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Key Drivers for Enhancing the Performance of the OCOP Program: A Case Study of Bac Giang Province, Vietnam

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Abstract

Research focusing on the One Commune One Product (OCOP) program, a pivotal rural economic development initiative in Vietnam. Inspired by international models such as Japan's One Village One Product (OVOP), the OCOP program aims to bolster rural incomes, promote local specialties, and contribute to the national agenda of new rural development. Bac Giang province has actively implemented this program, yet a comprehensive understanding of the factors driving its performance is essential for sustained success. This study aims to identify and analyze the key factors—specifically, State legal policies, Local natural and socio-economic characteristics, OCOP program communication efforts, and Cooperative linkages—influencing the OCOP program's performance in Bac Giang province. A quantitative research methodology was employed, involving a case study of Bac Giang. Data were collected via Likert scale surveys administered to OCOP stakeholders, including producers, cooperative leaders, and local officials. The analytical approach included Cronbach's Alpha for assessing the reliability of measurement scales, Exploratory Factor Analysis (EFA) for validating the constructs of the key factors and program performance, and Ordinary Least Squares (OLS) regression to determine the impact of these factors on OCOP program performance. The significant findings indicate that all four identified factors—State legal policies, Local natural and socio-economic characteristics, OCOP program communication, and Cooperative linkages—have a statistically significant and positive influence on the performance of the OCOP program in Bac Giang province. Cooperative linkages demonstrated the most substantial positive impact, followed by State legal policies. The conclusion is that enhancing OCOP program effectiveness in Bac Giang, and potentially in similar contexts, requires a multi-faceted approach that strengthens supportive legal frameworks, leverages unique local conditions, intensifies targeted communication and branding efforts, and, most critically, fosters robust collaborative networks among cooperatives and other stakeholders.

Keywords: Agricultural Cooperatives, Bac Giang, Cooperative Linkages, OCOP Program, Program Performance, Rural Development, Vietnam

INTRODUCTION

The global pursuit of sustainable rural development has seen the emergence of various innovative models, among which the "One Village One Product" (OVOP) movement, originating in Oita Prefecture, Japan, in 1979, stands out as a significant paradigm. The OVOP philosophy is anchored in three core principles: fostering products that are "local yet global," encouraging "self-reliance and creativity" within communities, and prioritizing "human resource development". This model's success in revitalizing rural economies by promoting unique local products and services has inspired its adoption and adaptation in numerous countries, including Thailand's "One Tambon One Product" (OTOP) program. This approach has been institutionalized in Vietnam as the "One Commune One Product" (OCOP) program. Officially launched nationwide in 2018 following the Prime Minister's Decision No. 490/QĐ-TTg dated May 7, 2018, the OCOP program is a cornerstone of Vietnam's rural economic development strategy and an integral component of the National Target Program on New Rural Development. To create competitive products and services, the program aims to harness and promote Vietnam's diverse local resources, including indigenous wisdom, traditional crafts, unique raw materials, and rich cultural heritage. Key objectives include increasing rural incomes, generating employment opportunities, fostering entrepreneurship, preserving local cultural identities, and contributing to sustainable and equitable rural development. The program targets many participants, including small and medium enterprises (SMEs), cooperatives, and household businesses.

Bac Giang province, situated in the Northeast region of Vietnam, is a compelling case for examining the OCOP program. The province boasts significant agricultural potential, characterized by diverse agro-ecological zones suitable for various crops and livestock. Recognizing the OCOP program's potential, Bac Giang has actively participated since its national rollout. The province has witnessed considerable growth in its OCOP product portfolio. By March 2025, Bac Giang had 415 recognized OCOP products, including one 5-star product (Luc Ngan Hong Xuan lychee), 21 4-star, and 393 3-star products. This represents a significant increase from 205 products by the end of 2022 (31 four-star, 174 three-star) and a target of 350 products for 2024. Prominent OCOP products from Bac Giang that have gained recognition include its renowned lychees, golden flower tea, and Yen The Hill chicken. The provincial government has demonstrated a strong commitment to the OCOP program through various support mechanisms, including the enactment of specific policies like Resolution No. 67/2023/NQ-HĐND and the allocation of dedicated financial resources, such as the VND 20.9 billion earmarked for program implementation in 2024. These efforts underscore the strategic importance of the OCOP program in Bac Giang's socio-economic development agenda.

