-border live-stream e-commerce from Chinese experience to global replication.

Keywords: Cross-Border Live-Stream E-Commerce; Operational Scaling; TikTok Shop

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1. Introduction

In recent years, China's live-stream e-commerce has set industry records with single-session sales exceeding 10 billion RMB, and a cohort of leading operational teams has developed a comprehensive operational methodology through practical execution. The core of this methodology lies not in accidental traffic spikes, but in a systemic capability formed by data-driven product selection decisions, standardized live-stream process control, and flexible supply chain responsiveness. As competition in the domestic market intensifies, transferring China's mature operational experience to emerging overseas markets has become an industry trend. US TikTok e-commerce represents one of the markets with the greatest global growth potential, yet its user habits, content ecosystem, and commercial infrastructure differ significantly from those of the domestic market. Achieving localized adaptation while maintaining the underlying logic of China's operational experience is the core issue for scaling cross-border live-stream e-commerce operations.

2. Sedimentation of Operational Experience from China's 10-Billion-Level Live-Stream E-Commerce Channels

2.1 Operation-Driven Channel Growth Logic

The construction of 10-billion-level live-stream e-commerce channels relies on an operation-driven growth logic. Its core is to systematically manage content creativity, traffic allocation (paid media), product portfolio, and user operations within a unified operational framework. This growth logic differs from the shelf-based growth of traditional e-commerce; the latter relies on search rankings and category traffic, resulting in a growth curve that is relatively linear and predictable. In contrast, the growth of live-stream e-commerce is characterized by impulse spikes; the explosive power of a single live-stream session is generated by the combined effect of content quality, traffic precision, and product competitiveness. The primary task of the operational team is to transform this impulse growth into stable monthly compound growth, utilizing standardized live-stream scheduling, systematic product iterations, and continuously optimized traffic models to generate predictable sales outputs. Operation-driven means that the initiative for growth is not solely dictated by platform algorithms, but is rather governed by the operational team's ability to control key variables.

2.2 The Dual-Wheel Drive Model of Content Field and Shelf Field

The dual-wheel drive model of the "content field" (content-driven space) and the "shelf field" (shelf-driven space) is the most representative operational model in China's live-stream e-commerce. The content field uses live-stream rooms and short videos as vectors, relying on real-time interaction and visual presentation to stimulate users' immediate impulse buying, thereby playing a role in user acquisition and blockbuster product promotion. The shelf field uses the shop homepage, product detail pages (PDP), and search rankings as entry points to capture the overflow traffic from the content field, serve repeat customers, and handle daily sales as well as long-tail product conversions. The traffic circulation between these two fields constitutes a complete commercial closed loop: live-stream rooms bring new users to the shop, the shop leverages membership systems and cross-selling recommendations to prompt continuous repurchases, and the profile data of repeat users feeds back into the precise traffic targeting of the live-stream rooms. This model must be adjusted based on platform characteristics when migrating to US TikTok e-commerce. Currently, TikTok e-commerce is dominated by the content field (short videos and live-streams), while shop pages and marketplace search functions are gradually improving. Operational teams need to dynamically adjust the resource allocation weights of both fields in sync with the evolution of the platform's infrastructure.

2.3 Identification of Core Transferable Capability Elements

Among the operational experiences of China's 10-billion-level live-stream e-commerce, the core capability elements that can be migrated to overseas markets include talent replication, data-driven decision-making, and supply chain synergy. Talent replication capability refers to transforming individual, experience-based live-stream operations into standardized operating procedures and training systems, enabling new hires to reach a baseline competency level within a specific period. Data-driven decision-making capability involves establishing a full-link data monitoring system spanning real-time live-stream data, product sales data, and user behavior data, thereby driving operational decisions through data rather than intuition. Supply chain synergy capability means placing sales forecasting, inventory management, and logistics fulfillment under a unified collaborative platform, thereby achieving the agility needed to respond rapidly to blockbuster products. The underlying logic of these three capability elements possesses cross-market universality, but their specific application on US TikTok e-commerce must adapt to the local business environment and organizational culture.

