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Development Pathways of the National Agricultural Cooperative Federation in Korea: Institutional Innovation and Policy Implications — Based on the SWOT–AHP Analytical Framework

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Abstract

Purpose – The purpose of this paper is to explore the central role of the National Agricultural Cooperative Federation (NACF) in Korea's agricultural modernization through its "integrated cooperative" model, as well as the persistent challenges it faces, including organizational expansion, administrative inertia, and a rapidly changing external environment.

Design/Methodology/Approach – Based on a combined SWOT–AHP framework, the study applies the framework to quantify the relative importance of key drivers.

Findings – The results show that NACF's comprehensive functional system (bringing together financial services, input supply, marketing, and extension functions) and its tiered organizational structure constitute its major strengths. Independent economic operations and improved mechanisms for state–society communication emerge as important opportunities and sustainability variables.

Research Implications – Building on these findings, the study offers four policy insights: streamlining organizational structures by advancing modularized business units and strengthening grassroots autonomy; integrating elements of corporate governance with cooperative principles to enhance the professionalism of decision-making; upgrading the value chain of member-oriented services with a shift toward higher value-added activities; and establishing a healthier state–cooperative interaction mechanism to reduce dependency and reinforce endogenous development incentives.

Keywords: National Agricultural Cooperative Federation (Korea); SWOT; AHP; Policy implications
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I. Introduction

Agricultural cooperatives are a critical institutional vehicle for advancing agricultural modernization, increasing farm incomes, and mitigating market risks. This is especially true in countries and regions where smallholder farming remains predominant. Korea's economic transformation in the latter half of the twentieth century—from an agrarian economy to a modern industrial nation—is a well-known success story. Throughout this process, the National Agricultural Cooperative Federation (NACF) played an indispensable role. It not only served as a key implementing body for government agricultural policies, but also acted as a comprehensive platform linking small farmers to larger markets, integrating agri-food value chains, and delivering a full spectrum of financial and marketing services.

NACF's distinctive "integrated cooperative" model combines financial, insurance, marketing, procurement, and extension functions within a single organizational framework. This model has generated strong institutional synergy and offers a valuable reference for countries that share a smallholder-based agricultural structure, particularly in East Asia, including China.

However, the development of NACF has not been without setbacks. Globalization, market liberalization, demographic ageing, and ongoing adjustments in domestic agricultural policy have all posed new pressures. The organization now faces challenges related to internal governance, operational efficiency, and generational continuity. A systematic and scientific assessment of NACF's development path—one that distinguishes its successful practices from its institutional constraints—is therefore of considerable academic relevance. It also holds immediate practical value for China, where farmers' cooperatives and rural cooperative finance are undergoing deep structural reforms.

Existing research on NACF tends to focus on historical narratives, institutional descriptions, or case studies of specific functions. What is largely missing is an integrated analytical framework that captures both internal and external factors and assigns relative weights to them. To address this gap, this study applies a SWOT–AHP approach. The method combines qualitative identification with quantitative assessment. We first draw on relevant literature and case evidence to identify NACF's strengths, weaknesses, opportunities, and threats. We then employ the Analytic Hierarchy Process, inviting experts in the field to conduct pairwise comparisons of these factors in order to derive their relative weights. This enables us to pinpoint the key drivers and binding constraints in NACF's evolution. Based on the results, the study distills NACF's developmental pattern, highlights its innovative practices, and proposes operational policy implications for strengthening the high-quality development of China's farmer cooperatives.