The OCOP program, nationally and within Bac Giang province, has demonstrated considerable promise and achieved notable initial product development and market recognition successes. However, a more profound, evidence-based understanding of the factors that drive its performance is crucial to ensure long-term sustainability and optimize the impact of such a multifaceted initiative. While existing literature often provides descriptive accounts of program implementation, national-level outcomes and consumer perspectives, or focuses on specific aspects like digital transformation or general cooperative performance, there remains a

discernible gap. Specifically, there is a lack of comprehensive, quantitative research that systematically identifies and measures the impact of a combined set of key factors—namely state legal policies, local natural and socio-economic characteristics, OCOP program communication, and cooperative linkages—on the overall performance of the OCOP program at a provincial level, such as in Bac Giang. This study seeks to address this gap by empirically analyzing these factors.

The OCOP program is more than a purely economic endeavor; it inherently encompasses socio-cultural dimensions, aiming to preserve local identity and empower communities. This multidimensionality complicates performance evaluation and underscores the necessity of a multi-faceted analysis of its factors. The observed growth in Bac Giang's OCOP product certifications suggests a positive trajectory, likely stemming from a synergistic interplay between supportive national and provincial policies, the proactive engagement of local actors such as cooperatives and businesses, effective communication strategies, and leveraging unique regional conditions. This research aims to empirically disentangle and quantify the relative contributions of these interacting components to the program's success.

This research holds significant academic and practical value. Academically, it contributes to the knowledge of rural development, program evaluation, and the effectiveness of place-based development initiatives like OCOP, particularly within the Southeast Asian context. Employing a quantitative methodology to assess multiple factors offers a nuanced understanding of the factors contributing to program success. Practically, the findings are expected to provide evidence-based insights for policymakers in Bac Giang and other Vietnamese provinces, enabling them to refine and optimize OCOP program strategies for greater impact. Furthermore, the study will offer actionable recommendations for cooperatives, local businesses, and support agencies involved in the OCOP program, helping them to navigate challenges better and capitalize on opportunities for growth and sustainability.

LITERATURE REVIEW

The performance of rural development programs, such as the OCOP initiative, can be understood through various theoretical lenses. Stakeholder theory, for instance, emphasizes the importance of identifying and managing the expectations and contributions of all involved parties—including government agencies, local communities, producers, and consumers—for program success. The community capital framework provides another perspective, suggesting that program outcomes are influenced by the interplay of various forms of capital (natural, cultural, human, social, financial/built, and political/institutional) within a community. These frameworks align with the OCOP model's core tenets, which emphasize leveraging local resources, fostering community participation, and relying on government facilitation and support. The success of such programs often hinges on the effective mobilization and integration of these diverse elements.

Government policies and legal frameworks are widely recognized as critical determinants of agricultural and rural program success. Studies in Vietnam and Southeast Asia consistently highlight the positive impact of clear, consistent, and supportive state interventions, including financial support mechanisms (FAO, 2022). National directives, such as Vietnam's Decision No. 490/QĐ-TTg, provide the overarching framework for programs like OCOP, while provincial-level adaptations, such as Bac Giang's

Resolution No. 67/2023/NQ-HDND, tailor these frameworks to local contexts. Financial allocations, like the VND 20.9 billion designated for Bac Giang's OCOP program in 2024, further demonstrate tangible policy support. However, challenges in policy implementation, including adequate resource mobilization, inter-agency coordination, and ensuring that benefits equitably reach targeted groups, particularly vulnerable populations, can impede program effectiveness (Nguyen, 2016). The World Bank (2020) emphasizes the need for policies that promote land consolidation, collective farmer action, and improved market information systems to overcome fragmentation and enhance product quality in programs targeting ethnic minorities and lagging areas (World Bank, 2020). We formulate the following hypothesis regarding the relationship between state legal policies and OCOP program performance:

H1: Supportive state legal policies are positively related to OCOP program performance.

A locality's unique natural and socio-economic characteristics profoundly shape the outcomes of rural development initiatives. Geographical conditions, such as terrain and climate, directly influence agricultural potential and product suitability. Resource endowments, including land availability, water resources, and access to specific raw materials, are fundamental to developing specialized local products. Bac Giang province, for example, benefits from the diverse agricultural potential that is suitable for its flagship OCOP products like lychee. Socio-economic factors, such as the existing economic structure, income levels, labor skills, educational attainment, and the quality of infrastructure (transport, communication, energy), also play a crucial role. Bac Giang's dynamic industrial growth alongside its agricultural base presents opportunities (e.g., market proximity, diversified economy) and challenges (e.g., labor competition, land use pressures) for the OCOP program. Research by Nguyen (2016) on Vietnamese smallholder agriculture underscores how land fragmentation and rising rural wages, influenced by broader economic shifts, necessitate adaptive strategies for agricultural programs. Similarly, studies on market-oriented land transfers in rural Vietnam highlight how tenure insecurity and socio-economic disparities can limit access to resources for lower-income farmers, impacting their ability to participate in and benefit from development programs (Trang et al, 2025). In summary, local natural and socio-economic characteristics can positively correlate with OCOP program performance, as delineated below.