3. Team Architecture and Core Indicator System for Scaling Live-Stream E-Commerce Operations

3.1 Matrix Organizational Architecture Centered on Key Performance Indicators

Scalable operational teams adopt a matrix organizational structure. Vertically, lines are divided by professional functions such as live-stream operations, short video content, product operations, traffic allocation, user operations, and supply chain management. Horizontally, business units are divided by product category or geographic region. Each vertical line has a professional head who establishes work standards and operational specifications, while each horizontal business unit is coordinated by an operations manager to achieve the team's sales targets. The primary duty of the operations role is to coordinate all resources within the unit and take responsibility for the final sales results. The content role is responsible for

producing live-stream scripts, short video materials, and product pitch content. The traffic allocation role manages ad budgets and optimizes customer acquisition costs (CAC). The product role manages product selection, pricing, and inventory. The collaborative efficiency among these roles is measured and optimized using a unified Key Performance Indicator (KPI) system, where each role has clear quantitative metrics and variance ranges.

3.2 Construction and Optimization Logic of the Core Operational Indicator System

The operational indicator system unfolds progressively across three levels: traffic acquisition, conversion efficiency, and user value. Traffic-level indicators include live-stream room views, short video views, cost-per-click (CPC), and the proportion of organic traffic, reflecting the comprehensive status of content quality and ad spend efficiency. Conversion-level indicators include live-stream click-through rate (CTR), product detail page view conversion rate, and order-to-payment conversion rate, reflecting the alignment between product appeal and the live-stream room's capacity to retain traffic. User-level indicators include the proportion of first-time buyers, repurchase rate, and customer lifetime value (LTV), reflecting the efficiency and quality of user retention. The optimization logic of the indicator system utilizes the conversion funnel as an analytical framework, troubleshooting the causes of drop-offs at each stage, and prioritizing optimization resources for the steps with the highest drop-off rates and the greatest room for improvement. This system has undergone extensive practical validation in the Chinese market and requires adjustments to specific indicator benchmarks when transferred to the US market, based on American consumers' content consumption habits and purchase decision journeys.

3.3 Collaborative Scaling of Content Production and Traffic Allocation

Content production and traffic allocation are two highly collaborative segments in live-stream e-commerce; the key to scaling lies in integrating both into a unified workflow. On the content production side, a standardized process is established from topic planning to material shooting and scheduled publishing. Topics are directed based on preliminary product analysis and competitor content teardowns; once produced, content assets are categorized and stored based on content type and ad targeting objectives. On the traffic allocation side, corresponding ad strategies are matched based on content types and objectives: blockbuster materials are boosted with high budgets to rapidly scale traffic, while routine materials utilize low-cost distribution to maintain account activity and algorithm model stability. A closed loop is formed between content production and ad allocation through real-time data feedback: ad performance data guides content optimization, and content performance dictates the confidence to scale ad spend. In US TikTok operations, content styles must align with local users' aesthetic preferences; Chinese-style promotional pitches and dense information delivery must transition toward natural and narrative-driven expressions.

4. Adaptation and Restructuring of the Supply Chain System in Operational Scaling

4.1 Agile Supply Chain Mechanism of Small-Order Quick-Response

The sales rhythm of live-stream e-commerce is characterized by high frequency and high volatility; a certain item can sell out instantly during a single live-stream, while another heavily stocked item might underperform. The traditional large-batch stock model of foreign trade cannot adapt to this pace, giving rise to the "small-order quick-response" agile supply chain mechanism. Its core logic is to test market feedback with small initial inventory batches, quickly judging the potential of a blockbuster product based on real-time live-stream conversion data and user interaction feedback. Products with blockbuster potential trigger an emergency replenishment process, compressing the replenishment cycle to an absolute minimum, while slow-moving items are cleared early to mitigate losses. The operation of this mechanism requires two basic conditions: first, upstream supply chains must establish long-term partnerships with fabric and accessory suppliers to ensure pre-positioned raw material inventory; second, the utilization of flexible production lines (either proprietary or strategically partnered) that reserve capacity during off-peak periods to respond rapidly to urgent orders. The primary constraint encountered when migrating this mechanism to the US market is the extended cross-border logistics cycle, making overseas warehouse layouts and local supply chain integrations crucial to achieving agile responsiveness.

The replenishment decision-making process for small-order quick-response must establish a standardized trigger mechanism. When an individual product's conversion rate in the live-stream room exceeds a preset threshold for consecutive monitoring periods, and the inventory depletion rate reaches the warning line, the system automatically pushes a replenishment

recommendation to the supply chain department. After verifying raw material inventory and production schedules, the supply chain department provides the fastest delivery time and recommended replenishment volume. The replenishment volume is not simply equal to the sold-out quantity; instead, it forecasts sustained sales for the subsequent days based on live-stream traffic trends and historical data of similar products, with the replenishment volume set slightly below the upper limit of the forecast to maintain a safety margin. The information system of the agile supply chain is synchronized in real-time with front-end sales data, allowing suppliers to view sales dynamics and inventory alerts within their authorized scope. This enables them to pre-start material preparation and production line setups, compressing information delay from the step-by-step notifications of traditional models into system-level parallel responses.