II. Literature Review

1.Studies on the Development Pathways of Agricultural Cooperatives

Agricultural cooperatives serve as a central organizational vehicle for promoting agricultural modernization and strengthening farmers' bargaining power and risk-management capacity. This role is particularly evident in regions where smallholder agriculture dominates. According to the International Co-operative Alliance, a cooperative is an autonomous enterprise formed by individuals who voluntarily join together and operate through joint ownership and democratic governance in order to meet shared economic, social, and cultural needs.The development trajectory of cooperatives is shaped by a combination of internal and external factors. Internal factors include member heterogeneity, social capital, governance arrangements, and the cooperative's resource base. External factors relate to the institutional environment, market structure, stage of economic development, and technological change. These elements interact in complex ways and give rise to diverse cooperative models around the world.International practice has therefore evolved into several representative patterns. The United States, the Netherlands, and Denmark exemplify a model characterized by strong vertical coordination and value-chain leadership. Japan and Korea follow an integrated cooperative model that is closely embedded in local communities. India, Brazil, and many African countries tend to develop project-based models supported by external agencies. China has formed a distinct pathway that combines government guidance with a variety of locally driven organizational forms.

2.Studies on the Development of the National Agricultural Cooperative Federation in Korea

The development of the National Agricultural Cooperative Federation in Korea is regarded as a distinctive model that was initially state-led and has gradually evolved over time. Han (2008) observed that in its early stage, NACF functioned primarily as a policy instrument to achieve national food self-sufficiency and promote rural modernization, taking responsibility for the allocation of agricultural inputs and grain procurement. With the rapid take-off of the Korean economy, NACF's operations diversified extensively. Park (2015) highlighted that the cooperative extended its involvement along the value chain by establishing its own brands and retail networks. The integrated model that combines financial and economic services emerged as a core strength of the organization.As a comprehensive cooperative established under government guidance, NACF has developed a distinctive institutional system over nearly six decades. At the same time, it faces new development challenges. Existing studies, including Kim and Moon (2017) and Lee and Park (2020) , indicate that the evolution of NACF can be understood through three main dimensions. First, it operates under a dual framework that integrates policy implementation with market-oriented mechanisms. Choi (2019) emphasized that this arrangement enables NACF to execute government agricultural policies efficiently while sustaining organizational vitality through market-based operations. Second, NACF has established a vertically integrated

service system covering the entire agricultural value chain, including input supply, product processing, retail marketing, and financial and insurance services. Third, a multi-tiered governance structure has been formed, ensuring central-level coordination capacity while gradually enhancing the operational autonomy of local cooperatives (Ryu & Jang, 2018) .

At the same time, the development of NACF faces a range of practical challenges. Studies by Kim et al. (2021) and Lim (2022) identify several key issues. First, in the context of globalization, increasing market liberalization has put pressure on traditional protective mechanisms, undermining their effectiveness. Second, rural population aging and the shortage of agricultural successors are becoming more pronounced, directly affecting the membership base and long-term sustainability of the cooperative. Third, rapid advances in digital technology create urgent demands for digital transformation, while the cooperative's path-dependent organizational structure acts as a significant constraint(Qian Liu, Yuanji Zhang, Xiaoqing Sun,2025). Fourth, balancing organizational growth with the preservation of cooperative democratic principles has emerged as a central governance challenge.

Scholars generally argue that the future development of NACF requires progress in several directions. Yang and Kim (2019) suggest deepening governance reforms to improve operational efficiency, accelerating the construction of digital service platforms to enhance the precision and effectiveness of member services, innovating policies to support young farmers to alleviate pressures from rural aging, and exploring new international cooperation models to strengthen competitiveness in global markets. These experiences and reform directions provide important reference points for the modernization of agricultural cooperatives in countries with similar developmental contexts.

III. Construction of Indicator Judgment Matrices and Weight Allocation Based on the SWOT–AHP Method

(A) Construction of Judgment Matrices Based on SWOT Analysis

Traditional SWOT qualitative analysis is widely applied in organizational strategic planning, allowing decision-makers to compare strengths, weaknesses, opportunities, and threats in order to formulate development strategies. Although many scholars have applied the SWOT model to conduct qualitative studies on organizational development (M. S. Hossain, M. A. Hossain, et al., 2017; A. C. T. de Sousa, F. G. C. de Almeida, et al., 2020; N. A. Valdez, G. M. N. D. Garcia, et al., 2021) and have drawn important conclusions, the method still exhibits several limitations in practical applications. These include a high degree of subjectivity and weak consideration of interrelationships among factors.

