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Value Added Analysis of Hanjeli Raw Materials and its Development Strategy at Pantastik Cooperative, Wado, Sumedang

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ABSTRACT

Hanjeli (*Coix lacryma-jobi* L.) has potential as a high-value local food crop, yet studies on its value-added potential and business development strategies remain limited. This study aims to analyze the added value of hanjeli and formulate development strategies at Pantastik Cooperative, Wado, Sumedang. A case study approach was applied using mixed methods. The Hayami method was used to measure added value, while SWOT, IFE, EFE, and QSPM analyses were employed to formulate strategic directions. The results of the Hayami analysis show that hanjeli processing generates a value-added ratio of 66.00%, with profits predominantly accruing to the business owner, although the workforce receives a considerable share. The SWOT analysis identified that internal strengths outweigh weaknesses and external opportunities exceed threats. Based on the QSPM analysis, the most recommended strategy is to leverage healthy food trends and government support followed by expanding digital marketing. This research fills a gap in integrated analysis combining value-added assessment and strategic business formulation for underutilized crops like hanjeli. The findings imply that strengthening the value chain, increasing production capacity, and optimizing digital marketing are essential to enhance competitiveness. Effective implementation is expected to position hanjeli as a sustainable agribusiness commodity that contributes to food security, rural economic development, and the welfare of business actors.

***Keywords**: added value, development strategy, hanjeli*

BACKGROUND

Hanjeli (*Coix lacryma-jobi* L.) is a cereal crop with significant potential as an alternative food source due to its rich nutritional content high in calcium, low in gluten, and with a low glycemic index making it suitable for healthy diets and diabetic-friendly products (Grubben & Partohardjono, 1996; Nurmala, 2011). As a local plant that can adapt to diverse agroecosystems in both highland and lowland areas (Solihin et al., 2018), hanjeli offers opportunities for food diversification and functional food development. Despite these advantages, the development of hanjeli as a commercial commodity in Indonesia remains limited. Its use is still dominated by traditional practices, with low productivity (4–6 tons/ha), minimal post-harvest processing, and weak marketing infrastructure (Ramadhan et al., 2020; Shahrajabian et al., 2022; Suyadi et al., 2019). This gap between potential and utilization

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Vol 9 (3): 755 - 771, November 2025

indicates a need for a comprehensive approach to strengthen its value chain and enhance its competitiveness in the national food system.

Value chain analysis (VCA) is a strategic tool for identifying added value creation and bottlenecks in agribusiness systems. Previous studies on hanjeli have predominantly focused on agronomic performance and farming economics, with limited exploration of post-harvest value addition or business development strategies (Shahrajabian et al., 2022; Suyadi et al., 2019). Moreover, the role of cooperatives as key actors in empowering smallholders and developing sustainable agribusiness has not been fully examined within the context of hanjeli.

Sumedang Regency, West Java, particularly Sukajadi Village, has emerged as a promising hanjeli production center. The Pantastik Cooperative in this region has developed various processed hanjeli-based products such as hanjeli rice, cereal, crackers, and brownies with a production capacity of 1,000 kg per month and an annual turnover of Rp150,730,000 (Azis, 2023). However, the cooperative faces major challenges, including limited raw material supply, simple processing technology, and weak market penetration. Managerial issues related to legality, finance, and human resources further hinder sustainable development.

Given these constraints, it is essential to formulate strategic interventions that improve product diversification, production efficiency, and market access. This study addresses the research gap by analyzing the added value and formulating business development strategies for hanjeli agribusiness at Pantastik Cooperative using an integrated approach of SWOT, IFE, EFE, and QSPM. By linking value chain theory and sustainable business strategy, this research offers a novel and practical contribution to strengthening local food-based agribusinesses.

RESEARCH METHODS

This research uses a mixed methods case study approach that combines qualitative and quantitative analysis to examine the development of processed hanjeli products at Pantastik Cooperative, Wado, Sumedang. The qualitative component involves a SWOT analysis to explore internal and external factors affecting hanjeli development, while the quantitative component uses the Hayami method to analyze value added from hanjeli processing. Data were collected through primary and secondary sources. Primary data were obtained through in-depth interviews using purposive sampling and snowball sampling techniques. Respondents included cooperative managers (3), hanjeli farmers (5), business partners (3), the village head (1), a representative from the cooperative office (1), and agricultural extension officers (3). Secondary data were obtained from cooperative records, reports, and relevant literature.