The standardized stockpiling of fabrics and accessories is an effective method to reduce raw material waiting times. The operational and design teams work together to standardize the raw material specifications for multiple products in the current season as much as possible. This allows fabric inventory to be flexibly allocated across different products, avoiding production line downtime caused by a shortage of materials for a single item.

4.2 Multi-Node Layout Strategy for the Global Supply Chain

The global expansion of scalable live-stream e-commerce requires transitioning the supply chain from a single-market layout to a global multi-node layout. The selection of overseas warehouse locations must balance consumer market distribution, logistics timeliness, and cost optimization, while simultaneously serving as reverse logistics processing centers to minimize return costs. Partnerships with local overseas supply chains are critical to deep localization; collaborating with local brand owners and suppliers can fill category gaps in cross-border supply chains. The multi-node operation of a global supply chain demands unified scheduling and dynamic allocation of inventory. Inventory across all nodes must be integrated into a unified management information system for real-time monitoring and intelligent dispatching. Core data points include real-time inventory levels at each node, in-transit inventory, and sales forecasts for the coming weeks. The decision-making algorithm for inventory dispatching aims to minimize stockout losses and maximize inventory turnover, while considering dispatch costs and timeline constraints.

Multi-node inventory dispatching must also factor in price differentials across markets and exchange rate fluctuation risks. High-value products are prioritized for markets with higher retail prices to secure larger profit margins, while low-value, slow-moving stock is consolidated into clearance channels to prevent tying up warehousing resources in core markets. A model of inventory sharing and profit pooling can be adopted between overseas warehouses and local suppliers; local suppliers consign products to the overseas warehouse, and upon sale, profits are split according to an agreed ratio. This allows suppliers to bear inventory costs while sharing sales revenue, enabling the operator to expand category breadth without tying up its own cash flow.

Return processing strategies should also be differentiated across nodes. Return policies in the US market are more lenient than in China, resulting in higher return rates. Returned products must undergo tiered processing at the overseas warehouse: items with intact packaging and no signs of use are restocked; items with damaged packaging but intact products are repackaged before restocking; and used or damaged items are redirected to discount channels or written off. The efficiency of return processing at each node directly impacts overall days inventory outstanding (DIO) and operating profit margins.

4.3 Data-Driven Management of the Product Lifecycle

In live-stream e-commerce, the product lifecycle is drastically shortened; the cycle of a blockbuster product from trending to decline is much shorter than in traditional e-commerce. Data-driven product lifecycle management is the primary means to control inventory risk. The operational team creates a lifecycle profile for each product, recording data such as launch date, price adjustment history, key sales milestones, and peak single-day sales. The product lifecycle is divided into four stages: testing, explosion, stabilization, and decline, with different operational strategies applied at each stage. During the testing phase, small stock batches are paired with high-frequency live-stream tests to gauge market reaction; in the explosion phase, traffic resources are concentrated to maximize sales while simultaneously initiating the replenishment process; in the stabilization phase, inventory is controlled as the product transitions into routine shop sales; and in the decline phase, clearance strategies are triggered to prevent inventory buildup.^[1]

The key to lifecycle management is predicting the inflection signals from the explosion phase to the stabilization phase ahead of time. Common indicators include downward trends in conversion rates and live-stream engagement, alongside the launch dynamics of new competitor products. The assessment of lifecycle stages must also be adjusted for product repurchase attributes and seasonal characteristics: consumables with high repurchase rates enter a stable repurchase cycle after the initial explosion rather than declining directly, while highly seasonal apparel products must complete testing and explosion phases before the season arrives, entering clearance rhythms ahead of schedule at the tail end of the season rather than waiting for natural decline.

