

## Original Paper

# Strategic Sales Management and Cross-Border Sourcing Optimization in the Global Trade of Botanical Raw Materials: A Case Study on Chinese-Origin Extracts and Natural Sweeteners

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### Abstract

*The global trade landscape for botanical raw materials is undergoing profound restructuring. As a primary supplier of plant extracts and natural sweeteners, China faces the dual mandate of transitioning from bulk material exporting to branded sales while enhancing cross-border supply chain resilience. Beginning with an analysis of the global botanical market structure and the competitive positioning of China's industry, this paper systematically examines core issues in strategic sales management—including customer diversification, brand value transmission, and channel governance. It further explores optimization pathways for cross-border sourcing across traceability, quality standardization, logistics resilience, and regulatory risk control. Finally, from the perspective of strategic alignment between sales and sourcing, a comprehensive strategy for supply chain integration and value upgrading is proposed to provide strategic guidance for the international operations of related enterprises.*

### Keywords

*Botanical Raw Materials Trade, Strategic Sales Management, Cross-Border Sourcing Optimization*

### 1. Introduction

As core functional ingredients in the food, beverage, dietary supplement, and cosmetics industries, natural sweeteners and plant extracts continue to see their global market scale expand. Leveraging rich botanical germplasm resources and a mature extraction and processing supply chain, China occupies a major share of the global supply architecture. However, Chinese enterprises have long remained trapped at the low-to-medium end of the value chain, heavily relying on the export of standardized primary extracts with weak brand premium capabilities. Concurrently, geopolitical volatility, escalating trade barriers, and intensified supply chain security concerns have placed higher demands on the stability and compliance of cross-border sourcing. Resolving how to climb the value curve on the sales side while optimizing resilience on the sourcing side—and forging a strategic alignment between the two—is a pivotal challenge that China's botanical raw materials industry must address in its internationalization process.

## 2. Global Botanical Trade Landscape and China's Industrial Positioning

### (1) Market Structure Concentration and Demand Bifurcation

The global plant extract and natural sweetener market exhibits a structural pattern where downstream applications are highly concentrated, while upstream raw material supply remains relatively fragmented. The North American and European markets constitute the bulk of functional food ingredient consumption, where multinational food, beverage, and nutrition giants command dominant pricing power through large-scale procurement. End-consumer demand is progressively shifting from synthetic additives to natural alternatives, and from high-calorie sweeteners to zero-calorie natural variants, driving a rapid increase in the trade volume of plant-derived sweeteners such as steviol glycosides and monk fruit (*Luo Han Guo*) glycosides.

In the plant extract sector, demand for dietary supplement ingredients that target immunity support, stress management, and sleep improvement is growing increasingly diverse. While the procurement volume for a single variety may be limited, the overall product categories are vast. This “long-tail demand” characteristic opens significant market space for Chinese enterprises capable of multi-variety supply. However, specifications, certification standards, and packaging preferences for the same raw material vary dramatically across different regional markets, resulting in a distinct geographical bifurcation of sourcing demands that requires supply enterprises to possess sophisticated market-responsive capabilities.

### (2) Competitive Advantages and Structural Flaws of China's Industry

China's plant extract industry has successfully transitioned from fragmented, smallholder harvesting to large-scale industrial production, engineering systemic competitive advantages on multiple levels. On the raw material front, backed by abundant botanical resources, China's stevia planting acreage and yield lead the world, and monk fruit—as an endemic species—yields a natural geographic exclusivity. On the processing front, decades of industrial accumulation have forged a complete processing chain ranging from crude extraction to refinement and high-purity single-monomer isolation, maintaining a cost-efficient edge internationally.

Nevertheless, structural deficiencies remain prominent. Export product forms are dominated by standard extracts and primary raw materials processed strictly according to overseas clients' specification blueprints; consequently, the brand identity and market recognition carried by Chinese enterprises themselves are minimal. The corporate fabric is heavily populated by small and micro-sized enterprises, resulting in low industry concentration and a weak bargaining position during price negotiations with major international buyers. Homogeneous competition aggravates downward pricing pressures, leaving the export prices of certain varieties stagnant for prolonged periods and continuously compressing industry profit margins.

### (3) Challenges and Opportunities in a Shifting Trade Environment

Profound shifts in the global trade environment are altering the operational logic of the botanical trade along multiple dimensions. Supply chain security has superseded pure cost optimization as the paramount consideration in multinational sourcing decisions. The rising trends of supply source diversification and near-shoring are opening market entry windows for alternative suppliers outside of China. Under the European Green Deal framework, sustainability mandates for imported agricultural products are tightening. Although the Carbon Border Adjustment Mechanism (CBAM) does not yet directly cover plant extract categories, environmental footprint disclosures and sustainability certifications are shifting from voluntary initiatives to quasi-mandatory market entry prerequisites.