The Hayami method is applied to calculate the economic value added from processing hanjeli into derivative products. This method is considered optimal for the context of smallholder, cooperative-based processing systems, as it offers a clear and simple quantitative framework that effectively captures value distribution among actors in the chain especially important in rural agribusiness where transparency and simplicity are essential. It has also been widely used in agricultural studies for its ability to show how much value is added from raw materials to final products (Hayami, Y. et al., 1987), thus supporting informed decision-making for sustainable agribusiness development. The results of this analysis are presented in Table 1.

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http://ejournal2.undip.ac.id/index.php/agrisocionomics
Vol 9 (3): 755 - 771, November 2025

The findings from Table 1 provide a detailed breakdown of value added at each stage of hanjeli processing, highlighting the key contributors to economic gains within the cooperative. Understanding these value flows is critical for identifying opportunities to improve efficiency and increase income for farmers and other stakeholders involved. This analysis also offers a basis for recommending targeted interventions that can strengthen the competitive position of hanjeli products in the market.

Table 1. Calculation of Hanjeli Value Added using Hayami Analysis

Variables	Value
I. Output, Input, and Price	
1. Output (Kg)/production process	(1)
2. Input (Kg)/production process	(2)
3. Labor (HOK)/production process	(3)
4. Conversion Factor	(4) = (1) / (2)
5. Labor Coefficient (HOK)	(5) = (3) / (2)
6. Output Price (Rp/Kg)	(6)
7. Direct Labor Wages (RP/Hok)	(7)
II. Revenue and Profit	
8. Raw Material Price (Rp/Kg)	(8)
9. Other Input Contribution (Rp/Kg)	(9)
10. Output Value (Rp/kg)	(10) = (4) x (6)
11. a. Value Added (Rp/Kg)	(11a) = (10) – (9) – (8)
b. Value Added Ratio (%)	(11b) = (11a) / (10) x 100%
12. a. Direct Labor Income (Rp/Kg)	(12a) = (5) x (7)
b. Labor Share (%)	(12b) = (12a) / (11a) x 100%
13. a. Profit (Rp/Kg)	(13a) = (11a) – (12a)
b. Profit Rate (%)	(13b) = (13a) / (11a) x 100%
III. Returns to Owners of Factors of Production	
14. Marjin (Rp/Kg)	(14) = (10) – (8)
a. Direct Labor Income (%)	(14a) = (12a) / (14) x 100%
b. Other Input Contribution (%)	(14b) = (9) / (14) x 100%
c. Business Owner's Profit	(14c) = (13a) / (14) x 100%

Source: Hayami et al., 1987

The formulation of development strategies in this study was conducted using SWOT analysis, which identifies key internal (Strengths and Weaknesses) and external (Opportunities and Threats) factors influencing the hanjeli agribusiness at Pantastik Cooperative. This analysis was based on data collected from interviews with stakeholders, including cooperative managers, farmers, business partners, and local authorities. The information gathered was then categorized into SWOT components to reflect real conditions in the field. Strengths and weaknesses were identified from internal aspects of the cooperative, such as organizational capacity, production capabilities, and product innovation, while opportunities and threats were derived from external conditions such as market trends, policy support, and competition. The results of this mapping served as the foundation for formulating strategic alternatives tailored to local challenges and potential. These strategies were

ISSN 2580-0566; E-ISSN 2621-9778
http://ejournal2.undip.ac.id/index.php/agrisocionomics
Vol 9 (3): 755 - 771, November 2025

further prioritized using IFE, EFE, and QSPM matrices to ensure more targeted and implementable recommendations (Benzaghta et al., 2021; Hasbullah et al., 2021). The four alternative strategies obtained from the SWOT analysis are as follows:

a. S-O Strategy: Utilize all of the company's strengths to capture and optimize available opportunities.
b. S-T Strategy: Using the company's strengths in an effort to overcome and avoid potential threats that arise.
c. W-O Strategy: Reduce the company's weaknesses by utilizing existing opportunities to increase competitiveness.
d. W-T Strategy: Focuses on defensive strategies by minimizing the company's weaknesses in order to avoid the impact of existing threats.