The accumulation of data in lifecycle profiles can inversely optimize new product development decisions. The operational team periodically analyzes the correlation between the lifecycle curves of declined products and their attributes, identifying the characteristic tags of long-explosion versus short-explosion products. This allows them to prioritize products with long-cycle characteristics during selection and tilt testing resources toward high-potential items. Clearance strategies during a product's decline phase should not be a one-size-fits-all price cut; instead, they should be handled hierarchically based on remaining inventory and gross margins. Products with low inventory and high gross margins can be absorbed via exclusive member discounts, whereas products with high inventory and low gross margins are managed through bundled cross-selling or cross-market transfers to minimize clearance losses.^[2]

5. Migration and Localization of Chinese Operational Experience to US TikTok Shops

5.1 Traffic Ecosystem and User Characteristics of US TikTok E-Commerce

The traffic ecosystem of US TikTok e-commerce relies on short video content as its primary gateway, while live-stream e-commerce is still in the user education stage. In terms of content consumption habits, US users prefer authenticity and entertainment, displaying a lower tolerance for hard-selling, promotional live-streams compared to Chinese users. The traffic distribution mechanism is driven primarily by content recommendation algorithms; the correlation between an account's follower count and its traffic is weaker than on domestic platforms, meaning high-quality content from small accounts still has the opportunity to gain massive exposure. Users exhibit high trust in influencer (creator) recommendations and user reviews, whereas building trust for brand-owned live-streams takes longer. These ecosystem characteristics dictate that China's live-stream-centric model requires structural adjustments in the US market: short video content must carry more weight in traffic driving and conversion, and live-stream room strategies must shift from being efficiency-oriented to experience-oriented.^[3]

5.2 Cross-Cultural Team Construction and Localized Talent Cultivation

The construction of US TikTok e-commerce operational teams adopts a two-tier architecture consisting of Chinese core personnel and local US talent. Chinese core personnel transmit mature operational methodologies to the US team, including data analysis frameworks, product selection logic, and live-stream process standards. Local US talent handles content creation, live-stream hosting, creator sourcing, and customer service—areas requiring deep cultural alignment. The core of localized talent cultivation is converting implicit operational intuition into trainable operational standards, using Standard Operating Procedure (SOP) documentation and video training courses to enable new US employees to quickly grasp standard operational movements. Collaborative efficiency between the Chinese and US teams relies on unified data dashboards and weekly review sessions. Cross-cultural communication must account for differences in working habits and expression styles between China and the US, establishing clear communication protocols and feedback mechanisms.

To ensure the sustainability of this model, the team has established a dual-track feedback loop. US employees can anonymously submit process optimization suggestions, and Chinese core personnel select high-value items monthly to integrate into SOP iterations, creating a positive flywheel of local insights, standard upgrades, and global application. In performance evaluations, localized contribution is weighted equally with operational metrics, incentivizing cultural adaptors to become knowledge hubs, allowing the operational system to evolve from directive replication into symbiotic evolution.^[4]

5.3 Overseas Calibration and Optimization Iteration of Key Operational Indicators

Core operational indicators from Chinese live-stream e-commerce require recalibration when migrating to US TikTok e-commerce. The calibration of live-stream room indicators demands a redefined understanding of watch time, engagement rate, and conversion rate; US users' average dwell time and interaction frequency in live-stream rooms are lower in the short

term than in mature Chinese markets, meaning operational goals should pivot from pursuing absolute values to monthly month-on-month (MoM) growth. The calibration of short video indicators includes a reassessment of view counts, completion rates, and conversion pathways; short videos bear more direct conversion functions on US TikTok e-commerce, making shoppable video CTR and conversion rate core metrics equal in importance to view counts. The calibration of product pricing indicators requires a recalibration of price sensitivity and discount expectations; American consumers' price sensitivity to Chinese brands differs from domestic users, and over-reliance on low-price strategies can damage long-term brand equity. The target values and optimization cycles for various indicators must continuously iterate based on data accumulated from actual operations in the US market, with periodic variance analysis performed between actual performance and initial targets to adjust phased operational strategies accordingly.^[5]

6. Conclusion

The operational methodology precipitated from China's 10-billion-level live-stream e-commerce channel construction centers on a data-driven refined operational system, scalable team collaboration supported by a matrix architecture, and agile fulfillment capabilities guaranteed by a flexible supply chain. The migration of this methodology to the US TikTok e-commerce market is not a simple copy-paste of operational actions, but a systemic engineering project that localizes talent structures, core indicators, and supply chain layouts while preserving the underlying operational logic. In the short term, focus should be placed on short-video-driven growth and local team formation; in the medium term, on improving live-stream conversion rates and localizing supply chain layouts; and in the long term, on brand equity accumulation and global supply chain synergy. The process of scaling cross-border live-stream e-commerce operations from Chinese experience to global replication will uncover operational commonalities within cultural differences and accumulate new practical experience through local adaptation.

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