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Exploring Mechanisms and Optimization Strategies for Modernizing China's Agricultural Product Distribution System through Supply and Marketing Cooperatives in the New Era

Longlong Duan, Hoiyi Zhang*, Qiuyun Yu

School of Economics, Sichuan University, Chengdu, China
Email: *2939713289@qq.com

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Abstract

Modernizing the agricultural product distribution system in the new era is a critical step toward accelerating the development of an agricultural powerhouse. This study examines the driving mechanisms through which supply and marketing cooperatives advance distribution modernization, leveraging their unique position within the agricultural distribution system and drawing on case studies from multiple regions. Findings reveal that as connectors between smallholder farmers and large markets, facilitators of policy innovation and implementation, and pioneers of social penetration and cross-sector integration, supply and marketing cooperatives can advance the modernization of the agricultural product circulation system through four key mechanisms: multi-chain integration, technology empowerment, resource linkage, and brand promotion. Currently, supply and marketing cooperatives face prominent challenges including weak infrastructure, lagging digital transformation, insufficient coordination capabilities, and inadequate brand strategies. To address these issues, this paper proposes optimization strategies: strengthening infrastructure and talent development, accelerating digital transformation, promoting multi-stakeholder coordination, and innovating brand strategies.

Keywords

New Era, Supply and Marketing Cooperatives, Modernization of Agricultural Product Distribution System, Mechanisms, Optimization Strategies

1. Introduction

China's agricultural product circulation system currently faces three major short-

comings: inefficient supply-side distribution, structural imbalances, and lagging informatization. These not only severely compress overall agricultural efficiency but also readily trigger risks to food security, threatening the stability of the agricultural product supply chain. As a cooperative organization strategically positioned by the state in the agricultural product circulation sector, supply and marketing cooperatives have long played a leading role in this system. The 2025 Central Document No. 1 emphasizes accelerating the comprehensive reform of supply and marketing cooperatives to establish modern circulation networks for agricultural products and inputs. This underscores the critical significance of supply and marketing cooperatives in modernizing China's agricultural product circulation system and achieving the goal of becoming an agricultural powerhouse in the new era.

2. The Unique Position of Supply and Marketing Cooperatives in Modernizing the Agricultural Product Distribution System

As agricultural service organizations that operate under the unified leadership of the Party, possess relatively sound organizational structures, and maintain a well-established nationwide network (Kong & He, 2023), supply and marketing cooperatives hold an indispensable and unique position in advancing the modernization of the agricultural product circulation system.

(1) Natural Link Between Smallholder Farmers and Large Markets

Under China's rural dual-tier management system combining unified coordination with decentralized operations, agriculture has long grappled with the disconnect between smallholder farmers and modern large-scale markets. This disconnect manifests prominently in the circulation sector through three major challenges: asymmetric information between producers and buyers, complex supply chain hierarchies, and inefficient logistics. These issues have further entrenched the ceiling effect on agricultural product prices. Faced with these challenges, the supply and marketing cooperatives, as the natural link between smallholder farmers and large markets, have seen their organizational advantages increasingly highlighted. Specifically, as public-benefit circulation organizations, they play a crucial coordinating role in organizing smallholder farmers to enter the market and ensuring their shared prosperity (Wu, 2024). On one hand, cooperative-owned enterprises and grassroots cooperatives have long engaged in market-oriented operations. Through reforms adapting to economic conditions, they have developed "market-like" organizational characteristics (Xu & Jin, 2024). By establishing farmer cooperatives, they have achieved scaled production and further connected agricultural markets with enterprises, initially building a modern agricultural distribution network spanning urban and rural areas. On the other hand, supply and marketing cooperatives have consistently played a leading role in coordinating agricultural market planning, constructing large wholesale markets and logistics centers at distribution hubs, and developing retail outlets in urban communities.

This has positioned them at the forefront of strengthening production-marketing linkages and accelerating the formation of a nationwide agricultural market, thereby driving the integration of agricultural supply chains and product chains.