In addition to SWOT analysis, to formulate a development strategy, Internal Factor Evaluation (IFE) and External Factor Evaluation (EFE) analysis are also required. IFE and EFE analysis are strategic tools used to evaluate internal and external factors that affect a business or organization. IFE analysis focuses on identifying and assessing internal strengths and weaknesses, which include aspects of human resources, finance, operations, marketing, and innovation. By understanding these factors, organizations can determine the extent to which they can leverage internal advantages and overcome existing weaknesses. Meanwhile, EFE analysis is used to evaluate opportunities and threats from the external environment, such as market trends, government regulations, industry competition, and social and economic conditions (Sulasih, 2019). These two analyses are carried out by giving weights and scores to each factor to produce a total value that reflects the organization's strategic position. In the IFE and EFE analysis, the total score obtained is used to determine the organization's strategic position based on certain categories. This score is obtained by adding up the values of the factors analyzed, where each factor has a weight and score based on its level of influence on the organization (Putri et al., 2023). In general, the IFE and EFE score categories can be interpreted as follows:

a. Score ≤ 1.99, meaning that the organization/cooperative has more weaknesses (IFE) or more threats (EFE) than positive factors. In this case, the cooperative needs improvement in internal aspects or strategies to deal with the external environment.
b. A score of 2.00 - 2.99, meaning that the organization/cooperative has strengths balanced with weaknesses (IFE) or opportunities balanced with threats (EFE). In this case, the cooperative's strategy should focus on increasing strengths and optimizing opportunities.
c. A score ≥ 3.00, meaning that the organization/cooperative has more strengths than weaknesses (IFE) or more opportunities than threats (EFE). In this case, the cooperative can be more aggressive in developing business and utilizing its advantages.

After knowing the internal and external factors through IFE and EFE analysis, the next step is to determine the most appropriate strategy to implement. However, selecting the optimal strategy requires a more objective and quantitative approach. Therefore, the Quantitative Strategic Planning Matrix (QSPM) is used, which allows the determination of strategies based on their relative attractiveness to the strategic factors that have been identified." QSPM analysis is a quantitative method used to determine the most optimal strategy based on internal and external factors that have been identified through SWOT, IFE, and EFE analysis. QSPM enables more objective strategic planning by assigning quantitative values to the strategic alternatives under consideration. This

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Vol 9 (3): 755 - 771, November 2025

analysis process begins by identifying strategic factors that affect business development, then determining relevant strategic alternatives. Furthermore, the strategic factor weights determined in the IFE and EFE analysis are used as the basis for assessing the attractiveness of each strategy by providing an Attractiveness Score (AS) on a scale of 1-4. The calculation is done by multiplying the factor weights by the attractiveness score, resulting in a Total Attractiveness Score (TAS) for each strategy. The strategy with the highest total score is considered the most attractive strategy and has the greatest opportunity to be implemented (Zulkarnain et al., 2018). With a systematic and quantitative-based approach, QSPM analysis can assist decision makers in selecting the most effective strategies to achieve sustainable business goals.

RESULTS AND DISCUSSION

Value-Added Analysis with the Hayami Method

Value-added analysis in hanjeli processing business is carried out for one production cycle. This approach is in accordance with the opinion of Hayami et al. (1987) which states that the calculation of added value in the processing of agricultural products can be done simply by calculating the added value per kilogram of raw materials in one production cycle. With this method, the value added analysis is based on the value of raw materials and other inputs. Based on this principle, the calculation of added value in hanjeli processing business can be presented in Table 2.

