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Strategies for Institutional Strengthening of an Autonomous Business Unit of an Oil Palm Cooperative in Riau Province

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ABSTRACT*: The sustainability of oil palm smallholder institutions remains a major challenge in Indonesia due to fluctuating global market conditions, increasing production costs, limited managerial capacity, and uneven adoption of sustainable cultivation practices. Autonomous business units under oil palm cooperatives play an important role in coordinating production, marketing, and institutional support for smallholder farmers in Riau Province. However, these institutions continue to face several operational constraints, including limited technical competencies among members, insufficient implementation of occupational health and safety practices, suboptimal productivity, and limited extension services. These conditions may reduce institutional competitiveness and weaken the long-term sustainability of smallholder palm oil farming systems. Therefore, this study aimed to formulate and prioritize institutional strengthening strategies for an Autonomous Business unit of an oil palm cooperative in Riau Province, Indonesia. This research employed an integrated SWOT (Strengths, Weaknesses, Opportunities, Threats) and Quantitative Strategic Planning Matrix (QSPM) approach. SWOT analysis was used to identify internal and external strategic factors, while QSPM was applied to quantitatively determine priority strategies. The results indicate that the autonomous business unit demonstrates a relatively strong internal condition (IFE score = 3.172) and strong responsiveness to external factors (EFE score = 3.339), placing the institution in Quadrant I (Grow and Build) of the Internal–External Matrix. Six alternative strategies were generated through the SWOT matrix. The primary priority strategy identified through QSPM is improving human resource quality through cultivation and harvesting training (TAS = 7.31), followed by strengthening internal management (TAS = 7.08) and expanding partnership networks to enhance bargaining power (TAS = 6.92). These findings were demonstrated that strengthening technical capacity and institutional governance is essential for improving the competitiveness, resilience, and sustainability of oil palm smallholder institutions.*

Keywords: *Institutional Strengthening; Oil Palm Smallholders; QSPM; Strategy Analysis; SWOT*

1. INTRODUCTION

The palm oil industry is one of the strategic sectors in Indonesia (Almizri & Akhmad, 2025). This commodity significantly contributes to foreign exchange earnings, plays a role in employment generation, and increases rural community income, particularly among oil palm farmers. The expansion of oil palm plantations in Indonesia is closely linked to the presence of Private Large-Scale Plantations (Perkebunan Besar Swasta/PBS), Smallholder Plantations (Perkebunan Rakyat/PR), and State-Owned Large-Scale Plantations (Perkebunan Besar Negara/PBN). Statistical data indicate that smallholders manage approximately 40% of the total oil palm plantation area in Indonesia (Jum et al., 2023). This demonstrates that smallholders plantations make a substantial contribution to the supply of Fresh Fruit Bunches (FFB). Therefore, the quality of smallholder plantation management becomes a determining factor in the sustainability and competitiveness of the national palm oil industry.

To date, smallholder plantation management continues to face various challenges, such as limited access to capital, management practices that require improvement, limited human resource capacity, and suboptimal FFB productivity. These conditions result in the weak bargaining position of farmers within the oil palm agribusiness value chain, particularly in dealing with price fluctuations and rising production costs. One effort to address these issues is through strengthening farmer institutions via cooperatives or Autonomous Business Units (Unit Usaha Otonom/UUO). Autonomous business units under oil palm cooperatives in Riau Province play an important role in coordinating production, marketing, and institutional support for smallholder farmers. Preliminary observations and interviews with cooperative management indicated several institutional issues, including internal management problems, limited capacity of human resource, and inefficient production systems. In addition, the average FFB productivity within the institution remained approximately 2.5 tons per hectare, which is still below the regional production potential. Therefore, an appropriate strategic approach is required to formulate institutional strengthening strategies that can improve the competitiveness and sustainability of oil palm smallholder institutions.