To address these limitations, this study integrates the Analytic Hierarchy Process (AHP) with the traditional qualitative SWOT framework. By combining objective realities with expert judgment and assigning hierarchical weights to factors, the approach rearranges internal factors according to their relative importance. This allows qualitative issues to be quantified, reduces subjectivity and arbitrariness in analysis, enhances the scientific rigor of conclusions, and provides a more rational basis for decision-making and selection of development pathways.

The Analytic Hierarchy Process was proposed by T. L. Saaty, a professor at the University of Pittsburgh, in the mid-1970s. Its core idea is to decompose a complex problem into constituent elements, group the elements according to dominance relationships, and determine the relative importance of factors through pairwise comparisons. This results in a structured hierarchy of factors. The principal advantage of AHP lies in its ability to structure and quantify subjective judgments, transforming complex multi-criteria decision problems into a simple hierarchical weighting system. The method effectively integrates qualitative and quantitative factors and employs consistency checks to ensure logical reliability, thereby making the decision-making process more scientific and transparent.

1. SWOT Qualitative Analysis of the National Agricultural Cooperative Federation in Korea

1.1 Strengths

1.1.1 Tiered Organizational Structure (S1)

As an integrated cooperative organization spanning the entire agricultural value chain, NACF adopts a two-tiered organizational system suited to national conditions. The upper tier consists of the National Central Association, while the lower tier comprises local cooperatives at the municipal, county, township, and village levels. The National Central Association is primarily composed of banking, administrative, and marketing departments, which provide direct guidance and support to the corresponding departments of local cooperatives. Local cooperatives generally consist of willing residents from villages within their jurisdiction. Membership in a local cooperative automatically grants membership in the national federation. This “central association plus local cooperative” two-tier structure enables NACF to operate efficiently and effectively, minimizing management layers and administrative costs.

1.1.2 Comprehensive Functional System (S2)

NACF functions as a comprehensive agricultural cooperative that integrates research, credit, input supply, processing, training, and education. Its services extend across multiple dimensions of Korea’s economic development, demonstrating both diversity and depth. In agricultural logistics, NACF covers storage, packaging, processing, distribution, and retail. In addition, it provides educational support through institutions such as cooperative universities and professional training programs. The federation also represents farmers in negotiations with the government to advocate for favorable agricultural policies. Today, NACF has evolved far beyond a conventional cooperative. Leveraging its financial capital, distribution networks, and research capabilities, it has established a complete industry system from farm to urban consumer, emerging as a key economic actor that ensures food security, balances urban-rural development, and significantly influences

domestic markets.

1.1.3 Systematized Financial Operations (S3)

To increase farmers' income and strengthen the distribution function within the agricultural system, the National Agricultural Cooperative Federation decided in 1956 to incorporate financial and credit services into its operations, thereby establishing a "central–local" financial service framework. The primary function of this banking system is to provide comprehensive credit support for the working capital required in agricultural production, addressing funding gaps in the production process. NACF differs fundamentally from ordinary commercial banks. It is not only the largest cooperative financial organization in Korea with a nationwide banking network, but it also directly engages in the supply of agricultural inputs, advanced processing of farm products, and end-market retail. This creates a closed and efficient full-industry-chain system. The dual model of "finance plus industry" allows NACF to act as a super-entity in Korea's agricultural economy, combining both service provision and market leadership.

1.2 Weaknesses

1.2.1 Cumbersome Organizational Structure (W1)

Although NACF theoretically connects resources efficiently through its full-industry-chain organization spanning urban and rural areas, in practice it suffers from a "high input, low output" dilemma. The oversized structure fails to deliver its expected performance for three main reasons. First, overlapping functions and unclear responsibilities exist. Ambiguities between central and local levels and among departments lead to duplicated management and redundant procedures, resulting in substantial administrative inefficiency and higher decision-making costs. Second, structural redundancy causes resource waste. Duplicate facilities, such as distribution centers and service stations at both urban and rural ends, create underutilization in storage, transportation, and labor, driving up operational costs. Third, misaligned distribution results in supply-demand imbalances. Disconnected information between production and consumption leads to situations where rural products remain unsold while urban areas import similar products at high prices, undermining NACF's core coordination function. These issues elevate operational costs and reduce distribution efficiency, which falls short compared with similar organizations in Japan. Consequently, the cooperative's organizational advantages are weakened, and its core vitality is compromised.