Table 2. Results of Value-Added Analysis

Variables	Value
I. Output, Input, and Price	
1. Output (Kg)/production process	46.00
2. Input (Kg)/production process	100.00
3. Labor (HOK)/production process	5.00
4. Conversion Factor	0.46
5. Labor Coefficient (HOK)	0.05
6. Output Price (Rp/kg)	Rp25.000
7. Direct Labor Wages (RP/Hok)	Rp75.000
Variables	Value
II. Revenue and Profit	
8. Raw Material Price (Rp/Kg)	Rp7.000
9. Other Input Contribution (Rp/Kg)	Rp1.500
10. Output Value (Rp/kg)	Rp25.000
11. a. Value Added (Rp/Kg)	Rp16.500
b. Value-Added Ratio (%)	66.00%
12. a. Direct Labor Income (Rp/Kg)	Rp3.750
b. Labor Share (%)	22.73%
13. a. Profit (Rp/Kg)	Rp12.750
b. Profit Rate (%)	77.27%
III. Returns to Owners of Factors of Production	
14. Margin (Rp/Kg)	Rp18.000
a. Direct Labor Income (%)	20.83%
b. Other Input Contribution (%)	8.33%
c. Business Owner's Profit	70.83%

Source: Processed data, 2025

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http://ejournal2.undip.ac.id/index.php/agrisocionomics
Vol 9 (3): 755 - 771, November 2025

Based on Table 2, the added value of hanjeli at Pantastik Cooperative reached Rp16,500/kg, with a value-added ratio of 66.00%, indicating that a significant portion of the product's final value originates from processing activities rather than raw materials. This ratio is relatively high when compared to small-scale agroindustry studies of other local grains. For instance, Handayani et al. (2018) found that the value-added ratio for corn-based products in a home industry setting was above 40%, while Indriani (2014) reported similar figures for small-scale corn agroindustries. Compared to these benchmarks, the hanjeli processing at Pantastik demonstrates a higher efficiency in capturing economic value through processing. It is important to note that this calculation only includes basic processed forms, namely hanjeli rice and flour. However, qualitative findings suggest opportunities for further value creation through product diversification into items such as hanjeli cookies, instant porridge, or traditional snacks. With improved packaging, branding, and market access, these products could yield 20–40% more in added value, depending on consumer demand and production scale. This indicates a promising potential for increasing farmer and cooperative income through downstream processing innovation.

From the perspective of income distribution theory Todaro & Smith (2020), the analysis shows that direct labor income in the hanjeli production process reaches Rp3,750/kg, equivalent to 22.73% of the added value, while the business owner's profit reaches Rp12,750/kg or 77.27%. Although this shows that hanjeli processing provides income opportunities for labor, the profit share for owners remains dominant. In the context of micro and small enterprises (MSMEs), this distribution is not uncommon, as owners often bear capital, risk, and managerial responsibility. However, when viewed through the lens of labor equity and cooperative ethics, such a wide profit gap may raise concerns. Cooperatives are ideally expected to distribute economic benefits more equitably among their members, especially those involved in daily operations. The financial performance of a cooperative plays a crucial role in this regard, as profitability ratios have been shown to have a significant positive impact on the increase of economic benefits experienced by members. In other words, cooperatives that are well-managed financially tend to be more capable of distributing economic benefits fairly to their members (Susanti, 2016).

According to ILO cooperative principles, profits should be distributed based on members' active participation, not solely on capital ownership. However, in practice, income distribution often remains unbalanced. A study in the agroforestry MSME sector in Tasikmalaya found that the contribution of non-timber forest products (NTFPs) to farmers' total income was higher than that of timber, yet the development of NTFPs remained suboptimal due to limited technology transfer and the lack of standard operating procedures (Diniyati & Achmad, 2016). This finding reflects the untapped potential for more equitable profit sharing similar to the case of Pantastik Cooperative, where profit shares are still largely dominated by the business owner. Therefore, the value added distribution pattern in such cooperatives suggests room for improvement in achieving fairer benefit sharing. As the cooperative continues to grow, implementing schemes such as profit-sharing bonuses, performance based incentives, or labor dividends could enhance workers welfare without disregarding the returns to entrepreneurial risk and capital. This approach would better align with cooperative values and support the development of a more sustainable and inclusive agribusiness.