(2) The Compatible Agent of Policy Innovation and Implementation

In advancing the modernization of agricultural product distribution, the supply and marketing cooperatives have been consistently assigned a pivotal role. As stipulated in the Charter of the All-China Federation of Supply and Marketing Cooperatives, the cooperatives are explicitly positioned as "comprehensive cooperative economic organizations serving agriculture under the leadership of the Party", possessing dual attributes as both economic entities and policy implementers. This positioning has consistently endowed the cooperatives with the function of "public welfare services entrusted by the government", thereby establishing a mechanism of "separation of government and cooperative functions with dual-track operation", solidifying their identity as policy executors. Simultaneously, the state requires supply and marketing cooperatives to expand into comprehensive agricultural socialized services and urban-rural community services to advance agricultural industrialization. This further endows them with policy innovation functions, enabling them to deeply engage in farmers' cooperative economies through support and equity participation. They thus become core platforms serving farmers and bridges connecting the Party with the masses, generating dual promotional effects on grassroots organization development and collective economic growth (Wang et al., 2023). Consequently, supply and marketing cooperatives can actively fill gaps in the agriculture, rural areas, and farmers sector, focusing on resolving issues where farmers "lack skills, lack willingness, or find it unprofitable," thereby becoming a backbone force in serving agricultural and rural modernization.

(3) Pioneers in Social Penetration and Cross-Boundary Integration

Unlike typical distribution organizations, supply and marketing cooperatives leverage their long-established rural social networks and "soft information" on farmers to swiftly seize opportunities in building an agricultural powerhouse. They harness their social penetration advantages—connecting cities with rural areas and bridging production with sales—to pioneer a new model of agricultural product circulation. This model features online-offline integration, broad urban-rural coverage, and orderly, interwoven vertical interaction, supported by their extensive agricultural supply and socialized service systems, as well as unique public welfare emergency support capabilities (Tong & Zhou, 2024). Simultaneously, leveraging their comprehensive three-tier distribution service network at the county, township, and village levels and their dominant position in agricultural product circulation, supply and marketing cooperatives have established integrated services spanning daily goods sales—logistics-finance, achieving cross-sector integration across economic, social, and policy domains. They not only serve economic entities like agribusinesses and collective economic organizations but also deeply engage in rural governance and urban-rural social transformation. In-

nately empowered by technology, they integrate chain enterprises and distribution center resources to maximize cost reduction in agricultural product circulation, making them an irreplaceable decisive force in the current rural economy.

3. Mechanism Analysis of New Era Supply and Marketing Cooperatives in Modernizing Agricultural Product Distribution Systems

(1) Multi-chain Integration Mechanism

From an organizational perspective, supply and marketing cooperatives leverage their extensive resource networks as natural chain leaders, covering the entire production-to-distribution spectrum. Historically, however, they primarily focused on the foundational functions of centralized purchasing and distribution of agricultural products, neglecting the deeper exploration of potential value within the industrial chain. This has often resulted in the paradox of "strong theory but weak implementation" in practice. Today, reform opportunities and the urgent development of rural industries demand that supply and marketing cooperatives empower themselves. By effectively leveraging the multi-chain integration mechanism, they can build a "production-operation-consumption" three-chain integrated industrial ecosystem, forging a modern agricultural industrial chain that is efficient, transparent, complete, and resilient.

Specifically, at the level of integrating production and operational chains, the Supply and Marketing Cooperatives leverage their role as primary providers of agricultural socialized services to accelerate the establishment of a comprehensive service matrix covering "cultivation, planting, management, harvesting, processing, storage, and sales." full-chain service matrix. Through models like farmland management services and contract farming, they integrate scattered farmers into scaled production systems. Leveraging their network advantages, they enhance supply chain management, deep processing, and warehousing logistics to establish efficient operational chains, creating a virtuous cycle of "precise supply at the production end and efficient circulation at the operational end." In integrating the operational and consumption chains, the supply and marketing cooperatives establish a multi-tiered sales network comprising "directly operated stores + franchise stores + e-commerce platforms." By leveraging new consumption scenarios like community group buying and live-streaming sales, they shorten the circulation radius of agricultural products and enhance their added value. In integrating the production-operations-consumption triad, the supply and marketing cooperatives serve as pivotal connectors. By consolidating resources, they rapidly achieve information sharing and coordinated operations across multiple segments of the production, operations, and consumption chains, further unifying the entire modern agricultural industry chain.