1.2.2 Ambiguous Development Positioning (W2)

As NACF's operations have expanded, internal debates over its future development trajectory have intensified, reflecting divergent views on strategic direction. Some members advocate for an agriculture-

centered approach, emphasizing a focus on core agricultural activities, increased investment to consolidate the industrial base, and avoidance of risks associated with diversification. Others support expanding beyond traditional boundaries by actively entering non-agricultural sectors, using business diversification to create new growth opportunities(Liu, Q., Xiang, R., Yang, Q., & Haq, S. ul., 2025). These conflicting positions affect the prioritization of resource allocation and result in a lack of coherence in overall strategic planning, making it difficult to establish a clear and consistent development path. This ambiguity constrains the cooperative's ability to build long-term competitiveness.

1.2.3 Strong Administrative Orientation (W3)

As a key instrument for implementing national agricultural and rural policies, NACF operates under strict government oversight in personnel appointments, operational scope, and financial decision-making. This limitation on autonomy reflects the government's intention to treat the cooperative primarily as a policy executor rather than an independent market entity. Because of its "government-driven" origin, NACF has inevitably developed a high dependence on government policies and resources during its evolution. This dependency weakens its position as an autonomous market actor, causing operational decisions to lean toward following administrative directives rather than responding to market signals. As a result, the cooperative finds it challenging to leverage its initiative and pursue a distinctive, self-directed development path in accordance with market principles.

1.3 Opportunities

1.3.1 Independent Economic Operations (O1)

Relying on its two-tiered organizational system, NACF has revitalized agricultural product marketing through two core approaches. The first is a flattened direct-sales model, which leverages 5,739 outlets reaching remote rural areas to eliminate intermediaries and enable direct farm-to-market distribution, significantly reducing supply chain losses. The second is high-value-added processing, which not only standardizes packaging of agricultural products but also develops diversified products such as organic and ready-to-eat items. For instance, brands under NACF, including the "Cheongjeongwon" organic black fungus, achieve annual sales growth of 40% in convenience store channels, while exported processed products fetch prices 2.5 times higher than imported raw materials. By integrating the full value chain and maintaining channel dominance, NACF effectively increases product premium margins. Farmers benefit directly through year-end dividends and profit-sharing, and complementary services such as credit support and regional brand development further reduce disparities across rural areas, positioning NACF as a core driver of income growth for rural households.

1.3.2 Smooth Communication Channels (O2)

As a principal safeguard for cooperative members, NACF plays a critical role in connecting farmers with the government. In recent years, the dialogue mechanisms between NACF and government institutions have been continuously optimized. Communication frequency and scope of topics have expanded, while the depth and quality of engagement have improved significantly. Traditionally, cooperative members primarily presented concrete agricultural and rural development issues to government authorities. Today, participation has become more diverse and constructive. NACF not only contributes to the drafting and revision of agricultural laws and regulations, reflecting grassroots perspectives and practical experience, but also prepares and submits high-quality advisory reports to inform policy-making. These institutionalized participation channels enhance both the scientific and democratic nature of policy development and strengthen NACF's voice and influence within the agricultural governance system, injecting sustained momentum into the modernization of agriculture and rural areas.

1.3.3 Professional Technical Talent (O3)

As a non-profit corporate entity, NACF regards the cultivation of agricultural talent as a core responsibility. It provides a systematic and institutionalized educational support system to ensure human resources for the modernization of agriculture. NACF operates its own cooperative university and regularly organizes professional training sessions and specialized workshops, establishing a multi-level and comprehensive talent development network. These trained professionals play a critical role in driving organizational innovation and service upgrades, injecting new vitality and momentum into NACF's sustainable development. The organization's continued growth and innovation rely heavily on the support of high-quality talent.