H2: Favorable local natural and socio-economic characteristics are positively related to OCOP program performance.

Effective communication, branding, and market promotion are vital for successful programs like OCOP, which aim to connect local products with broader markets. (Le et al, 2022) Communication strategies encompass raising awareness about the program among potential participants and consumers, disseminating information about product standards and benefits, and facilitating market access (Bac Giang Portal, 2023). In Bac Giang, efforts to promote OCOP products have included conferences, media coverage, and the development of tourism routes linking OCOP producers with visitors. The role of digital transformation and e-commerce in OCOP product promotion is increasingly significant, offering new channels for reaching consumers and enhancing market visibility. Platforms like Buudien.vn are dedicated to promoting OCOP products nationally. However, successful branding faces challenges, including ensuring consistent product quality, establishing robust traceability systems,

and building enduring consumer trust. Studies on consumer purchasing behavior for OCOP products in Vietnam indicate that factors like product awareness, communication, and pride in local specialties significantly influence buying intentions (Le et al, 2025). Therefore, we posit that OCOP program communication can be positively linked to OCOP program performance, as detailed in the following hypothesis:

H3: Effective OCOP program communication is positively related to OCOP program performance.

Agricultural cooperatives are central to the OCOP program, acting as key organizational units for producers (FAO, 2022). Literature extensively documents the role of cooperatives in enhancing value chain development, improving market access for smallholders, and bolstering the overall performance of agricultural enterprises (Tran et al, 2023). In Vietnam, cooperatives involved in OCOP production receive support for improving product quality, branding, and market connections. Bac Giang province actively promotes the development of agricultural cooperatives associated with key rural and OCOP products. Partnerships between cooperatives and other stakeholders, including businesses, research institutions, and government agencies, are critical for creating a supportive ecosystem for OCOP development (IFAD, 2019). Such collaborations can facilitate technology transfer, access to finance, and entry into new markets. However, cooperatives often face challenges related to management capacity, financial sustainability, and effective market linkages (Hiep et al, 2025). Studies on cooperative performance in Vietnam identify factors like management capacity, socioeconomic environment, and support policies as key determinants of their success. Research in Son La province, for example, found that members' satisfaction with cooperative support activities was positively influenced by responsiveness, assurance, reliability, empathy, managerial competency, and tangible assets (Hoc et al, 2024). Therefore, we propose the following hypothesis:

H4: Strong cooperative linkages are positively related to OCOP program performance.

Based on the literature review, this study proposes a research framework (Figure 1) to investigate the key factors enhancing the performance of the OCOP program in Bac Giang province.

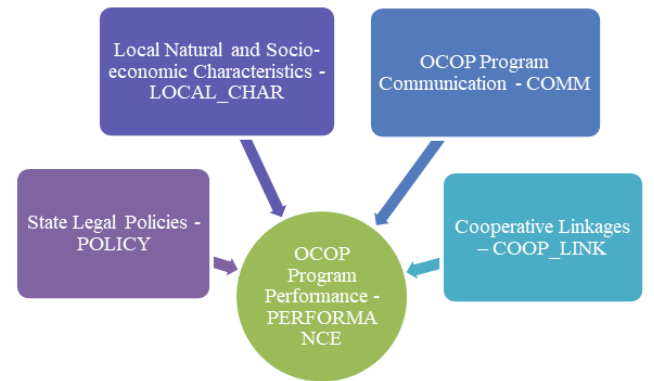


Figure 1: Research Framework

The framework posits that four main independent variables, State Legal Policies (POLICY), Local Natural and Socio-economic Characteristics (LOCAL_CHAR), OCOP Program Communication (COMM), Cooperative Linkages (COOP_LINK), directly influence the dependent variable OCOP Program Performance (PERFORMANCE).

METHODS AND MATERIALS

This study employs a cross-sectional quantitative research design. A case study approach is adopted, focusing specifically on Bac Giang province. This province has active engagement in the OCOP program, a diverse agricultural base that supports a wide range of OCOP products, and the availability of information regarding its OCOP initiatives. This design allows for an in-depth analysis of the factors influencing OCOP program performance within a specific administrative and socio-economic context.