Previous studies have shown that institutional strengthening can be analyzed using the Strengths, Weaknesses, Opportunities, and Threats (SWOT) approach. SWOT is a strategic planning tool used to identify an organization's internal and external conditions as a basis for strategy formulation (Mahfud, 2019). This method has been applied in strengthening village tourism institutions (Mulyani et al., 2021), agroforestry farmer institutions (Ruhimat, 2021), local institutions in horticultural agribusiness development (Akbar et al., 2022), and fishermen cooperatives (Rusliana et al., 2024). However, SWOT analysis only produces alternative strategies without providing quantitative justification for prioritizing strategies. Therefore, this study employs the Quantitative Strategic Planning Matrix (QSPM) method to identify priority strategies for strengthening an Autonomous Business Unit of an oil palm cooperative in Riau Province. The integration of SWOT and QSPM has been widely used in strengthening farmer group institutions (Maryoto et al., 2025; Zulkifli & Novia, 2021), formulating tourism area development strategies (Hartono et al., 2025), developing aquaculture cultivation strategies (Fauzi et al., 2025), developing mushroom farming businesses (Nabila et al., 2025), strategic analysis for tourism development (Jeelani & Shah, 2024; Mallick et al., 2020), and developing business strategy of Coffee Fresh product (Kuswardhani et al., 2020).

Although SWOT and QSPM have been widely applied in strategic management studies, studies that have specifically examined institutional strengthening strategies for village cooperative-based oil palm smallholders are still limited. Accordingly, this study aims to: (1) identify

internal and external factors influencing the institutional strengthening of an Autonomous Business Unit of an oil palm cooperative in Riau Province; (2) formulate alternative institutional strengthening strategies based on SWOT analysis; and (3) determine priority strategies using QSPM.

2. MATERIALS AND METHODS

This study was conducted at an Autonomous Business Unit (Unit Usaha Otonom/UUO) of an oil palm cooperative in Riau Province, Indonesia, from May to November 2022. Although the primary data collection was conducted during this period, the institutional structure and operational characteristics of the cooperative-based Autonomous Business Unit have remained relatively stable up to the present period. Based on follow-up communication with institutional management and secondary regional reports, there have been no major structural changes in the institutions. The respondents in this study consisted of 22 farmer groups affiliated with the Autonomous Business Unit. The respondents were determined using the Slovin formula with a margin of error of 10% (Widyaningtyas et al., 2024). The data analysis methods included the identification of internal and external factors, the development of the Internal Factor Evaluation (IFE) and External Factor Evaluation (EFE) matrices, the matching stage, and the Quantitative Strategic Planning Matrix (QSPM). The quantitative assessment indicators used in the SWOT analysis were adapted from institutional performance indicators relevant to cooperative-based oil palm smallholders. Each indicator was evaluated using a rating scale of 1–4 based on respondents' perceptions and institutional conditions. The SWOT–QSPM framework was selected because it provides a practical and highly interpretable approach for cooperative stakeholders in translating qualitative institutional conditions into quantitative strategic priorities. The research flow can be seen in Figure 1.