1.4 Threats

1.4.1 Domestic Market Changes (T1)

Dynamic shifts in the domestic agricultural product market pose significant uncertainty and challenges to the survival and development of NACF. In recent years, rising labor costs, downward fluctuations in certain product prices, and increasing rigid operating costs such as energy and logistics have collectively squeezed profit margins, leading to a more passive overall development posture. In an increasingly competitive market, some local cooperatives, limited by scale and resources, have gradually lost their bargaining power and channel advantages, making them less able to withstand market shocks and even facing direct threats to survival or potential closure. These evolving market conditions test NACF's adaptability and resilience and place more urgent demands on its service models, organizational structure, and strategic transformation.

1.4.2 International Environment Shocks (T2)

Since Korea joined the World Trade Organization (WTO), its agricultural sector has become increasingly integrated with the global market, exposing NACF to multifaceted challenges. These challenges extend beyond operational aspects such as talent structures and marketing approaches to systemic dimensions, including service philosophy, organizational culture, and strategic positioning. As a WTO member, Korea's economic development is closely linked to global economic fluctuations. Price volatility in international agricultural markets, changes in trade regulations, and shifts in global supply chains are transmitted to domestic markets through trade and investment channels. As the largest and most widely covering agricultural cooperative organization in Korea, NACF stands at the forefront of responding to external shocks. Its stability and adaptability are being rigorously tested, and reshaping competitiveness while building a resilient agricultural governance system under open-market conditions has become a core issue for both the sustainable development of NACF and national agricultural security.

1.4.3 Structural Imbalance within NACF (T3)

Structural imbalances within NACF are primarily reflected in the misalignment of responsibilities and functional coordination between the central and local cooperatives. Specifically, the central cooperative often employs a highly centralized control approach in organizational management and policy implementation, requiring local units to follow directives unconditionally without adequately considering differences in local resources, industrial characteristics, and development stages. This uniform "one-size-fits-all" management approach substantially weakens the autonomy and flexibility of local cooperatives, making it difficult for them to provide targeted agricultural services or implement innovative practices based on local conditions. Over time, this not only constrains the development space of local cooperatives but also generates internal structural problems such as functional overlap, resource misallocation, and delayed responsiveness, thereby limiting the overall coordination efficiency and sustainable development capacity of the entire NACF system.

2. Quantitative Analysis of NACF Using AHP

2.1 Construction of the Hierarchical Structure

Based on the preceding SWOT qualitative analysis, the factors identified in this study were grouped according to shared characteristics, and their hierarchical relationships were clarified. A three-level hierarchical model was constructed, consisting of the goal layer, criteria layer, and alternatives layer, following a complete permutation approach (see Figure 1).