The target population for this study comprises OCOP-participating entities in Bac Giang province. These entities include agricultural cooperatives, small and medium enterprises (SMEs), and household businesses with products recognized under the OCOP program. Additionally, local government officials directly involved in managing, coordinating, and supporting the OCOP program at the district or provincial level were considered for inclusion to provide a broader perspective on policy implementation and communication efforts. A sampling frame was constructed using official lists of OCOP-certified entities obtained from the Bac Giang Department of Agriculture and Rural Development and the provincial OCOP program portal. Given the diverse nature of OCOP products and participating entities, a stratified random sampling technique was employed. Strata were defined based on the primary OCOP product category (e.g., food products, beverages, handicrafts, herbal products, tourism services) and the OCOP star rating of their main product (3-star, 4-star, 5-star). This approach aimed to ensure adequate representation from different segments of the OCOP program within Bac Giang. The sample size was determined based on established guidelines for conducting Exploratory Factor Analysis (EFA) and Ordinary Least Squares (OLS) regression; a target sample size of 400 OCOP entities/representatives was set. This sample size is deemed sufficient to provide statistical power for the analyses.

A structured questionnaire was developed as the primary data collection instrument. The questionnaire was designed in Vietnamese and comprised several sections:

Section 1: General Information: This section collected background information about the participating OCOP entity (e.g., type of organization, main OCOP product(s), number of employees/members, years of OCOP participation, location within Bac Giang) and the respondent (e.g., role in the entity, years of experience).

Section 2-5: Measurement of Independent Variables: These sections contain items designed to measure perceptions and experiences related to the four key factors: State Legal Policies (POLICY), Local Natural and Socio-economic Characteristics (LOCAL_CHAR), OCOP Program Communication (COMM), Cooperative Linkages (COOP_LINK). All items in these sections utilized a 5-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Section 6: Measurement of Dependent Variable: This section included items to measure OCOP Program Performance (PERFORMANCE). These items also used a 5-point Likert scale and focused on perceived improvements in product quality, sales revenue, income, market expansion, and overall satisfaction with OCOP participation.

The questionnaire was developed based on the conceptual framework and a thorough review of existing literature and

relevant OCOP program documents. Before full-scale data collection, the questionnaire was pilot-tested with a small group of 20 OCOP stakeholders in Bac Giang (not included in the final sample) to assess its clarity, relevance, comprehensiveness, and average completion time. Feedback from the pilot test was used to refine the instrument. Data collection was conducted through face-to-face interviews by trained enumerators to ensure consistency and clarify any ambiguities for respondents.

The collected data were analyzed using IBM SPSS Statistics (version 26). The following statistical procedures were employed:

Descriptive Statistics: Frequencies, percentages, means, and standard deviations were calculated to summarize the characteristics of the sample and the distribution of responses for all variables.

Reliability Analysis: To assess internal consistency, Cronbach's Alpha coefficient was computed for each multi-item scale: POLICY, LOCAL_CHAR, COMM, COOP_LINK, and PERFORMANCE. A Cronbach's Alpha value of 0.70 or higher indicated acceptable reliability.

Exploratory Factor Analysis: EFA was conducted for each multi-item scale to examine the underlying factor structure and assess construct validity. PCA was used as the extraction method, and Varimax rotation was applied to facilitate the interpretation of the factor structure. The KMO measure of sampling adequacy (target > 0.60) and Bartlett's Test of Sphericity (target $p < 0.05$) were used to assess the suitability of the data for factor analysis. Factors with eigenvalues greater than 1.0 were retained. Items with factor loadings below 0.50 or significant cross-loadings on multiple factors were considered for removal to achieve a clear factor structure.

Ordinary Least Squares Regression: Multiple OLS regression analyses tested the hypothesized relationships between the independent variables (key factors) and the dependent variable (OCOP Program Performance). The regression model took the form: $PERFORMANCE = \beta_0 + \beta_1 \cdot POLICY + \beta_2 \cdot LOCAL_CHAR + \beta_3 \cdot COMM + \beta_4 \cdot COOP_LINK + \epsilon$

RESULTS

400 OCOP entities and key informants from Bac Giang province participated in the survey. The sample comprised a mix of entity types: agricultural cooperatives (46.25%), SMEs (31.75%), and household businesses (22%). The primary OCOP product categories represented were food products (55.75%), herbal products (14.75%), beverages (11.75%), handicrafts (10%), and rural tourism services (7.75%). Most participating entities (70%) had products rated as 3-star, with 25% having 4-star products, and 5% involved with the province's 5-star lychee product. On average, entities had been part of the OCOP program for 3.2 years. Respondents were typically managers or owners of these entities, with an average of 8.5 years of experience in their respective sectors.