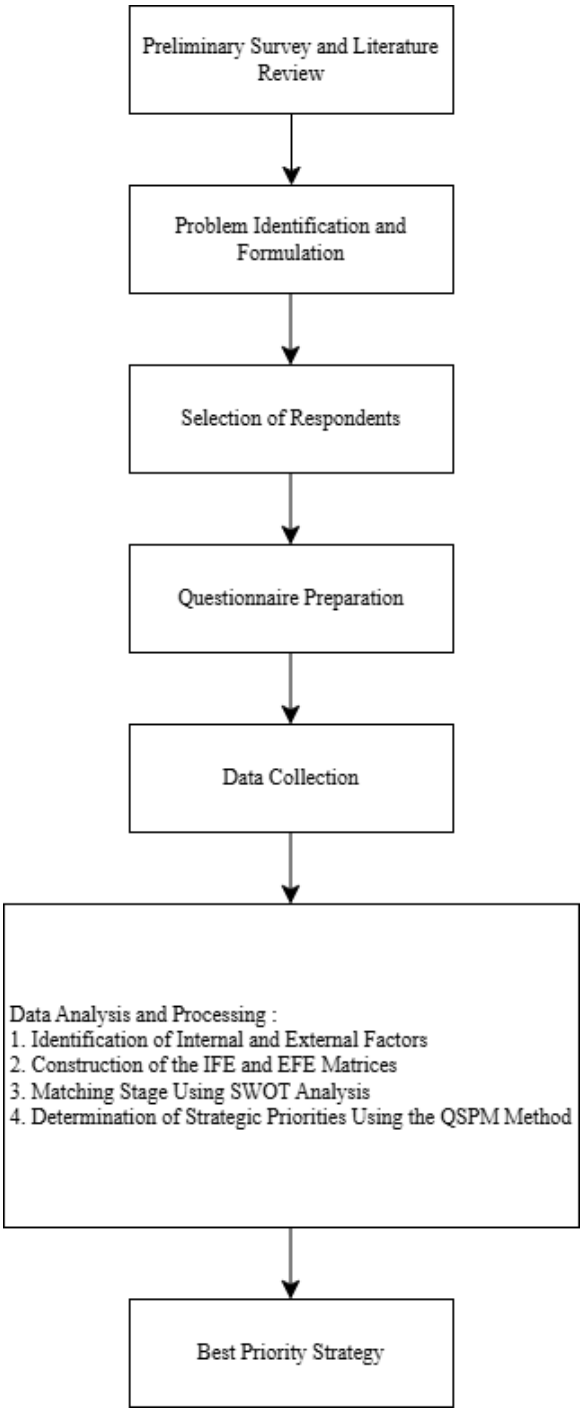

Figure 1. Research Methodology

The first stage involved identifying internal and external factors influencing the institutional performance of the Autonomous Business Unit. Internal factors were classified into strengths and weaknesses, while external factors were categorized into opportunities and threats. The identification of these factors was based on field observations, interviews with management

and members of the farmer groups, and questionnaires designed to explore institutional conditions.

The second stage involved the construction of the IFE and EFE matrices. Each strategic factor was assigned a weight according to its level of importance using the pairwise comparison method, such that the total weight in each matrix equaled 1.00. Subsequently, each factor was assigned a rating on a scale of 1–4, where a value of 1 indicated a very weak condition and a value of 4 indicated a very strong condition. In the IFE matrix, the rating reflected the internal institutional condition, whereas in the EFE matrix, the rating represented the institution's ability to respond to opportunities and threats. The weighted score was obtained by multiplying the weight by the rating of each factor. The total IFE and EFE scores were used to determine the strategic position of the Autonomous Business Unit. The formula of weighted score can be seen in Equation (1). While, the formula total of IFE and EFE score can be seen in Equation (2).

$$WS_i = W_i \times R_i \quad (1)$$

where :

WS_i = weighted score of factor i

W_i = weight of factor i

R_i = rating of factor i

$$Total\ Score = \sum_{i=1}^{n} (W_i\ x\ R_i) \quad (2)$$

where :

n = number of strategic factors

The third stage was the matching stage using SWOT analysis. At this stage, internal and external factors were combined to generate alternative strategies grouped into four categories: SO (Strength–Opportunity), WO (Weakness–Opportunity), ST (Strength–Threat), and WT (Weakness–Threat) strategies. This stage produced several alternative institutional strengthening strategies aligned with the actual conditions of the Autonomous Business Unit.