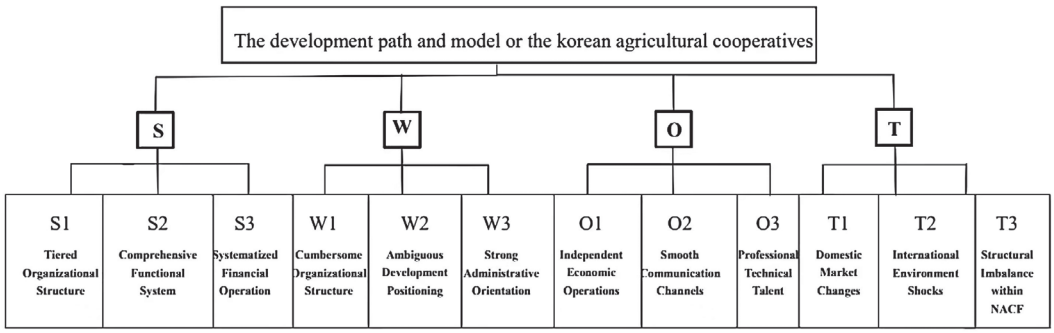

Fig. 1. AHP (Analytic Hierarchy Process) hierarchy diagram

2.2 Establishment of the Weight Judgment Matrix

The critical step in converting qualitative assessment into quantitative analysis lies in assigning numerical values to the relative importance of the factors. To ensure objectivity in weight assignment, expert judgment was employed. Using the 1–9 scale method of the Analytic Hierarchy Process (AHP), relative importance scores were assigned to each factor under different evaluation scenarios, as summarized in the weight scale table.

$$G = \begin{bmatrix} 1 & 2 & 5 & 7 \\ 1/2 & 1 & 4 & 5 \\ 1/5 & 1/4 & 1 & 3 \\ 1/7 & 1/5 & 1/3 & 1 \end{bmatrix}$$

The judgment matrices for the overall goal layer, as well as for the S, W, O, and T dimensions, were subsequently constructed.

$$S = \begin{bmatrix} 1 & 1/3 & 4 \\ 3 & 1 & 5 \\ 1/4 & 1/5 & 1 \end{bmatrix} \quad W = \begin{bmatrix} 1 & 2 & 1 \\ 1/2 & 1 & 1/2 \\ 1 & 2 & 1 \end{bmatrix}$$

$$O = \begin{bmatrix} 1 & 2 & 3 \\ 1/2 & 1 & 4 \\ 1/3 & 1/4 & 1 \end{bmatrix} \quad T = \begin{bmatrix} 1 & 4 & 1/3 \\ 1/4 & 1 & 1/8 \\ 3 & 8 & 1 \end{bmatrix}$$

2.3 Hierarchical Ranking and Consistency Test

To guarantee the scientific validity of AHP results, the judgment matrices were subjected to a one-time consistency check. The consistency index (CI) is defined as:

$$CI = \frac{\lambda \max - n}{n - 1}$$

where λmax is the maximum eigenvalue derived from AW=λW, and N is the order of the matrix. A larger CI indicates poorer matrix fit, while a smaller CI indicates closer approximation to complete consistency. The random consistency index (RI) is obtained from standard tables. When the consistency ratio CR=CI/RI<0.1, the matrix is considered to exhibit acceptable consistency, and the eigenvector can be used as the weight vector. Otherwise, the matrix requires re-evaluation.

Table 1.

n	1	2	3	4	5	6	7	8	9	10
RI	0	0	0.58	0.90	1.12	1.24	1.32	1.41	1.45	1.49

Following calculation, both the goal layer and criteria layer matrices passed the consistency test. Detailed results are presented in Table 2.

Table 2.

Judgment matrix	λmax	CI	RI	CR	Wi
G	4.106	0.035	0.9	0.038<0.1	(0.516,0.317,0.111,0.045)
S	3.085	0.042	0.58	0.072<0.1	(0.279,0.626,0.093)
W	3	0	0.58	0<0.1	(0.399,0.2,0.399)
O	3.107	0.053	0.58	0.091<0.1	(0.517,0.358,0.124)
T	3.018	0.009	0.58	0.015<0.1	(0.257,0.073,0.669)

2.4 Overall Hierarchical Ranking and Consistency Test

Based on the results of the local (criteria-level) ranking, the overall hierarchical ranking was derived by synthesizing the relative importance of factors across the criteria layer, as shown in Table 3.