During field research, the author observed that Guangxi's "Hengzhou Jasmine" initiative vividly exemplifies the cooperative's multi-chain integration mechanism. In this case, the cooperative serves as the chain leader by providing farmers

with high-quality agricultural inputs and seedlings, establishing cultivation standards, and offering technical guidance within the production chain. It also leverages extensive experience to promote products and expand market share within the operation chain. By 2023, the local jasmine industry had generated stable income for nearly 10,000 formerly impoverished individuals and achieved prosperity for 340,000 flower farmers. In 2024, Hengzhou City's jasmine planting area exceeded 130,000 mu, with a fresh flower output of 110,000 tons and an average price of 50 yuan per kilogram, generating a flower industry output value of 5.5 billion yuan and helping 340,000 flower farmers increase their income and achieve prosperity. The processing volume of jasmine tea exceeded 90,000 tons, with a processing output value of over 10 billion yuan, and the total comprehensive output value of the entire jasmine industry chain exceeded 18 billion yuan.

(2) Technology Empowerment Mechanism

In the modernization of agricultural product distribution systems for the new era, the digital and intelligent transformation of supply and marketing cooperatives has further facilitated technology diffusion and empowerment at the terminal level. This has become an inevitable trend in the new round of technological revolution, strengthening stable supply, quality improvement, and enhanced market circulation efficiency for agricultural products. The technology empowerment mechanism of supply and marketing cooperatives in agricultural distribution primarily functions in sales, order management, and logistics distribution. First, at the sales end, supply and marketing cooperatives leverage digital technologies to collect market consumption data. Through big data analytics models, they capture real-time dynamics of agricultural product consumption across regions, dynamically adjusting procurement categories and volumes. This enables in-depth analysis of consumer preferences and regional sales trends, driving a shift from experience-driven to data-driven sales operations and effectively mitigating issues of oversupply or shortages. Second, in order management, the supply and marketing cooperatives implement end-to-end digital order processing through intelligent sales systems. These systems rapidly respond to multi-channel orders from online e-commerce platforms and offline supermarkets, automatically categorizing, assigning, and fulfilling orders. Simultaneously, order tracking technology provides farmers, distributors, and consumers with real-time logistics location updates and delivery status queries, enhancing order execution transparency and establishing an efficient closed-loop management system for agricultural product distribution orders. Finally, in logistics and distribution, the cooperative introduces smart logistics technology. GPS positioning and route optimization algorithms plan optimal delivery routes, significantly reducing transportation costs. Furthermore, IoT sensors monitor real-time parameters like temperature, humidity, and vibration in transport vehicles, enabling customized freshness preservation solutions for perishable agricultural products. This achieves fully intelligent logistics control from origin to destination.

Qingdao's West Coast New Area serves as a vivid case study. Guided by the

philosophy "Connecting Millions with Premium Supplies," the local supply and marketing cooperative built a digital marketing platform through a "brand + e-commerce + agricultural products" model, driving integrated online-offline development. Currently, leveraging the WeChat ecosystem, it has developed the "West Coast Supply & Marketing Selection" online mall and the "Supply & Marketing One-Card" system, promoting deep integration of digital technology with the real economy to meet diverse market demands. Simultaneously, it employs digital intelligence for regulatory oversight, coordinating dispersed distribution service outlets to create a "single-network coverage, multi-functional points, chain-based supervision" service system enabling real-time data sharing. Since its August 2024 launch, the "West Coast Supply Selection" online mall has averaged over 800 daily visitors, processed more than 2000 orders, and achieved sales exceeding 400,000 yuan.

(3) Resource Coordination Mechanism

As hybrid economic and policy organizations, supply and marketing cooperatives exhibit a composite structure featuring vertical hierarchical linkage and horizontal functional coordination. Currently, they are organized into three tiers: grassroots cooperatives, county-level to provincial-level federations, and the All-China Federation of Supply and Marketing Cooperatives. Cooperatives at all levels collectively shoulder multiple responsibilities including industry development planning, guidance, coordination, and supervision. From a vertical organizational perspective, lower-level cooperatives form the foundation for higher-level entities—without them, federations and their administrative bodies could not exist. Conversely, federations and their institutions serve as the backbone for lower-level cooperatives; without this support, lower-level entities would disintegrate. Thus, the three tiers constitute a bottom-up support system and top-down service network, establishing a robust organizational framework for China's supply and marketing cooperatives. In the new era, supply and marketing cooperatives can fully leverage their resource endowments and organizational network advantages. By establishing unified information platforms to share resources with other entities, they can grasp market trends, strengthen communication with farmers, and achieve vertical management across all levels. From a horizontal functional perspective, cooperatives at different levels occupy distinct positions with corresponding responsibilities, collectively forming a nationwide "single network" for supply and marketing. The National Supply and Marketing Cooperative influences, guides, and standardizes the content and direction of cooperative affairs within the vertical organizational system [3]. Provincial-level cooperatives possess a degree of autonomy, formulating differentiated development strategies tailored to regional conditions while guiding the construction of grassroots organizations across their provinces. Grassroots cooperatives, leveraging their extensive numbers and widespread distribution, accelerate the formation of a nationwide network system, thereby amplifying the advantages of a circulation service organization.