The final stage involved determining strategy priorities using the QSPM method. The strategic factors previously analyzed in the IFE and EFE matrices were re-entered into the QSPM matrix. Each alternative strategy was assigned an Attractiveness Score (AS) on a scale of 1–4 based on its relative attractiveness with respect to each strategic factor. The AS value was then multiplied by the factor weight to obtain the Total Attractiveness Score (TAS). The strategy with the highest TAS value was established as the priority strategy for strengthening the institutional capacity of the autonomous business unit. The formula of TAS can be seen in Equation (3).

$$TAS_{ij} = W_i\ x\ AS_{ij} \quad (3)$$

where TAS_{ij} represent the Total Attractiveness Score for factor i and strategy j; W_i represent Weight of factor I; and AS_{ij} represent Attractiveness Score for strategy j on factor i

3. RESULTS AND DISCUSSION

3.1. Overview of the Business

The Autonomous Business Unit (Unit Usaha Otonom/UUO) examined in this study is a cooperative-based business unit operating within an oil palm cooperative in Riau Province, Indonesia. The institution manages the production and marketing of Fresh Fruit Bunches (FFB) produced by 22 farmer groups, covering a total plantation area of approximately 878.57 hectares. The Autonomous Business Unit also operates supporting business activities, including a general store unit (Warung Serba Ada/Waserda) and a savings and loan unit, which function to support members' economic activities and operational needs. The Autonomous Business Unit serves as an intermediary between farmers and marketing partners, as well as a facilitator in the technical and administrative management of smallholder plantations. With a relatively large membership base and support from marketing partnerships, the institution holds a strategic position in improving business efficiency and stabilizing farmers' incomes. However, institutional effectiveness remains influenced by managerial capacity and the capacity of human resources, thereby

necessitating a strengthening strategy based on an analysis of internal and external conditions.

3.2. Identification of Internal and External Factors

The identification of internal and external factors was conducted to determine the strategic condition of the Autonomous Business Unit as a basis for formulating institutional strengthening strategies. Internal factors reflect conditions within the institution's control, whereas external factors represent environmental conditions beyond the organization's direct control that nonetheless affect institutional performance.

3.2.1 Internal Factors

The results of the identification indicate that the Autonomous Business Unit possesses several strengths that can serve as foundational capital for institutional strengthening. These strengths include:

(1) Adequate Capital Availability
Capital availability constitutes a primary strength, as it determines the continuity of institutional operations, such as the procurement of production inputs, administrative management, and support for farmer group activities. The business capital of the Autonomous Business Unit is derived from mandatory member contributions deducted monthly based on a percentage of production output and management fees. Capital assessed as sufficiently adequate also provides flexibility in responding to fluctuations in Fresh Fruit Bunch (FFB) prices and production costs. Strategically, this condition indicates that the institution possesses a financial foundation that can be leveraged for service expansion or institutional capacity enhancement.

(2) Institutional Facilities Supporting Operations
The availability of facilities such as an operational office, transportation means, and other supporting infrastructure facilitates the collection and distribution of FFB. Additional facilities owned by the Autonomous Business Unit include a fertilizer warehouse and a village-owned retail shop (Warung Serba Ada/Waserda). Adequate facilities reflect organizational readiness in carrying out coordination and service functions for members. This enhances operational efficiency and strengthens institutional legitimacy in the eyes of farmers and business partners.

(3) Ease of Location Access
Good accessibility facilitates the mobility of production outputs and the distribution of FFB to marketing partners. This accessibility contributes to transportation cost efficiency and timely delivery, thereby maintaining FFB quality. In the agribusiness context, logistical factors constitute a crucial aspect of sustaining competitiveness.

(4) Partnership Cooperation
Partnership arrangements constitute a strategic strength, as they ensure market certainty and stability in the sale of Fresh Fruit Bunches (FFB). Through such partnerships, marketing risks commonly faced by independent smallholders can be minimized. Furthermore, partnerships provide access to technical assistance and market information. The Autonomous Business Unit currently maintains partnerships with palm oil marketing stakeholders to support the distribution of its FFB production.