The profit margin of the hanjeli business, which reached Rp18,000/kg, indicates that this industry has promising economic prospects. The distribution of profit margins showed that direct labor income contributed 20.83%, other inputs contributed 8.33%, and the business owner's profit

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http://ejournal2.undip.ac.id/index.php/agrisocionomics
Vol 9 (3): 755 - 771, November 2025

reached 70.83%. While this reflects the measurable contribution of labor, the dominance of business owners' profits highlights the need to improve production efficiency and develop innovative hanjeli-based products to support a more equitable profit-sharing system. The following pie chart illustrates the distribution of profit margins per kg of hanjeli products. This visualization clarifies the distribution inequality and serves as the basis for the argument for the need for production efficiency and product innovation to support a more equitable distribution of benefits.

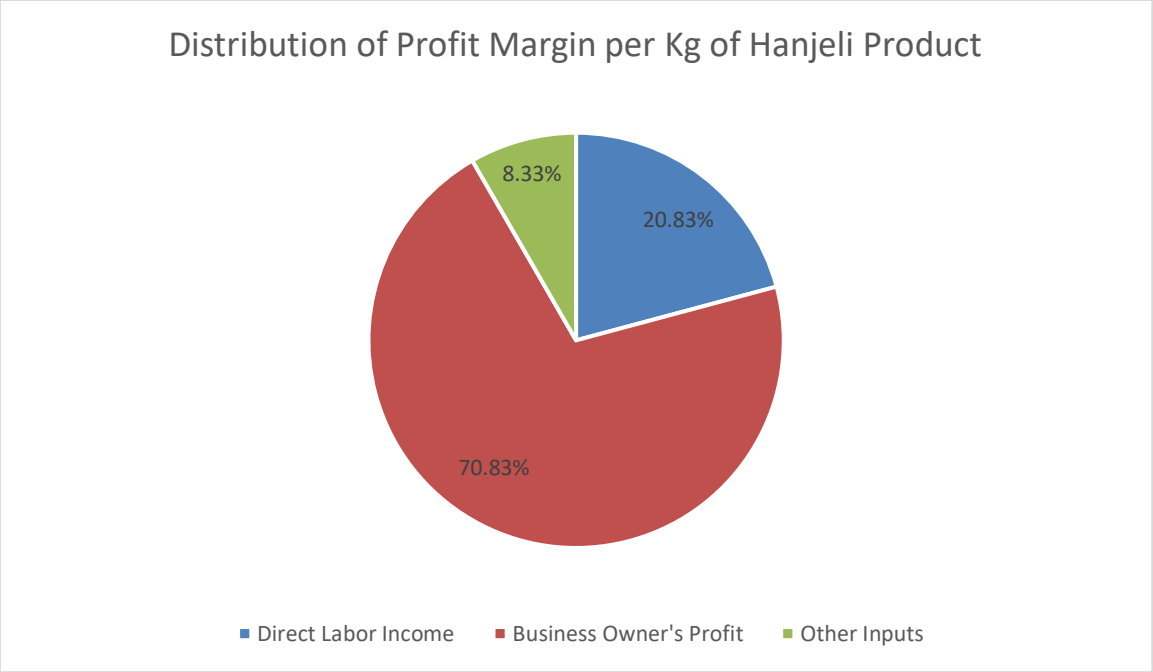

Figure 1. Distribution of Profit Margin
Source: Processed Data, 2025

The sustainability of hanjeli businesses can be further improved through diversification of other processed products, such as hanjeli cereals and chips, which have not been covered in this analysis. Through these innovations, the added value of hanjeli products can further increase, expand market reach, and strengthen competitiveness in the agribusiness sector. Thus, the value-added analysis of hanjeli in Pantastik Cooperative not only shows strong economic potential, but also aligns with agricultural economic theory, particularly in the areas of value-added, income distribution and farming efficiency.

SWOT Analysis: Identification of Internal and External Factors

In the development of hanjeli agribusiness at Pantastik Cooperative, Wado, Sumedang, SWOT analysis is an important foundation in formulating the right strategy. Hanjeli has great potential as an alternative food source that is rich in nutrients, but its development still faces various challenges. Therefore, the strategy designed must be able to capitalize on existing strengths and opportunities while overcoming weaknesses and threats that could hinder the development of this business. In this analysis, internal factors such as production capacity, product quality, and operational efficiency are evaluated in depth to understand the advantages as well as aspects that need to be improved. Meanwhile, external factors such as market trends, government policies, and

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http://ejournal2.undip.ac.id/index.php/agrisocionomics
Vol 9 (3): 755 - 771, November 2025

consumer preferences are also taken into account to make the resulting strategies more adaptive and relevant. With this approach, it is expected that the cooperative can optimize the potential of hanjeli as a competitive superior commodity. The SWOT analysis of Pantastik Cooperative is depicted in Table 3.