(4) Brand Promotion Mechanism

Since its establishment, the supply and marketing cooperative system has developed a relatively comprehensive operational service network in China's rural areas, accumulating a strong reputation and credibility. Consequently, it inherently possesses unique advantages in agricultural product branding—offering cost savings and rapid, high-efficiency implementation. In practice, the cooperatives not only serve as the primary channel for agricultural product distribution but also exercise comprehensive product control functions. This ensures that the quality of agricultural products handled by the cooperatives is widely trusted by consumers. Consequently, the cooperatives have developed a holistic brand effect, enabling them to integrate sales of various agricultural products under a single well-known brand, significantly boosting economic efficiency. On one hand, establishing direct-sales brands rapidly expands the supply and marketing cooperatives' consumer reach, enhancing their ability to detect and respond to market shifts. On the other hand, these cooperatives possess strong capabilities to avoid vicious market competition. Internally, they can consolidate various agricultural products to form oligopolistic market organizations; externally, they maintain relative competitive advantages through differentiated strategies.

During field research, the author observed that the brand case in Longquanyi District, Chengdu, exemplifies this mechanism. By jointly developing a regional peach brand, the local supply and marketing cooperative has established nationally renowned peach products and premium production bases. Focusing on cultivating the Changsong peach brand, it has now been included in the "Sichuan Provincial Agricultural Brand Directory." The cooperative's assets have grown to 8.447 million yuan, and Changsong Village achieved its goal of raising per capita income to over 35,000 yuan in 2023 through peach cultivation. At present, the total area of peach planting services in the village has reached over 12,000 mu. In 2024, the output of high-quality peaches will exceed 10,000 tons. The total area of peach planting in the village is approximately 11,000 mu, among which the standardized bases such as high-standard peach planting bases, industrial park bases, seed source bases, and smart peach orchards cover a total of 1270.4 mu.

4. Challenges and Limitations in the Development of Supply and Marketing Cooperatives

(1) Structural Constraints of Bureaucratic Inefficiency

SMCs, with their semi-public institution attributes and hierarchical governance structure of "grassroots cooperatives—federations," exhibit significant path dependency characteristics within their administrative systems. This leads to bureaucratic inefficiency becoming a prominent structural issue. Zhao (2023), through multi-province research, found that most organs of county-level and above SMCs across the system are fully funded by government budgets, characterized by strong administrative management. Corporate governance structures are often unsound, with some enterprises not standardly establishing boards of

directors. Even where boards exist, the proportion of external and employee directors is generally low, and noticeable overstepping and gaps occur in the implementation of systems related to investment management and property rights supervision in society-owned enterprises. These governance defects directly lead to rigid constraints in administrative processes. Decision-making processes, such as setting industry standards and allocating resources between provincial and county-level federations, require multi-department consultations and multi-level approvals, extending decision-making cycles by 30%-50% on average compared to private enterprises, making it difficult to respond quickly to market dynamics (Jiang, 2019). Jiang's (2019) case study of County Y in Southwest China further confirmed that grassroots supply and marketing cooperatives are often mechanically integrated by county federations, leading to decision-making power being concentrated in boards of directors. These boards are often chaired by the head of a specific professional cooperative, who may lack sufficient motivation for the overall development of the grassroots cooperative. Furthermore, county federations' assessments focus more on the quantity of established cooperatives rather than operational efficiency, ultimately trapping grassroots cooperatives in an inefficient state of "emphasizing form over substance." Additionally, problems of departmental barriers and information asymmetry are prominent. Interest fragmentation and information silos between different levels and departments can easily lead to coordination difficulties and inefficient resource allocation in scenarios like cross-regional industrial chain coordination and emergency supply allocation, further exacerbating the negative impact of bureaucratic inefficiency.