Weaknesses of Autonomous Business Unit:

(1) Limited Human Resource Capacity
The existing technical and managerial capacity of members represents an area that requires further development to optimize institutional performance. Several members still require strengthening in plantation maintenance practices and FFB harvesting techniques. This condition reflects the need for enhanced adoption of appropriate cultivation methods, improved business planning, and more structured strategic decision-making. Strengthening human resource capacity through continuous

training and technical assistance is therefore essential to support institutional growth and productivity improvement.

(2) Insufficient Implementation of Occupational Health and Safety (OHS)
The palm oil industry is among the sectors with relatively high occupational accident risks. The use of conventional harvesting tools, such as the *egrek* (a harvesting sickle), may pose risks when personal protective equipment is not utilized. This condition increases the likelihood of workplace accidents and reduces labor productivity. In the long term, such circumstances may affect business sustainability and institutional reputation.

(3) Suboptimal Productivity Levels
Suboptimal productivity indicates inefficient utilization of land and production inputs. This condition may result from seed quality, cultivation techniques, or fertilizer management practices that do not meet recommended standards. Suboptimal productivity directly affects farmers' income and the institution's market contribution. The average FFB production yield within the autonomous business unit remains relatively low compared to its production potential (2.5 tons per hectare).

(4) Limited Technical Extension Services in Cultivation
The lack of extension services limits farmers' access to updated information regarding cultivation technologies and Good Agricultural Practices (GAP). Consequently, innovation adoption becomes difficult, and productivity tends to stagnate.

3.2.2 External Factors

The identification results indicate that the Autonomous Business Unit possesses several opportunities that can serve as fundamental capital for institutional strengthening. These opportunities include:

(1) Increasing Market Demand
The continuously growing demand for FFB and palm oil derivative products represents a major opportunity for the institution to increase production volume and members' income. Stable demand provides room for business expansion and enhancement of production capacity.

(2) Government Policy Support
Government programs in the form of institutional guidance, technical assistance, fertilizer subsidies, and access to financing constitute important opportunities to improve institutional capacity. Such support can be utilized to address internal weaknesses, particularly in the areas of human resources and management.

The threats faced by the Autonomous Business Unit include:

(1) Global Market Instability
Fluctuations in global palm oil prices directly affect FFB prices at the farmer level. Dependence on the global market renders farmers' income unstable and may reduce production incentives.

(2) Rising Fertilizer Prices
Fertilizer represents the largest production cost component in oil palm plantation operations. Increases in fertilizer prices raise production costs and reduce farmers' profit margins.

(3) Extreme Weather Conditions
Climate change and extreme weather conditions can reduce both the productivity and quality of FFB. This risk is largely uncontrollable and requires long-term adaptive strategies.

3.3. Internal Factor Evaluation (IFE) and External Factor Evaluation (EFE) Matrices

The results of the IFE and EFE matrix calculations are presented in Table 1 and Table 2. The IFE matrix is used to evaluate the internal condition of the Autonomous

Business Unit based on the previously identified strengths and weaknesses. Each factor is assigned a weight according to its level of importance and subsequently rated on a scale of 1–4 to reflect the institution's current condition. The weighted score is obtained by multiplying the weight by the rating for each factor. Table 1 indicates that the total internal factor score of the Autonomous Business Unit is 3.172. This value suggests that, internally, the Autonomous Business Unit is in a relatively strong position.

The strength with the highest weighted contribution is the existence of partnership cooperation in land management and the marketing of production outputs. This finding indicates that the institutional foundation of the Autonomous Business Unit has been well established, particularly in terms of external relationships. Partnership cooperation represents a strategic strength because collaboration between the institution and external partners can enhance farmers' technical capabilities and expand market access. The study of (Kahamba & Xu, 2025) demonstrate that strategic partnerships contribute to improved agronomic practices and market access, thereby strengthening farmers' roles within the value chain. Other studies also emphasize the importance of collaboration between farmer-supporting institutions and partners across the supply chain in promoting business sustainability (Duong et al., 2024; Qorri & Felfoeldi, 2024). Table 1 further shows that a significant weakness is the limited provision of technical extension services in cultivation. The study of (Alam et al., 2024; Biswas et al., 2021) indicates that extension services are positively correlated with technology adoption rates and productivity levels. Overall, Table 1 suggests that although the internal condition of the Autonomous Business Unit is relatively strong, weaknesses in technical aspects indicate that institutional and partnership potential has not yet been fully optimized.