Table 3. SWOT Analysis Results

Internals / Externals	**Strength Factor (S)** 1. Unique hanjeli products 2. Business legality complete 3. Production facilities that complete 4. Extensive marketing network 5. High profit margin	**Weakness Factor (W)** 1. Limited number of workers 2. Lack of digital promotion 3. Raw material limitation and agricultural land 4. Limited business capital
Opportunity Factor (O) 1. Healthy food trends increased 2. Government support for local food MSMEs 3. Strengthening of the national market through expansion into markets modern **Opportunity Factor (O)** 4. Increased production with partnerships 5. Innovation development products	**SO Strategy** 1. Improve promotion and hanjeli benefits education 2. Capitalize on trends healthy food with branding hanjeli as local superfoods 3. Expanding cooperation with the government and supporting instituions MSME	**WO Strategy** 1. Apply for capital assistance 2. Increase the number of labor 3. Developing marketing digital
Threat Factor (T) 1. Competition with products other food 2. Raw material price fluctuations and operational 3. Dependence on raw material supply 4. Lack of awareness society about hanjelu	**ST Strategy** 1. Strengthen partnerships with hanjeli farmers 2. Maintain excellence products 3. Improve efficiency production to reduce operating costs	**WT Strategy** 1. Increase innovation hanjeli-based 2. Improve education internal and training labor 3. Establish partnerships with distributor

Source: Processed data (2025)

SO Strategy

The SO strategy is focused on utilizing internal strengths to seize available opportunities. In this case, hanjeli has high nutritional value and can be processed into various economically valuable food products. To improve its competitiveness, the following steps need to be taken:

1. Increase promotion and education of the benefits of hanjeli through digital media, health campaigns, and branding hanjeli as a local superfood. With the increasing trend of healthy

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Vol 9 (3): 755 - 771, November 2025

food, this promotion can attract the attention of consumers who are aware of the importance of a healthy diet.
2. Capitalize on the healthy food trend by developing innovative hanjeli product variants, such as cereals, hanjeli milk, or other processed products that suit market tastes.
3. Expand marketing networks by utilizing government support and MSME support institutions, such as partnership programs and promotional assistance to reach a wider market.

WO Strategy

This strategy is designed to overcome internal weaknesses by capitalizing on available opportunities. Some of the main challenges in developing the hanjeli business are limited capital, a limited number of workers, and suboptimal marketing. To overcome these challenges, the following steps can be taken:

1. Apply for business capital assistance to the government, cooperatives, or financial institutions to accelerate business development and increase the scale of hanjeli production.
2. Increase the number of workers by recruiting and training farmers and hanjeli production personnel to make the cultivation and processing process more efficient and of higher quality.
3. Develop digital marketing through social media, e-commerce, and customized websites to reach more consumers.

ST Strategy

The ST strategy is used to deal with external threats by utilizing internal strengths. Competition with other food products and fluctuations in raw material prices are the main challenges in the development of hanjeli. Therefore, strategies that can be applied include:

1. Strengthen partnerships with hanjeli farmers to ensure stable raw material availability and reduce dependence on external supplies.
2. Maintain product excellence with quality standardization, organic certification, and diversification of hanjeli-based products to be more competitive in the market, especially in the face of competition with other food products.
3. Improve production efficiency with the application of modern agricultural technology, such as the use of more efficient hanjeli processing machines.

WT Strategy

The WT strategy focuses on minimizing internal weaknesses and avoiding external threats that can hinder the development of the hanjeli business. Additionally, optimizing production efficiency and adopting adaptive marketing strategies can help the cooperative navigate external challenges more effectively. These efforts aim to ensure the long-term sustainability and competitiveness of the hanjeli business. Some strategic steps that can be implemented are:

1. Increase hanjeli-based product innovation, for example by creating processed products that have added value, such as hanjeli noodles, hanjeli biscuits or hanjeli-based drinks.
2. Improve internal education and labor training to become more skilled in hanjeli cultivation, processing and marketing, thereby increasing product competitiveness.