Table 3. Weight of SWOT Factors of Korea Agricultural Cooperative

	Strengths (S)	Weaknesses (W)	Opportunities (O)	Threats (T)	Overall Ranking Weight
	0.516	**0.317**	**0.111**	**0.045**	**(Wi)**
S1	0.279	0	0	0	0.144(2)
S2	0.626	0	0	0	0.323(1)
S3	0.093	0	0	0	0.048(6)
W1	0	0.399	0	0	0.126(3)
W2	0	0.2	0	0	0.063(4)
W3	0	0.399	0	0	0.126(3)
O1	0	0	0.517	0	0.057(5)
O2	0	0	0.358	0	0.04(7)
O3	0	0	0.124	0	0.014(9)
T1	0	0	0	0.257	0.011(10)
T2	0	0	0	0.073	0.003(11)
T3	0	0	0	0.669	0.03(8)

A consistency test was then conducted on the overall ranking by calculating the comprehensive consistency index.

$$CR = \frac{\sum_{j=1}^{m} CI(j)aj}{\sum_{j=1}^{m} RI(j)aj} = \frac{(0.042,0,0.053,0.009)(0.516,0.317,0.111,0.045)}{(0.58,0.58,0.58,0.58)(0.516,0.317,0.111,0.045)} = 0.04931 < 0.1$$

The results indicate that the overall hierarchical ranking passed the one-time consistency check, demonstrating that the weight allocations of the model matrix elements exhibit optimal fit.

IV. Results Analysis

The AHP quantitative analysis reveals several key conclusions. First, the strength factors (S) exert the most significant influence on the development of NACF, with the highest weight at the criteria level (0.516). This

is followed by weakness factors (W) at 0.317, opportunity factors (O) at 0.111, and threat factors (T) at 0.045. These results indicate that strengths have a far greater impact on NACF's development than any other category, exceeding weaknesses, opportunities, and threats by 1.628, 4.649, and 10.530 times, respectively. Weaknesses are the second most influential factor, with a weight difference of 0.199 compared to strengths, highlighting that sustainable and healthy development of NACF requires leveraging existing strengths while actively addressing the disadvantages associated with weaknesses.

In comparison, opportunities carry a relatively low weight of 0.111, suggesting that NACF should proactively seize opportunities and adjust its development strategy in response to emerging trends. As noted by Yao Meifang (2016) , "enterprises must continuously anticipate potential future competitive directions and refine their strategies through timely adjustments." Threat factors exhibit the lowest weight, which can be attributed to Korea's more than 20 years of experience since joining the World Trade Organization. This long-term development has endowed NACF with strong capacity to adjust to and withstand external shocks. Furthermore, Korea's economic stability in recent years provides favorable external conditions for the continued development of the cooperative system.

When all factors were ranked in the overall hierarchy, it became evident that the well-established functional system (S2) holds the highest weight among the twelve indicators, making it the primary determinant of NACF's development. The hierarchical organizational structure (S1) ranks second in weight, reflecting that a long-standing historical evolution serves as an intrinsic driver of social organization development. The overweight organizational structure (W1) and strong administrative orientation (W3) share equal weights, highlighting that, similar to other social organizations, NACF faces ongoing challenges in balancing government oversight with market responsiveness, which are likely to become more pronounced as the cooperative continues to expand. The unclear development positioning (W2) carries a relatively lower weight compared with other weakness factors, possibly because internal divergences are limited and the overall objective of pursuing a diversified business model remains largely consistent, with differences diminishing as market liberalization progresses.

Within the opportunity dimension, independent economic operations (O1), well-established communication channels (O2), and professional technical personnel (O3) exhibit higher weights. This indicates that strengthening economic operations represents NACF's foremost opportunity, particularly following the 2013 decision to separate banking functions from other activities, which reinforced the role of economic services in supporting other cooperative functions. Nonetheless, the importance of effective communication mechanisms and systematic talent development should not be overlooked, as they remain crucial for the sustainable growth of agricultural organizations. Compared with factors at other levels, threat factors exert the least influence, occupying the 8th (T3), 10th (T1), and 11th (T2) positions in the overall ranking. This outcome reflects Korea's strong capacity to respond to international challenges and the relative stability of the domestic economy. However, the impact of threats should not be ignored, particularly increasing competition from other social organizations (T3), which introduces additional uncertainty for NACF's future development.