Table 1: Descriptive Statistics of Sample and Key Variables

Characteristic	Category/Statistic	Value
Sample Size (N)		400
Type of OCOP Entity	Agricultural Cooperative	46.25%

Main OCOP Product Category	SME	31.75%
	Household Business	22%
	Food Products	55.75%
	Herbal Products	14.75%
	Beverages	11.75%
	Handicrafts	10%
Average Years in OCOP Program	Rural Tourism Services	7.75%
	Mean	3.2
Respondent Role	Manager/Owner	67.5%
	Other Key Staff	32.5%

Data source processed by the researcher (2025)

All multi-item scales underwent reliability analysis and Exploratory Factor Analysis (EFA). All scales demonstrated good internal consistency, with Cronbach's Alpha coefficients ranging from 0.747 to 0.869, well above the 0.70 threshold.

Table 2: Reliability Analysis (Cronbach's Alpha)

Construct	No. of Items	Cronbach's Alpha
State Legal Policies (POLICY)	5	0.869
Local Characteristics (LOCAL_CHAR)	5	0.864
OCOP Communication (COMM)	5	0.848
Cooperative Linkages (COOP_LINK)	5	0.856
OCOP Performance (PERFORMANCE)	4	0.747

Data source processed by the researcher (2025)

The KMO measure was 0.727, and Bartlett's Test of Sphericity was significant ($p < 0.001$) for all constructs, indicating the suitability of the data for factor analysis. EFA for each construct resulted in a single-factor solution with all items loading strongly (loadings > 0.6) onto their respective factors, explaining a substantial portion of the variance, 66.25%. This confirmed the unidimensionality and construct validity of the measures.

Table 3. Factor Loadings from EFA

Item	Factor 1 (State Legal Policies)	Factor 2 (Local Characteristics)	Factor 3 (OCOP Communication)	Factor 4 (Cooperative Linkages)
POLICY5	0.962			
POLICY2	0.839			
POLICY3	0.834			
POLICY1	0.737			
POLICY4	0.693			
LOCAL_CHAR5		0.961		
LOCAL_CHAR3		0.865		
LOCAL_CHAR2		0.840		
LOCAL_CHAR4		0.697		
LOCAL_CHAR1		0.674		
COOP_LINK5			0.963	
COOP_LINK3			0.845	
COOP_LINK2			0.834	
COOP_LINK4			0.708	
COOP_LINK1			0.649	
COMM5				0.957
COMM3				0.832
COMM2				0.826
COMM1	0.119			0.706
COMM4				0.641

Data source processed by the researcher (2025)

An OLS regression model was estimated to assess the impact of the four identified factors on OCOP Program Performance. The results are presented in Table 4.

Table 4: OLS Regression Results for Factors of OCOP Program Performance

Variable	Unstandardized Coefficient (B)	Standardized Coefficient (Beta)	p-value	VIF
(Constant)	-0.121		0.254	
State Legal Policies (POLICY)	0.276	0.45	<0.001	1.012
Local Characteristics (LOCAL_CHAR)	0.206	0.324	<0.001	1.005
OCOP Program Communication (COMM)	0.213	0.315	<0.001	1.012
Cooperative Linkages (COOP_LINK)	0.369	0.584	<0.001	1.006
Model Summary				
R-squared	0.717			
Adjusted R-squared	0.714			
F-statistic	249.947		<0.001	
N	400			
Durbin-Watson	2.027			

Data source processed by the researcher (2025)

The OLS regression model was statistically significant ($F(4, 395) = 249.947$, $p < 0.001$) and explained approximately 71.4% of the variance in OCOP Program Performance (Adjusted R-squared = 0.714). Diagnostic tests indicated that the assumptions of OLS regression were met: residuals were normally distributed, exhibited homoscedasticity, and were independent (Durbin-Watson = 2.027). Variance Inflation Factor (VIF) values for all predictors were below 2.0, indicating no issues with multicollinearity.

All four independent variables were found to have a statistically significant positive impact on OCOP Program Performance:

State Legal Policies (POLICY): ($B = 0.276$, $p < 0.001$), suggesting that more supportive and clear government policies are associated with better OCOP program outcomes.

Local Natural and Socio-economic Characteristics (LOCAL_CHAR): ($B = 0.206$, $p < 0.001$), indicating that favorable local conditions contribute positively to program performance.

OCOP Program Communication (COMM): ($B = 0.213$, $p < 0.001$), highlighting that effective communication and promotional efforts enhance program success.