The EFE matrix is used to evaluate the institution's ability to respond to external factors, namely opportunities and threats. As in the IFE matrix, each factor is assigned a weight and rating, and its weighted score is subsequently calculated. The results of the EFE matrix calculation indicate a total score of 3.339. This value suggests that the Autonomous Business Unit demonstrates a strong capacity to respond to its external environment. The opportunity with the highest weighted contribution is increasing market demand. The study of (Xin et al., 2022) estimate that by 2050, Indonesia will require approximately 313–679 million tons of palm oil products (in fresh fruit bunch equivalent), necessitating an additional 18.58–45.59 million hectares of plantation land. Other studies report that in 2022, global FFB production reached 78 million metric tons, with Indonesia and Malaysia contributing 83.18% of the total (Goh et al., 2025; United States Department of Agriculture Foreign Agricultural Service, 2023). These findings indicate that the external environment presents significant opportunities for institutional development. However, the external environment is also influenced by threats, with global market instability obtaining the highest weighted score among threat factors. Volatility in global Crude Palm Oil (CPO) prices directly affects FFB prices at the farmer level. When CPO prices decline due to import restrictions imposed by export destination countries, FFB prices at the farmer level also decrease. This condition creates income uncertainty and increases business risk for smallholder plantations, which are highly dependent on market price stability.

Table 1. IFE Matrix

No.	Internal Factors	Average Weight	Average Rating	Total Score
Strengths				
1	Adequate capital availability (S1)	0.106	3.000	0.313
2	Institutional facilities supporting operations (S2)	0.134	2.800	0.372
3	Ease of location access (S3)	0.142	2.800	0.395
4	Partnership cooperation (S4)	0.141	3.800	0.533
Weaknesses				
1	Limited human resources capacity (W1)	0.115	3.600	0.419
2	Insufficient implementation of Occupational Health and Safety (OHS) (W2)	0.135	2.800	0.374
3	Suboptimal productivity levels (W3)	0.099	3.100	0.312
4	Limited technical extension services in cultivation (W4)	0.127	3.600	0.455
	Total	1.000		3.172

Source : Processed Primary Data (2022)

Table 2. EFE Matrix

No.	External Factors	Average Weight	Average Rating	Total Score
Opportunities				
1	Increasing market demand (O1)	0.198	3.600	0.710
2	Government policy support (O2)	0.176	3.000	0.520
Threats				
1	Global market instability (T1)	0.232	3.800	0.875
2	Rising fertilizer prices (T2)	0.173	3.400	0.589
3	Extreme weather conditions (T3)	0.222	2.900	0.645
	Total	1.000		3.339

Source : Processed Primary Data (2022)

3.4. Matching Stage

3.4.1. Internal-External (IE) Matrix

The IE matrix is intended to determine the strategic position of the Autonomous Business Unit based on the IFE and EFE matrix scores. This matrix is a strategic management tool used to map an organization's internal and external conditions into nine strategic quadrants that reflect the main policy directions, namely Grow and Build, Hold and Maintain, and Harvest or Divest (David, 2018). This position serves as a reference for determining alternative strategies for institutional strengthening. Based on the IFE score of 3.172 and the EFE score of 3.339, the position of the Autonomous Business Unit falls within Quadrant I of the IE Matrix, which represents the "Grow and Build" strategic category. According to the IE Matrix classification, organizations with IFE and EFE scores ranging from 3.0 to 4.0 are categorized as having strong internal

capability and strong responsiveness to external opportunities and threats. This condition indicates that the institution possesses favorable strategic conditions for expansion, institutional strengthening, and long-term development.