ISSN 2580-0566; E-ISSN 2621-9778
http://ejournal2.undip.ac.id/index.php/agrisocionomics
Vol 9 (3): 755 - 771, November 2025

3. Establish partnerships with distributors and modern retailers, both at the local and national levels, to expand market access and increase distribution of hanjeli products to various regions.

Evaluation of Internal and External Factors with IFE and EFE

After conducting a SWOT analysis to identify internal and external factors affecting hanjeli business development, the next step is to conduct a quantitative evaluation of these factors. This evaluation was conducted using the IFE and EFE Matrices to measure how much influence each factor has on the sustainability of the hanjeli business. The IFE Matrix is used to assess the cooperative's internal strengths and weaknesses, while the EFE Matrix is used to evaluate opportunities and threats from the external environment. Each factor is given a weight based on its importance and a rating based on the cooperative's effectiveness in managing the factor. The weighted scores from these matrices are then summed to determine the overall internal and external strategic position of the cooperative. A higher IFE score indicates strong internal capabilities, whereas a lower score suggests areas that require improvement. Similarly, a high EFE score reflects the cooperative's ability to capitalize on external opportunities and mitigate threats effectively. These results serve as the foundation for formulating appropriate business strategies that enhance the sustainability of hanjeli cultivation. The next stage involves mapping these scores onto the IE Matrix to categorize the cooperative's strategic position and guide decision-making. The results of the IFE and EFE are depicted in Table 4 and Table 5.

Table 4. IFE Matrix

Internal Factors	Weight	Rating	Score
Strengths (S)			
Unique hanjeli products with functional value	0.15	4.00	0.60
Complete business legality	0.10	3.00	0.30
Production facilities are adequate	0.08	3.00	0.24
Extensive marketing network	0.12	3.00	0.36
High profit margin from processed products	0.10	4.00	0.40
Weaknesses (W)			
Limited business capital for expancion	0.12	2.00	0.24
The number of workers is still limited	0.08	2.00	0.16
Lack of digital promotion and product branding	0.10	2.00	0.20
Limited raw materials for hanjeli	0.15	1.00	0.15
Total IFE Score	**1.00**		**2.65**

Source: Processed data, 2025

Description:

a. Weights are given based on the importance of each factor in influencing the hanjeli business, totaling 1.00.
b. Ratings are given on a scale of 1-4 based on the level of influence (1 = very weak, 4 = very strong).
c. The score is obtained from the weight × rating.5

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Vol 9 (3): 755 - 771, November 2025

Based on Table 4, the total IFE matrix score of 2.65 for the Pantastik Cooperative indicates that the internal strengths of the hanjeli agribusiness are more dominant than its weaknesses. In general, cooperatives tend to have relatively low competitiveness. However, there are several key challenges that need to be addressed, particularly those related to capital, labor, and the availability of raw materials. This condition is in line with the findings of Husna (2018), who revealed that in coffee processing industries involving cooperatives, suboptimal supply chain management and raw material availability posed serious obstacles to maintaining production continuity. Furthermore, the study by Utami et al. (2020) on the Tirto Kencono Cooperative shows that government assistance in the form of equipment can improve efficiency and profitability. This confirms the importance of capital access and external support in enhancing cooperative competitiveness. Thus, the challenges faced by the Pantastik Cooperative in developing the hanjeli agribusiness are similar to common issues encountered by other agribusiness cooperatives.

Therefore, strategic changes in governance, capital strengthening, and operational optimization are needed to ensure the sustainability and growth of cooperatives. Recommended strategies include increasing raw material availability through partnerships with farmers, developing digital marketing to expand product reach, and applying for capital access to boost production capacity. Improving human resources through training is also essential for management efficiency and innovation. In addition, active member engagement can strengthen a sense of ownership and commitment. Implementing sustainable agricultural practices is also necessary to enhance resource efficiency and environmental resilience. Furthermore, leveraging technology and data-driven decision-making can optimize operational processes and improve responsiveness to market changes. Building strong networks with stakeholders, including government agencies and private sectors, will provide additional support and resources. These integrated efforts will help cooperatives remain competitive amid market dynamics and contribute to long-term community development.