(2) Marketization Pressure from Competition with the Private Sector

With the continuous deepening of agricultural industrialization and market-oriented reforms in the circulation sector, SMCs face comprehensive competitive pressure from the private sector. This competition covers all key links of the industrial chain, posing significant challenges to their market share and sustainable operational capacity. In the agricultural inputs supply sector, although the SMC system's market share remains high in some provinces (e.g., over 60% in Sichuan Province), nationally, private agricultural input chain enterprises are rapidly squeezing the market space of traditional channels by their flat channel structures, digital marketing networks, and flexible pricing strategies (Li, 2024). In the agricultural product circulation and terminal retail sectors, e-commerce platforms like Alibaba and JD.com, along with regional agricultural product chain supermarkets, relying on their digital traffic advantages, efficient logistics distribution systems, and diversified product offerings, are quickly capturing consumer markets. In contrast, while SMCs' offline outlets have extensive coverage, they show significant gaps in the speed of digital transformation, creation of consumption scenarios, and optimization of customer experience (Li, 2024). Li (2024) points out that the rural e-commerce models of SMCs often remain at the level of simple online sales conversion, lacking the big data precision marketing and intelligent logistics scheduling capabilities comparable to private e-commerce platforms, re-

sulting in a passive position in competing for market share among younger consumer groups. Furthermore, the market advantages of private enterprises in talent attraction, technology R&D, and model innovation exacerbate the inequality of competition. Constrained by their public welfare attributes and institutional operating rules, SMCs struggle to fully match the competitive strategies of private enterprises in terms of flexible salary systems and innovative market promotion, facing the risk of continuously being squeezed out of their traditional areas of strength.

(3) Risk of Deviation from Inclusivity Goals due to Elite Capture

A core mission of SMCs is to serve smallholder farmers, promote inclusive rural development, and facilitate their integration into modern agricultural systems. However, in practice, their resource allocation and decision-making participation mechanisms may face the risk of "elite capture," a problem particularly evident at the county and township levels. Xing's (2022) research reveals that "elite capture" is common in cooperative development, where rural elites, leveraging their social capital and information advantages, capture most of the policy benefits, while grassroots farmers gain very little. This logic also applies to the operational practice of SMCs. From an institutional economics perspective, elite capture stems from unbalanced power distribution and imperfect supervision mechanisms: on one hand, management positions and resource allocation power in county and township-level SMCs are often dominated by local economic elites, village cadres, or larger-scale growers. These groups can more easily access resource support from SMCs, such as supply chain financial products, channels for quality agricultural inputs, and contract farming opportunities. On the other hand, smallholder farmers, due to low levels of organization, weak information acquisition capabilities, and limited channels for participation in decision-making, find it difficult to exert effective influence in resource allocation (Xing, 2022).

(4) Lag in Technological Innovation and Digital Transformation

Although SMCs have initiated their digital transformation process, overall, their technological innovation capabilities and level of digital application still lag behind market development needs, becoming a significant factor constraining the enhancement of their core competitiveness. In terms of R&D investment, fund allocation in SMCs tends to be skewed towards infrastructure construction and traditional business operations, with the proportion of investment in cutting-edge technologies like big data, AI, and blockchain being significantly lower than that of leading private enterprises (Li, 2024). Although research institutes directly under the All-China Federation have achieved national-level scientific and technological outcome like the "New Technology for Processing Macromolecular Polysaccharide Biomass" in recent years, and have developed a number of practical technologies in areas like agricultural product processing and storage preservation, R&D investment in society-owned enterprises across the system is generally insufficient. Only 4.7% of society-owned enterprises possess self-owned brands, and weak technological innovation capability makes it difficult to form a differ-