Conversely, the deep implementation of the Regional Comprehensive Economic Partnership (RCEP) has unlocked tariff concessions and customs facilitation for China's botanical exports to the Asia-Pacific. Driven by its rapidly growing food industry, Southeast Asia is emerging as an incremental market for natural sweeteners and plant extracts, where geographic proximity and cultural affinity grant Chinese enterprises distinct channel expansion advantages.

### **3. Core Issues and Pathways in Strategic Sales Management**

#### **(1) Strategic Layout of Customer Structure Diversification**

Over-reliance on a limited pool of large international clients represents a primary operational risk for Chinese plant extract exporters, as minor volume or price adjustments by a single client can severely destabilize corporate operations. The strategic imperative for customer optimization lies in transitioning from concentrated dependence to a diversified, balanced portfolio—anchoring collaborations with multinational giants while aggressively penetrating mid-sized regional brands and emerging market client segments.

While mid-sized clients may not match the single-order volumes of multinational conglomerates, they feature shorter decision-making chains and a higher reliance on suppliers' technical support, making it easier to cultivate deep partnerships built on value-added services. Local food and beverage brands in emerging markets across Southeast Asia, the Middle East, and South America are currently undergoing extensive product premiumization; their awareness of and demand for natural ingredients are surging, offering a highly favorable entry window for Chinese firms.

To expand market coverage, an effective model blends direct sales with channel distribution: in core markets, establish regional sales offices or warehousing and logistics hubs to directly service key clients; in fragmented markets, partner with specialized local ingredient distributors to leverage their localized service capabilities and client networks.

#### **(2) Implementation Pathways for Branded Value Transmission**

Transitioning from unbranded or original equipment manufacturer (OEM) ingredient supply to branded sales represents a critical strategic leap for Chinese botanical enterprises aiming to capture higher margins along the value chain. Brand building is not merely about registering a trademark; it requires engineering a differentiated value delivery framework centered on product quality, technical services, and application solutions.

In the quality trust dimension, enterprises need to establish a full-chain traceability system from cultivation bases to final products, delivering transparent information to foster long-term client trust in safety and consistency. In the technical service dimension, enterprises must possess the capability to provide formulation development support, sensory optimization, and regulatory compliance consulting, transitioning from passive product vendors to active problem-solvers.

Taking natural sweeteners as an example, enterprises should look beyond merely selling steviol glycosides as a raw commodity. They must deeply understand the technical bottlenecks downstream beverage companies face during sugar reduction—such as sweetness curve adjustments, mouthfeel/body retention, and clean-label declarations—and design blended sweetening solutions and taste-masking technology packages, thereby embedding brand value directly into technical solutions. In the dimension of industry influence, enterprises can actively participate in international industry standard debates and publish research data and application cases in industry associations and professional forums, progressively accumulating professional authority and elevating brand reputation.

### (3) Sales Channel Governance and Price Architecture Maintenance

Cross-border channel management in the botanical trade faces the twin hurdles of information asymmetry and price disruption. Excessive price disparities for identical products across different regional markets can trigger cross-border product diversion (“gray-marketing”), undermining authorized distributors’ interests and fracturing the brand’s price integrity.

Enterprises must construct a multi-tiered channel governance matrix that fuses regional exclusivity with client registration protocols. By establishing strict market boundaries and explicitly defining sales regions and client purviews within distribution agreements, companies can utilize product batch codes to ensure that diversion behaviors are fully auditable and accountable.

Furthermore, a product stratification strategy should be deployed to safeguard the pricing architecture. By rolling out distinct product specifications, packaging designs, and service suites tailored to separate application fields and customer segments, direct price comparisons between channels can be mitigated. In terms of pricing strategy, companies must move away from passively tracking market fluctuations. Instead, they should adopt an active pricing mechanism based on product category value assessments—systematically integrating technical support, quality assurances, and supply continuity into the pricing calculus to strengthen bargaining leverage and profit stability.

## 4. Systemic Pathways for Cross-Border Sourcing Optimization

### (1) Origin Traceability and Supply Chain Transparency Construction

For cross-border sourcing centered on Chinese-origin botanical raw materials, origin traceability capabilities bear a direct correlation to product quality compliance and brand reputation. Given that multinational buyers maintain continuous scrutiny over the authenticity of origin, varietal purity, and pesticide compliance of Chinese raw materials, establishing a credible traceability framework is foundational to winning and retaining procurement contracts.