Table 3. IE Matrix

Strong 3.0 – 3.99	Average 2.0 – 2.99	Weak 1.0 – 1.99
I Grow and Build Strategy	II Grow and Build Strategy	III Hold and Maintain Strategy
IV Grow and Build Strategy	V Hold and Maintain Strategy	VI Harvest or Divest Strategy
VII Hold and Maintain Strategy	VIII Harvest or Divest Strategy	IX Harvest or Divest Strategy

3.4.2. SWOT Matrix

The SWOT matrix integrates strengths (S), weaknesses (W), opportunities (O), and threats (T) to generate alternative strategies for the Autonomous Business Unit. Based on the identification of SWOT factors, several alternative strategies were formulated and grouped into four categories: Strength–Opportunity (S–O), Weakness–Opportunity (W–O), Strength–Threat (S–T), and Weakness–Threat (W–T) strategies.

S-O Strategies

(1) Enhancing and strengthening internal management to maximize market opportunities (S1, S2, O1)
(2) Maintaining and strengthening relationships with partners and government institutions (S3, S4, O2)

W-O Strategy

(1) Improving the quality of human resources through training in cultivation and harvesting (W1, W2, W3, O1, O2)

S-T Strategies

(1) Strengthening institutional synergy with partners and government agencies to provide technical guidance (S3, S4, T1, T2)
(2) Utilizing superior varieties that are tolerant to extreme weather conditions (S1, S2, T3)

W-T Strategy

(1) Expanding cooperation networks to strengthen bargaining power (W1, W2, W3, W4, T1, T2, T3)

3.5. *Quantitative Strategic Planning Matrix* (QSPM)

The final stage of the strategic analysis is the decision stage, which determines the priority strategies. The QSPM method was employed to identify three priority strategies that can be implemented by the Autonomous Business Unit. The QSPM calculation utilized the weight values derived from the SWOT analysis and the Attractiveness Score (AS). The result of this calculation is the Total Attractiveness Score (TAS). The TAS values were subsequently ranked to determine the recommended priority strategies for strengthening the institutional capacity of the Autonomous Business Unit. The results are presented in Table 3.

Table 4. QSPM Results

No.	Alternative Strategies	TAS	Rank
1.	Enhancing and strengthening internal management to maximize market opportunities	**7.080**	**II**
2.	Maintaining and strengthening relationships with partners and government	6.320	IV
3.	Improving human resource quality through cultivation and	**7.310**	**I**

No.	Alternative Strategies	TAS	Rank
	harvesting training		
4.	Institutional synergy with partners and government for technical guidance	5.640	VI
5.	Utilizing superior varieties tolerant to extreme weather conditions	5.830	V
6.	Expanding cooperation networks to strengthen bargaining position	**6.920**	**III**

Source : Processed Primary Data (2022)

Table 3 indicates that the strategy with the highest TAS value is improving human resource quality through cultivation and FFB harvesting training. Although the Autonomous Business Unit is positioned in Quadrant I (Grow and Build), indicating relatively strong internal and external conditions, the prioritization of technical training reflects the institution's need to strengthen its foundational operational capacity before pursuing broader market expansion. The strong position identified in the IE Matrix primarily reflects institutional assets such as partnerships, facilities, and market opportunities; however, the SWOT analysis simultaneously reveals that technical limitations among members remain significant internal constraints. In cooperative-based agribusiness systems, sustainable growth is not determined solely by market access, but also by the capability of members to maintain productivity, product quality, and operational efficiency. Therefore, strengthening technical competencies through cultivation and harvesting training is considered a prerequisite for ensuring that future expansion strategies can be implemented effectively and sustainably. This result demonstrates that the primary institutional weakness lies in technical aspects and farmers' capacity, as identified in the IFE matrix. Low FFB productivity and limited technical extension services are dominant factors affecting institutional performance. Technical training in cultivation and harvesting has the potential to increase both productivity and harvest quality. Enhanced competencies will directly contribute to higher member income and greater institutional competitiveness within the agribusiness value chain. These findings suggest that strengthening human resource capacity constitutes the fundamental foundation before pursuing broader business expansion.