Cooperative Linkages (COOP_LINK): ($B = 0.369$, $p < 0.001$), demonstrating the most substantial positive influence among the four factors, underscoring the critical role of strong cooperative networks and collaborations.

The standardized beta coefficients indicate the relative importance of each factor. Cooperative Linkages (Beta = 0.584) had the most significant impact, followed by State Legal Policies (Beta = 0.45), OCOP Program Communication (Beta = 0.324), and Local Characteristics (Beta = 0.315). These results empirically support all four hypotheses (H1, H2, H3, H4). The relative strength of these factors suggests that while all are important, fostering robust cooperative networks and ensuring a supportive policy environment are particularly crucial for enhancing OCOP program performance in Bac Giang. The non-significance of any factor would have also been an important finding, potentially indicating contextual nuances or areas where current efforts are less impactful, thereby guiding future research or policy adjustments.

DISCUSSION

The empirical results from this study provide valuable insights into the factors influencing the performance of the OCOP program in Bac Giang province.

State Legal Policies (POLICY): The significant positive impact of state legal policies ($B = 0.276$, $p < 0.001$) on OCOP program performance aligns with extensive literature emphasizing the foundational role of government support in rural development initiatives. In Bac Giang, the perceived clarity, supportiveness, and consistency of both national frameworks, like Decision No. 490/QĐ-TTg, and provincial measures, such as Resolution No. 67/2023/NQ-HĐND, appear to create an enabling environment for OCOP entities. This suggests that when OCOP participants perceive policies as accessible and beneficial, they are more likely to invest effort and resources, leading to improved outcomes. This finding underscores the importance of continued policy refinement and effective dissemination to ensure target beneficiaries understand and utilize support mechanisms.

Local Natural and Socio-economic Characteristics (LOCAL_CHAR): The positive influence of local natural and socio-economic characteristics ($B = 0.206$, $p < 0.001$) confirms that the success of place-based programs like OCOP is intrinsically linked to the unique endowments and conditions of the region. Bac Giang's diverse agricultural landscape, suitable for high-value products like lychee, coupled with its improving infrastructure and labor skills, provides a fertile ground for OCOP development. However, challenges such as land fragmentation or competition for resources due to industrialization may temper this positive influence, necessitating policies that help OCOP entities adapt to and leverage these local specificities. The result implies that OCOP strategies must be tailored to capitalize on specific local advantages while mitigating inherent constraints.

OCOP Program Communication (COMM): The significant positive effect of OCOP program communication ($B = 0.213$, $p < 0.001$) highlights the critical role of information dissemination, branding, and market promotion in driving program performance. Effective communication helps raise awareness among producers and consumers, clarifies program benefits and requirements, and facilitates market access. Bac Giang's efforts in organizing promotional events and supporting branding appear to contribute to

this positive outcome. The increasing importance of digital platforms for marketing OCOP products suggests that enhancing digital literacy and e-commerce capabilities among OCOP entities should be a continued focus of communication strategies.

Cooperative Linkages (COOP_LINK): The most substantial positive impact observed for cooperative linkages ($B = 0.369$, $p < 0.001$) underscores the pivotal role of agricultural cooperatives and their collaborative networks in the OCOP program's success. Cooperatives are crucial intermediaries for accessing inputs, sharing knowledge, collective marketing, and connecting with broader value chains. Strong linkages with other cooperatives, businesses, research institutions, and markets amplify the capacity of individual OCOP entities to innovate, improve quality, and reach consumers effectively. This finding strongly supports policies strengthening cooperative governance, managing capacity, and fostering inter-cooperative and public-private partnerships.

The collective positive impact of all four factors indicates that enhancing OCOP program performance in Bac Giang requires a holistic and integrated approach. No single factor operates in isolation; rather, their synergy is crucial. For example, supportive state policies can create the financial and regulatory space for cooperatives to strengthen their linkages and implement effective communication campaigns. Similarly, favorable local characteristics provide the raw materials and human resources that cooperatives and communication efforts can build upon. The relatively strong R-squared value (0.717) suggests that these four factors collectively explain a substantial portion of the variation in OCOP program performance, affirming the relevance of the conceptual framework.

The findings particularly highlight the preeminence of cooperative linkages. This suggests that while enabling policies, suitable local conditions, and effective communication are necessary foundations, producers' organizational capacity and collaborative networks, primarily through cooperatives, are the most direct and powerful performance enablers. This may reflect the OCOP program's emphasis on empowering local economic actors and developing value chains from the ground up.