entiated competitive advantage. At the level of digital application, their current transformation mostly focuses on superficial applications like building e-commerce platforms and logistics information tracking. Significant shortcomings remain in deep application scenarios such as intelligent monitoring at the production end, accurate demand prediction at the consumption end, and industrial chain collaborative optimization (Li, 2024). Compared to the big data precision marketing and intelligent logistics scheduling of e-commerce platforms like Alibaba and JD.com, SMCs' digital applications show a significant gap in data integration quality, demand prediction accuracy, and full-chain coordination efficiency, failing to achieve the deep empowerment of the entire production, circulation, and sales chain by digital technology. Furthermore, issues of insufficient digital infrastructure and talent support are prominent. In some remote townships, network coverage quality and logistics distribution efficiency struggle to meet the requirements for deploying digital services. Simultaneously, there is a shortage of Compound talent with both agricultural expertise and digital skills. Older employees are often reluctant to adopt new technologies, while newly recruited staff frequently lack agricultural backgrounds, further hindering the progress of digital transformation.

5. Optimized Strategies for Modernizing Agricultural Product Circulation Systems in the New Era

(1) Strengthening Infrastructure Layout and Talent Development for Supply and Marketing Cooperatives

Theoretical analysis and practical experience demonstrate that leveraging the multi-chain integration mechanism of supply and marketing cooperatives, strengthening infrastructure layout, and building a robust talent pool are prerequisites. Unfortunately, China's agricultural product distribution system currently faces widespread challenges such as weak distribution infrastructure, fragmented resources, and low efficiency. Particularly in some counties, logistics and warehousing facilities are outdated, lacking modern temperature-controlled and moisture-proof equipment. This results in significant losses during storage, leading to prolonged transportation times and high costs for agricultural products. To overcome these bottlenecks, supply and marketing cooperatives must vigorously integrate county-level resources. On one hand, they should increase capital investment in logistics and warehousing facilities, constructing or upgrading modern warehouses equipped with advanced technology to enhance storage utilization rates. On the other hand, they should actively leverage big data technology to precisely plan transportation routes, optimize distribution strategies, and improve transport efficiency.

Furthermore, the supply and marketing cooperatives' workforce currently faces widespread issues such as an aging age structure, insufficient professional skills, and weak digital capabilities. Many staff members are slow to adopt new business models and technologies, lacking the professional skills and digital literacy needed

to navigate complex market environments and digital transformation. Optimizing the talent pipeline structure is therefore an urgent priority. In terms of countermeasures, the first step is to focus on optimizing the age structure of supply and marketing cooperative personnel. Key efforts should be made to recruit professionals in logistics management, e-commerce, marketing, and related fields to fill specialized gaps. Secondly, a multi-tiered training system should be established. Differentiated training programs should be developed for employees at various levels and in different positions. Third, advance reforms in talent selection and appointment (Feng, 2024). Establish competency-based promotion pathways. Enhance incentive policies such as research project funding and housing subsidies. Leverage intellectual resources from universities and research institutions to provide theoretical and technical guidance for supply and marketing cooperative development, comprehensively elevating their capacity to serve agricultural needs (Chen et al., 2020).

(2) Accelerating the Digital Transformation of Supply and Marketing Cooperatives

In the digital era, technological empowerment mechanisms play a pivotal role in modernizing the agricultural product distribution system through supply and marketing cooperatives. However, multiple obstacles currently hinder the realization of these mechanisms. Specifically: First, inadequate rural network coverage in remote areas and shortages of digital cold chain logistics facilities limit the application of digital tools, resulting in high agricultural product loss rates. To address this, supply and marketing cooperatives should actively seek government subsidies, collaborate with village collectives to build cold chain storage and express sorting centers, continuously reduce hardware investment costs, and actively cooperate with telecommunications companies to deploy 5G base stations, thereby strengthening supporting hardware infrastructure. Second, fragmented internal systems and inconsistent cross-entity data standards within supply and marketing cooperatives create barriers to data integration and sharing, thereby hindering circulation efficiency. To address this, cooperatives can spearhead the establishment of county-level public data platforms to consolidate end-to-end data across production, logistics, and sales. They should also pilot blockchain traceability technology covering the entire agricultural product lifecycle, ensuring data traceability and tamper-proof integrity to achieve precise supply-demand matching. Third, grassroots supply and marketing cooperatives lack sufficient digital technology outreach, and farmers' low acceptance of smart devices hinders technology adoption. To address this, cooperatives can organize training for farmers in e-commerce operations and device usage while simultaneously enhancing supply chain management capabilities among cooperative staff. Demonstrating smart scenarios like intelligent weighing and electronic payment systems in "smart agricultural markets" can lower technical barriers for farmers and cultivate grassroots technology leaders. Fourth, coordination in cross-entity profit distribution among supply and marketing cooperatives is inefficient, with unclear ben-

efit-sharing mechanisms between village collectives and distribution enterprises. To address this, cooperatives should jointly build "smart agricultural markets" with village collectives to share data and logistics resources; collaborate with distribution enterprises to develop county-level distribution systems and implement "bulk purchasing + pre-sales" models; clarify the rights, responsibilities, and profit distribution of all parties; and activate cross-entity coordination incentives.