The architecture of a traceability system must span the entire lifecycle: from seedling origin, cultivation plots, fertilization and chemical logs, and harvest timing, down to primary processing, warehousing, and logistics. Critical node information must be digitally captured and archived to form an immutable, chain-linked record.

For instance, with monk fruit extract, end-brands focus heavily on whether the composition ratio of unique active compounds genuinely originates from authentic regional cultivars. Enterprises can deploy IoT sensors across cultivation bases to harvest real-time environmental growth data, mapping precise correlations between processing lots and raw material batches to provide clients with exhaustive traceability disclosures for every single batch. The validation of traceability data requires independent audits and verifications by third-party institutions; securing ecological and sustainability certifications provides vital external endorsement for this data.

The deeper value of constructing a traceability architecture lies in transforming the supply chain from an opaque “black box” into a “transparent pipeline.” This transparency enables procurers to see through multiple intermediary layers directly to the true source and production footprint of the raw materials. Such transparency itself becomes a core trust asset that differentiates an enterprise from its competitors, significantly shortening evaluation cycles and lowering procurement risk premiums during client vendor audits.

Furthermore, the continuous accumulation of traceability data can be reverse-applied to optimize precision farming. By analyzing the correlation between specific plots, agronomic practices, and final product quality, enterprises can guide farmers on fine-tuning fertilization schedules and harvesting windows. This enhances batch-to-batch consistency while simultaneously lowering quality-testing overheads, successfully upgrading the traceability system from a mere compliance tool to an advanced management asset.

## (2) Quality Standardization and Specification Alignment

A significant portion of quality disputes and delivery friction in cross-border sourcing stems from misaligned interpretations of quality standards and divergent testing methodologies between buyers and sellers. Building a synchronized quality standard framework with clients is a vital step in streamlining procurement workflows. Chinese enterprises should proactively engage in the revision processes of dominant international pharmacopoeias (such as the USP and EP) to ensure that domestic testing protocols and index benchmarks achieve mutual recognition and compatibility with global markets.

Regarding product specifications, beyond fundamental active content benchmarks, companies must systematically compile a comprehensive specification matrix covering pesticide residues, heavy metals, solvent residues, microbiological thresholds, and plasticizers to pre-emptively satisfy multi-country regulatory thresholds. Sensory attributes—such as color, odor, and solubility—though challenging to quantify, are critical for food and beverage applications. Enterprises need to co-develop actionable sensory evaluation metrics and acceptance standards with clients, embedding them into a unified framework for factory clearance and client acceptance testing.

Another core element of quality alignment is the mutual calibration of analytical methods. Because separate laboratories can yield divergent results for identical samples due to differing instrument models, reagent batches, or technician habits, a routine cross-testing and inter-laboratory comparison mechanism should be established. This ensures results are judged within mutually agreed-upon margins of error, preventing unwarranted product rejections or disputes.

Moreover, standardization initiatives must adapt to regional regulatory variances; since certain emerging markets in Southeast Asia and the Middle East enforce tolerance thresholds that differ from Western benchmarks, enterprises need to maintain localized product specification databases for distinct regions. This allows them to fulfill target market regulatory baselines without incurring unnecessary cost overheads from excessive over-engineering of quality.

## (3) Cross-Border Logistics Resilience and Delivery Reliability

The cross-border trade of plant extracts and natural sweeteners faces multiple logistics headwinds, including protracted transit timelines, temperature and humidity sensitivities, and customs clearance uncertainties. Building logistics resilience is vital to anchoring delivery reliability.

In terms of transportation frameworks, enterprises should construct a dynamic switching matrix across ocean, air, and multimodal transport networks based on product traits and urgency. Ocean freight serves as the baseline to control costs, while air freight protocols stand ready to guarantee uninterrupted supply for critical clients during disruptions.

Regarding warehousing networks, strategically position safety stock ahead of time by deploying overseas or bonded warehouses within or adjacent to target markets. This insulates the client's operational sphere from cross-border shipping volatility and fulfills replenishment requests via agile local delivery timelines.

On customs compliance engineering, master the Harmonized System (HS) classification codes, tariff schedules, and documentation requirements of target jurisdictions ahead of time to provide clients with seamless customs clearance documentation support. Tailor packaging architecture to optimize both transit protection and storage integrity, utilizing light-blocking, moisture-proof, and temperature-controlled packing solutions to preserve product quality across long distances.