Comparison with Existing Literature

The findings of this study resonate with broader themes in rural development and program evaluation literature. The importance of supportive government policy is a consistent theme in studies of agricultural development in Vietnam (Nguyen, 2016). The influence of local context and resource endowments is also well-documented in case studies of rural initiatives. The critical role of effective marketing, branding, and communication in connecting local products to markets is increasingly recognized, especially with the rise of e-commerce (Le et al, 2025).

Perhaps most notably, the strong influence of cooperative linkages aligns with a growing body of research emphasizing the role of collective action and social capital in empowering smallholders and enhancing their market participation and income (Tran et al, 2023). Studies on OCOP in Vietnam and similar programs internationally often point to the success of community-based approaches and strong producer organizations (FAO, 2022). This study's quantitative confirmation of this factor's preeminence in Bac Giang is a key contribution.

Implications of the Findings

The results carry significant theoretical and practical implications. Theoretically, they reinforce the understanding that successful rural

development programs are typically underpinned by a combination of top-down support (policies), bottom-up agency (cooperative action), effective intermediation (communication), and conducive contextual factors (local characteristics). The study provides empirical weight to the importance of these elements within the specific context of Vietnam's OCOP program.

Practically, the findings offer clear guidance for enhancing OCOP program performance in Bac Giang. The substantial impact of cooperative linkages suggests that investments in strengthening the capacity of agricultural cooperatives, through training in governance, financial management, marketing, and value chain development, should be a top priority. Policies should further incentivize and support the formation of robust networks between cooperatives, businesses, and research institutions.

The significance of state policies implies a need for continuous review and adaptation to ensure they remain responsive to the evolving needs of OCOP entities. Efforts to simplify administrative procedures for accessing support and certification could further enhance policy effectiveness.

The positive influence of communication strategies calls for sustained and innovative approaches to OCOP product branding, quality assurance communication (e.g., traceability), and market promotion, including more effective use of digital tools.

Finally, while local characteristics are somewhat fixed, understanding their specific influence can help tailor OCOP support to different sub-regions within Bac Giang, maximizing the potential of unique local resources and addressing specific socio-economic challenges. For example, in areas with less favorable natural conditions, policy support might need to focus more on value addition through processing or linking to tourism, rather than solely on raw material production.

The dynamic nature of the OCOP program, with emerging priorities like "Green OCOP" and digital transformation, means that the relative importance of these factors may evolve. This study provides a baseline understanding, but ongoing monitoring and adaptive management will be crucial for long-term success. The multifaceted nature of OCOP performance, extending beyond economic metrics to include socio-cultural impacts, also means that while this study focused on quantifiable aspects, broader qualitative assessments remain essential for a complete picture of the program's value.

CONCLUSION AND RECOMMENDATIONS

This study empirically investigated the key factors enhancing the performance of the One Commune One Product (OCOP) program in Bac Giang province, Vietnam. Utilizing survey data from 400 OCOP stakeholders and employing OLS regression analysis, the research found that all four hypothesized factors—State Legal Policies, Local Natural and Socio-economic Characteristics, OCOP Program Communication, and Cooperative Linkages—exert a statistically significant and positive influence on OCOP program performance. Cooperative Linkages emerged as the most impactful factor, followed by State Legal Policies, OCOP Program Communication, and Local Characteristics. These findings underscore the complex, multi-factor nature of the OCOP program's success in the specific context of Bac Giang.

Policy Recommendations

Based on the findings, the following policy recommendations are proposed for provincial authorities in Bac Giang (such as the Department of Agriculture and Rural Development and the Department of Industry and Trade) and relevant national bodies (e.g., the Ministry of Agriculture and Environment):

Strengthen and Empower Agricultural Cooperatives:

Since Cooperative Linkages is the most significant factor, policies should prioritize enhancing the organizational, managerial, and financial capacity of agricultural cooperatives involved in the OCOP program. This includes providing targeted training on business planning, financial management, marketing, value chain development, and negotiation skills.

Facilitate establishing and strengthening horizontal and vertical linkages between cooperatives and other businesses, research institutions, and financial service providers.

Develop support mechanisms for cooperatives to access technology, credit, and market information.

Optimize and Streamline State Legal Policies:

Continuously review and refine national and provincial OCOP policies to ensure they are clear, consistent, accessible, and responsive to the needs of OCOP entities.

To reduce the burdens on small-scale producers and cooperatives, simplify administrative procedures for OCOP certification, access to financial support, and participation in promotional programs.

Ensure equitable distribution of policy benefits, particularly to entities in more disadvantaged areas or those led by vulnerable groups.

Enhance OCOP Program Communication and Branding Strategies:

Invest in comprehensive and targeted communication campaigns to raise awareness about the OCOP program's benefits and standards among producers and consumers.