(3) Promoting Collaborative Development Between Supply and Marketing Cooperatives and Other Distribution Entities

A prominent feature of China's supply and marketing cooperatives today is their strong policy implementation capacity coupled with weak market-oriented operational capabilities. Institutional rigidity and the blurring of government-enterprise boundaries have severely constrained their market competitiveness. To address this, cooperatives should fully leverage their resource endowments and mobilize the nationwide grassroots distribution network to maximize their policy advantages. Simultaneously, they should utilize the established unified information platform to achieve resource sharing with other entities. In 2017, as one of the first batch of mixed-ownership reform pilot enterprises, China Unicom introduced several strategic investors including Tencent, Baidu, Alibaba and JD.com. By introducing private capital and foreign capital, it achieved a diversified equity structure. This not only brought a large amount of financial support to the company, alleviating the pressure of a long-term high debt ratio, but also promoted the company's innovative development in fields such as the Internet and big data.

Specifically: First, as key market entities, supply and marketing cooperatives should broaden profit channels by collaborating with specialized cooperatives to standardize agricultural inputs and inviting experts to guide standardized agricultural production for quality assurance. Second, they should partner with agricultural processing enterprises to extend industrial chains and enhance product value, or collaborate with e-commerce platforms to expand traffic and marketing reach, achieving full-chain upgrades from production to sales. Third, supply and marketing cooperatives can actively introduce social capital through capital increases, share transfers, and other means to vigorously develop a mixed-ownership economy. By optimizing equity structures, they can rationalize internal frameworks within cooperatives and cooperative enterprises, driving high-quality transformation and development of the cooperative system.

(4) Expanding Diversified Distribution Channels and Accelerating Brand Development

Regarding distribution channels and brand development, current supply and marketing cooperatives often face challenges such as limited distribution channels, outdated brand images, and unclear brand recognition. Therefore, in brand building and channel expansion, they should adhere to a "specialized, refined, distinctive, and innovative" approach. First, focus on core businesses to drive brand specialization. Cooperatives should concentrate on core operations, establish specialized operational models, and deeply integrate with professionalization to build

a reputation for high quality and excellence. Second, clarify brand positioning and precisely target specific audiences. Conduct in-depth research on subsidiary brands to ensure each has a clear role within the overall strategy, avoiding functional overlap and image confusion. Third, cultivate regional specialty brands to achieve differentiated competition. Cooperatives should leverage local characteristics to promote regional agricultural product brands, establish regional public brands, and enhance credibility and market recognition through geographical indication certification, traceability systems, and collaborations with renowned IPs. Finally, craft compelling brand narratives to infuse products with a "new soul" through traceability. This involves advocating for the exploration of local legends and stories, binding them to regional culture to create "cultural symbols". By leveraging cultural trends, brands can expand their influence.

6. Summary

This article demonstrates the core role of the supply and marketing cooperatives in promoting the modernization of the agricultural product circulation system in the new era. The research shows that they have an irreplaceable position in the construction of the modern circulation system by virtue of their bridging function between small-scale farmers and the large market, their dual attributes as policy implementers and innovation subjects, as well as their social penetration advantages. Through the coordinated operation of four major mechanisms—multi-chain integration, technological empowerment, resource coordination and brand promotion—the supply and marketing cooperatives have built a complete industrial chain from production to consumption, achieving intelligent upgrading of the circulation link and optimal allocation of resources. They have also leveraged their credibility advantages to increase the added value of agricultural products. In response to the existing predicaments such as weak infrastructure, lagging digital transformation, and insufficient market coordination capabilities, research has proposed systematic solutions including improving the infrastructure and talent system, accelerating digital transformation, deepening collaborative cooperation among multiple entities, and innovating brand strategies.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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