The strategy of enhancing and strengthening internal management ranks second, with a TAS value of 7.08. This indicates that although the institution possesses strengths in partnerships and facilities, its internal management system still requires improvement. Strengthening internal management includes improving administrative systems, financial transparency, coordination among farmer groups, and more structured business planning. This strategy plays a crucial role in ensuring that available market opportunities are optimally utilized. Without a strong management system, potential market expansion will not generate maximum benefits for members' welfare.

Expanding cooperation networks ranks third. This strategy highlights the importance of strengthening the institution's bargaining position in responding to price fluctuations and global market dynamics. By broadening partnership networks, the Autonomous Business Unit can reduce dependence on a single partner and gain access to alternative markets or financing sources. This strategy is also relevant in addressing external threats, particularly price instability and rising production costs. Partner diversification can

increase income stability and enhance institutional resilience.

Maintaining relationships with partners and government institutions (Rank IV) remains important as a maintenance strategy; however, it is not considered the most urgent priority since partnerships already constitute one of the institution's primary strengths. Meanwhile, the utilization of superior varieties tolerant to extreme weather conditions (Rank V) and institutional synergy for technical guidance (Rank VI) obtained lower TAS values. This suggests that although climate-related factors and technical assistance are important in the long term, their urgency remains below that of strengthening internal capacity and organizational management.

4. CONCLUSIONS AND RECOMMENDATIONS

This study demonstrates that the institutional condition of the Autonomous Business Unit is internally relatively strong, with a total IFE score of 3.172, and exhibits a strong capacity to respond to the external environment, as reflected by an EFE score of 3.339. This position places the Autonomous Business Unit in Quadrant I (Grow and Build Strategy) of the Internal–External Matrix, indicating that the institution has the potential to grow and develop through well-directed expansion strategies. The SWOT analysis generated six alternative institutional strengthening strategies. Through the QSPM approach, the primary priority strategy identified is improving human resource quality through cultivation and FFB harvesting training (TAS = 7.31), followed by strengthening internal management (TAS = 7.08), and expanding cooperation networks to enhance bargaining power (TAS = 6.92). These findings affirm that strengthening farmers' technical capacity and professionalizing organizational governance constitute the fundamental foundation before pursuing broader market expansion. Based on the research findings, several recommendations can be proposed:

(1) The management of the Autonomous Business Unit should establish structured technical training programs focused on Good Agricultural Practices (GAP), efficient fertilizer application, harvesting quality standards, and occupational safety practices. Considering the increasing volatility of global palm oil prices in recent years, the institution is also encouraged to strengthen digital-based farm recording systems and collective marketing mechanisms to improve operational efficiency and bargaining power.
(2) To reduce dependency on a single marketing partner, the Autonomous Business Unit should gradually expand partnership networks with alternative palm oil mills, financial institutions, agricultural input suppliers, and government-supported sustainability certification programs. This diversification strategy is important in responding to current market dynamics, including price fluctuations, stricter sustainability requirements, and rising production costs.
(3) Local governments and related agencies should intensify institutional assistance programs through continuous extension services, climate adaptation training, subsidized fertilizer access, and facilitation of sustainable palm oil certification schemes for smallholders.
(4) Future studies are recommended to integrate sustainability assessment frameworks, risk analysis models, or advanced Multi-Criteria Decision-Making (MCDM) approaches to evaluate institutional resilience under changing global palm oil market conditions.

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