Provide technical and financial assistance to OCOP entities for professional branding, packaging, labeling, and developing compelling product stories highlighting local uniqueness and quality.

Strengthen support for OCOP entities to participate in domestic and international trade fairs, and to leverage e-commerce platforms and digital marketing tools for market expansion. The provincial OCOP portal should continuously improve as a central information and promotion hub.

Leverage and Adapt to Local Characteristics:

Conduct detailed assessments of the specific natural resource endowments and socio-economic conditions in different districts of Bac Giang to tailor OCOP support strategies accordingly.

Promote OCOP products that reflect local advantages and traditions, ensuring authenticity and uniqueness.

Invest in rural infrastructure (transport, storage, processing facilities) directly supporting OCOP value chains, particularly in areas with high potential but limited existing infrastructure.

Practical Recommendations for OCOP Stakeholders

For Cooperatives and OCOP Producers:

Proactively seek opportunities for collaboration and networking with other cooperatives, businesses, and support organizations.

Improve product quality, standardization, and packaging to meet market demands and OCOP certification criteria.

Participate in training programs to enhance business management, marketing, and technical skills.

Embrace digital tools for promotion and sales.

For Local Authorities and Support Agencies:

Provide accessible and practical training and technical assistance tailored to the needs of different OCOP entities.

Act as facilitators to connect OCOP producers with markets, financial institutions, and technology providers.

Regularly monitor and evaluate the impact of support activities and adapt strategies based on feedback and performance data.

Limitations of the Study

This study has several limitations that should be acknowledged. Firstly, while providing in-depth insights into Bac Giang, the case study design limits the generalizability of the findings to other provinces in Vietnam with different contexts. Secondly, the cross-sectional nature of the data allows for the identification of associations but does not permit definitive causal inferences. Thirdly, there is potential for endogeneity, as variables like cooperative linkages and program performance might influence each other reciprocally. Finally, the measurement of "OCOP Program Performance" relied on perceptual data from stakeholders, which, while valuable, could be complemented by objective economic data in future research.

Suggestions for Future Research

Future research could build upon this study in several ways:

Conduct longitudinal studies to track the evolution of OCOP program performance and the influence of these factors over time.

Undertake comparative case studies across multiple Vietnamese provinces with varying levels of OCOP success to identify standard and context-specific factors.

Employ qualitative research methods (e.g., in-depth interviews, focus group discussions) to explore the mechanisms and processes through which these factors affect OCOP outcomes in greater detail.

Investigate the impact of emerging trends, such as the "Green OCOP" initiative and the increasing role of digital transformation, on OCOP program performance and its factors.

Explore more advanced econometric techniques to address potential endogeneity issues.

In conclusion, enhancing the performance of the OCOP program in Bac Giang province necessitates a holistic and adaptive strategy. While all four identified factors are essential, strengthening cooperative linkages and ensuring a consistently supportive and well-communicated policy environment appear paramount. A continued commitment to capacity building across all stakeholder levels will be fundamental to realizing the full potential of the OCOP program as a catalyst for sustainable rural development in Bac Giang and beyond.

APPENDIX

Table 5: Operationalization of Variables

Variable Category	Variable Name	Conceptual Definition	Number of Observation Variables	Source/Adaptation
Independent Variable	State Legal Policies	Perceived supportiveness, clarity, consistency, and accessibility of national and provincial government policies, laws, and support mechanisms related to the OCOP program.	5	Derived from the literature on policy impact and OCOP program documents
Independent Variable	Local Natural and Socio-economic Characteristics	Perceived favorability of the local natural environment (e.g., climate, soil, raw material availability) and socio-economic conditions (e.g., infrastructure, labor skills, local market demand, economic dynamism) for OCOP product development and success.	5	Based on the literature on local context in development and Bac Giang-specific reports
Independent Variable	OCOP Program Communication	Perceived effectiveness of OCOP program communication efforts, including awareness campaigns, branding support, marketing assistance, clarity of program information, and utilization of digital platforms for promotion.	5	Adapted from studies on program communication and marketing, and OCOP promotion activities
Independent Variable	Cooperative Linkages	Perceived strength and effectiveness of linkages and collaborations involving the OCOP entity, including connections with other cooperatives, businesses, research institutions, input suppliers, markets, and the benefits derived from collective actions.	5	Based on the literature on cooperative roles in value chains and market access
Dependent Variable	OCOP Program Performance	The perceived success and positive outcomes experienced by the OCOP entity as a result of participating in the OCOP program.	4	Synthesized from the OCOP program objectives and impact indicators discussed in the literature

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