Logistics resilience engineering must also extend to stress-testing supply chain disruption scenarios and executing emergency simulation drills. Enterprises need to isolate single points of failure across their logistics infrastructure—such as over-reliance on a single export port, a single liner shipping route, or a single destination customs broker—and pre-arrange alternative channels. When a specific node is compromised by an unexpected event, freight flows can be immediately rerouted to backup channels.

Real-time visibility tracking throughout the logistics journey is equally integral to delivery reliability. By integrating live tracking streams from ocean carriers or third-party logistics platforms, enterprises can proactively inform clients of anomalies or delays and collaboratively recalibrate production schedules, transforming passive troubleshooting into proactive client communication.

#### (4) Compliance Risk Control and Sustainability Certification

Global compliance mandates for the botanical raw materials trade are expanding from basic product quality metrics to encompassing comprehensive Environmental, Social, and Governance (ESG) criteria; consequently, compliance and risk control capabilities have become essential prerequisites for procurement entry.

At the legislative level, enterprises must closely monitor the evolving regulatory updates concerning novel food ingredients, food additives, and dietary supplement formulations across target nations, ensuring that registration and filing protocols are completed in the destination country prior to export dispatch.

At the intellectual property (IP) level, for extraction methodologies or application formulas that involve overseas patent landscapes, firms must execute exhaustive patent searches and Freedom to Operate (FTO) analyses to systematically neutralize infringement liabilities.

At the sustainability level, companies should proactively launch Life Cycle Assessments (LCA) and calculate product carbon footprints, utilizing quantifiable environmental data to satisfy the increasingly stringent green procurement mandates of multinational clients. Securing third-party audits—such as social accountability, fair trade, and sustainable agriculture certifications—validates corporate sustainability assertions into objectively verified credentials, creating a differentiated competitive barrier in an environment of tightening regulatory scrutiny.

Cultivating a resilient compliance framework requires dedicated regulatory affairs positions or departments within the corporate structure to centralize and analyze compliance intelligence scattered across sales, sourcing, and quality divisions. This team should routinely deliver regulatory trend sweeps and gap analyses to executive leadership, ensuring that compliance considerations are thoroughly integrated into strategic planning rather than relegated to operational damage control.

Ultimately, the competitive value of robust compliance lies in the principle that prevention outperforms remediation. Enterprises capable of presenting exhaustive compliance dossiers and verified certifications during the initial bidding phase secure an immediate advantage during vendor pre-screening, successfully converting compliance investments into a powerful commercial edge rather than a sunk cost.

## 5. Strategic Alignment Mechanisms between Sales and Sourcing

### (1) Demand Forecasting and Integrated Sourcing-Sales Operations

Information silos between sales and sourcing teams constitute the organizational root cause behind concurrent inventory gluts and stockouts. Forging an agile, integrated linkage is the baseline requirement for supply chain optimization.

Key account demand schedules, market trend insights, and pipeline product developments captured by the sales front-liner must be systematically funneled back to procurement and manufacturing divisions through routine synchronization briefings and unified enterprise resource platforms. Conversely, the sourcing division must feed forward projections regarding available-to-promise (ATP) windows and cost vectors back to the sales desk, informed by upstream raw material harvest developments, agricultural acreage swings, and climate shifts in growing regions.

The rolling forecasts from both ends must be continuously calibrated to shape a unified sales and operations plan (S&OP). Information systems provide indispensable infrastructure for this alignment; anchoring data interfaces between Customer Relationship Management (CRM) and Supplier Relationship Management (SRM) platforms ensures demand and supply dynamics are visualized and traceable on a single corporate dashboard, minimizing information distortion.

### (2) Key Account Joint Innovation and Customized Development

At the premium end of key account partnerships, the strategic alignment of sales and sourcing manifests as an evolution from transactional commodity purchasing to a model of customized, joint innovation. The sales branch unearths latent, unmet needs within the client's product pipeline, formulation optimizations, and early-stage concepts, while the sourcing branch evaluates the logistical viability and financial feasibility of custom ingredient sourcing. Together, they synthesize a tailor-made solution.

This collaborative paradigm transforms the ingredient supplier and downstream brand from a basic vendor-buyer relationship into innovation partners who share both rewards and risks, substantially elevating customer stickiness and lifetime value. This framework requires the sales force to command technical consultative capabilities and demands that the sourcing team possess agile raw material scouting and flexible scheduling capacities, uniting them into a highly synchronized, cross-functional service team.