V. Research Conclusions and Policy Implications

Based on the traditional SWOT analysis and complemented by the Analytic Hierarchy Process (AHP), this study establishes a research framework that integrates qualitative assessment with quantitative evaluation to systematically examine the development model of NACF and its influencing factors. The results indicate that a well-developed functional system and a hierarchical organizational structure are the key drivers of agricultural cooperative development. Conversely, organizational bloating and administrative orientation constitute the primary obstacles. Independent economic operations represent a major opportunity, demonstrating that agricultural cooperatives can combine service functions with market-oriented profit-seeking. Additionally, mechanisms for government–society communication and structured talent development emerge as core variables affecting long-term sustainability.

Drawing on the development path and contextual characteristics of NACF, four key policy implications can be derived.

1.organizational structure optimization: transitioning from size-oriented "comprehensive" models to efficiency-oriented "lean" models.

NACF's challenges largely stem from pursuing an all-encompassing organizational approach, which results in institutional redundancy and functional overlap. It is recommended to promote business modularization and independent accounting, clearly separating credit operations from economic activities in both management and financial terms, while exploring the establishment of market-oriented subsidiaries. Strategically, the organizational structure should be reconstructed to adopt a "core–satellite" interaction model. The central cooperative should not act merely as a top-down manager; instead, it should function as a platform that empowers local cooperatives by providing strategic resources such as branding, standards, logistics, and data support, thereby systematically stimulating the intrinsic vitality and autonomy of grassroots organizations.

2.Modernizing the governance system involves organically integrating corporate governance principles with cooperative ideals.

The key to sustainable development of the cooperative lies in effectively coordinating its "people-centered" organizational essence with the "capital-centered" operational efficiency. Modern corporate governance structures should be introduced by incorporating independent directors and subject-matter experts into the board, while engaging professional management teams to oversee daily operations. This enhances decision-making professionalism and market responsiveness. At the same time, a precision service system should be established based on member data assets, using big data analytics to identify farmers' production and operational needs. Tailored technical guidance, market access facilitation, and financial support can then be provided, maximizing resource allocation efficiency while adhering to the cooperative principle of serving

members and addressing traditional inefficiencies in operational management.

3.Restoring organizational functions focuses on reshaping the full agricultural value chain to better serve farmers.

The cooperative should shift from functioning as an intermediary to acting as a service provider, investing in high-value segments such as cold-chain logistics, agricultural processing, and brand marketing to help farmers achieve higher quality products and premium pricing. Concurrently, the cooperative should actively promote the development of smart agriculture, transforming into a digital agricultural platform that provides integrated solutions for intelligent production management, supply chain coordination, and e-commerce sales. This approach supports smallholder farmers in accessing larger markets while enhancing the overall value generated along the agricultural production and distribution chain.

4.Reconfiguring government–cooperative relations aims to establish a positive interaction mechanism that balances policy support with autonomous development.

The healthy development of agricultural cooperatives requires a careful balance between securing policy support and maintaining organizational autonomy. Cooperatives should establish self-sustaining mechanisms, enhancing profitability through market-oriented operations to avoid innovation inertia and path dependency resulting from excessive reliance on government subsidies. Simultaneously, the government should transform its support approach, shifting from direct financial subsidies to systematic capacity-building initiatives. This can include government procurement of services, creation of dedicated development funds for agricultural cooperatives, improvement of agricultural market infrastructure, and fostering a fair and competitive market environment. Such measures create favorable conditions for cooperative development and establish a positive policy–cooperative interaction model characterized by government guidance, market-driven operations, and autonomous organizational management.

The practical experience of the National Agricultural Cooperative Federation (NACF) in Korea demonstrates that expansion in organizational scale does not automatically enhance operational efficiency, nor does comprehensive business coverage guarantee the development of core competencies. The modernization of agricultural cooperatives in China should be grounded in the cooperative principle, supported by optimized organizational structures, underpinned by modernized governance systems, focused on the reconstruction of functional value, and reinforced by constructive policy–cooperative interactions. The key to a successful transformation lies in the cooperative's ability to continuously generate tangible and sustainable value for farmers within a complex and dynamic market environment.

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