### (3) Supply Chain Risk Warning and Collaborative Response Mechanisms

Geopolitical incidents, extreme anomalies in major agricultural zones, and abrupt trade policy adjustments all have the potential to disrupt the cross-border supply chains of botanical raw materials. The sales and sourcing divisions must jointly design an integrated risk matrix encompassing identification, evaluation, early warning, and mitigation.

Both divisions must routinely scan for risk variables that could compromise supply capacity or delivery pledges, co-authoring tiered contingency protocols. By proactively organizing safety stock cushions for raw materials, cultivating backup supply nodes, and structuring alternative logistics lanes, the enterprise ensures that both arms can seamlessly deploy emergency measures when a risk event erupts, minimizing disruptions to client supply continuity.

## 6. Comprehensive Strategies for Value Chain Integration and Upgrading

### (1) Vertical Value Chain Integration and Value Climbing

Expanding along the value chain into high-margin segments is the definitive path for enterprises seeking to break free from low-end locks and achieve sustainable growth.

Downstream expansion involves transitioning from raw ingredient supply toward finished formulations and branded consumer products. Leveraging native ingredient cost efficiencies, enterprises can develop consumer-facing branded products, establishing brand equity within the domestic market before progressively scaling into international arenas. Upstream consolidation requires tightening control over premium germplasm resources and farming sectors. Forging long-term partnerships or equity ties with agricultural cooperatives and farming enterprises in primary growing zones secures raw material quality and volume stability directly at the source.

The ultimate objective of vertical integration is not to build an entirely insular, self-contained ecosystem, but rather to command strategic leverage and governance over critical junctures of the value chain, thereby capturing a more advantageous negotiating position during margin distribution.

### (2) Industrial Cluster Synergy and Sector Standard Leadership

The resources and capabilities of an isolated enterprise are insufficient to catalyze a value upgrade across an entire industry; the collective action of industrial clusters offers a highly efficient vector to elevate the global competitiveness of China's botanical sector.

Within concentrated growing zones or processing hubs, enterprises can utilize industry associations or industrial alliances to hammer out standardized quality benchmarks and price coordination frameworks, mitigating hyper-competitive, race-to-the-bottom pricing behavior. On the international standardization stage, Chinese enterprises should join forces to submit product specification proposals and safety evaluation datasets to bodies like the Codex Alimentarius Commission (CAC) and global pharmacopoeia committees. Enshrining the competitive criteria of Chinese specialty cultivars into global standard frameworks will lower market entry friction for individual firms while erecting necessary technical and quality thresholds for newcomers, fundamentally improving the bargaining leverage and discourse power of China's botanical industry within the global division of labor.

### (3) Strategic Transition from Cost-Advantage to Innovation-Driven Growth

The long-term vitality of China's botanical raw materials sector must pivot away from a reliance on factor cost advantages toward a model fueled by technological innovation. Enterprises should concentrate R&D capital on securing breakthroughs across core methodologies—such as high-purity single-monomer isolation, biocatalytic transformation processes, stabilization techniques, and taste-masking technologies—constructing differentiated technical moats that competitors cannot easily duplicate through mere capacity expansion.

In terms of application innovation, firms must proactively deploy forward-looking R&D layouts within emerging application landscapes—such as plant-based protein beverages, functional snacks, and clean-label formulations—using functional application solutions to stimulate downstream demand growth.

At the level of foundational science, continuous investment must be funneled into cultivar breeding, structure-activity relationship profiling of active molecules, and safety toxicological assessments. Backing product efficacy and safety with rigorous scientific data will transition the industry from an experience-based trajectory toward an evidence-based, data-driven paradigm of development.



## 7. Conclusion

The profound restructuring of the global botanical raw materials trade provides a historic strategic window for Chinese-origin extracts and natural sweeteners to transition from low-cost supply models toward premium value upgrades. The transformation of strategic sales management hinges on mitigating operational risks through customer portfolio diversification, communicating value via branded technical solutions, and maintaining price architecture stability through channel governance. Concurrently, cross-border sourcing optimization relies on anchoring trust via digital traceability and quality standard alignments, while securing delivery continuity through logistics resilience and compliance risk controls. Strategic alignment between sales and sourcing efficiently synthesizes demand and supply signals internally, allowing enterprises to shift from passively responding to market volatility to actively constructing supply chain competitiveness. Finally, industrial-level cluster synergy and an innovation-driven pivot yield an expansive ecosystem that supports corporate value growth, ultimately driving the transformation of China's botanical raw materials industry from a mere participant to a leading architect within the global value chain.

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