Table 5. EFE Matrix

External Factors	Weight	Rating	Score
Opportunities (O)			
Healthy food trend on the rise	0.18	4.00	0.72
Government support for local food MSMEs	0.12	3.00	0.36
Strengthening the national market through expansion into modern markets	0.10	3.00	0.30
Increased demand for low-gluten foods	0.15	4.00	0.60
Partnership opportunities with hanjeli farmers	0.10	3.00	0.30
Threats (T)			
Competition with other food products	0.10	2.00	0.20
Fluctuations in hanjeli raw material prices	0.08	2.00	0.16
Lack of public awareness about the benefits of hanjeli	0.12	2.00	0.24
Total EFE Score	**1.00**		**2.88**

Source: Processed data, 2025

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Vol 9 (3): 755 - 771, November 2025

Description:

a. Weights are given based on the importance of each factor in influencing the hanjeli business, totaling 1.00.
b. Ratings are given on a scale of 1-4 based on the level of influence (1 = very weak, 4 = very strong).
c. The score is obtained from the weight × rating.

Based on Table 5, the total EFE score of 2.88 indicates that external opportunities outweigh threats, meaning that the hanjeli business has potential for growth if the right strategies are implemented. This condition aligns with a study in Bebandem District, Bali, which showed that despite challenges such as poverty, the development of local agriculture with high and stable market value can create significant opportunities if managed with an integrated and sustainable strategic approach (Siti et al., 2011). Furthermore, the development of local products such as turmeric has proven that appropriate innovation and technology can enhance the economic value for the community. A study in Muaro Jambi by Lestari et al., (2022) demonstrated that training and assistance to turmeric farmers in processing technology successfully increased the added value of the product, confirming that external opportunities can be maximized through the application of innovative strategies. Thus, hanjeli as a local commodity can leverage these opportunities through appropriate strategies, including product development, technological innovation, and sustainable approaches to support growth and competitiveness in the market.

Recommended strategies to capitalize on these opportunities include leveraging healthy food trends and digital promotions to raise consumer awareness, optimizing support from the government and MSME programs, and establishing partnerships with farmers to stabilize raw material supply. Consistent with research by John et al. (2020), digital marketing has been proven effective in increasing consumer participation and sales in farmers' markets, particularly among economically disadvantaged groups. Therefore, implementing digital strategies is expected to expand market reach and enhance the competitiveness of hanjeli products in the food industry. In addition, collaboration with influencers or health communities can further strengthen brand positioning. These efforts will also help build consumer trust in local functional food products like hanjeli. Engaging consumers through interactive platforms and health education campaigns can deepen awareness and appreciation of hanjeli's nutritional benefits. Moreover, leveraging feedback mechanisms allows producers to continuously improve product quality and respond to market demands effectively.

Optimal Strategy Selection with QSPM

The results of the analysis using the QSPM Matrix show the selection and prioritization of strategies based on internal and external factors that have been previously analyzed through the IFE and EFE Matrices. The QSPM Matrix helps in evaluating various alternative strategies by giving weight to critical factors that affect the success of the company. The results of the QSPM Matrix are attached in Table 6. These strategic priorities serve as a foundation for determining the most effective direction in business development. By quantifying the attractiveness of each strategy, decision-makers are better equipped to allocate resources efficiently. The highest-rated strategy reflects the alignment between organizational strengths and emerging opportunities.

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http://ejournal2.undip.ac.id/index.php/agrisocionomics
Vol 9 (3): 755 - 771, November 2025

Table 6. QSPM Matrix

Strategic Factors	Weight	S1	TAS (S1)	S2	TAS (S2)	S3	TAS (S3)	S4	TAS (S4)
Strengths (S)									
Unique hanjeli products with functional value	0.15	4.00	0.60	3.00	0.45	2.00	0.30	3.00	0.45
Complete business legality	0.10	3.00	0.30	2.00	0.20	4.00	0.40	3.00	0.30
Production facilities are adequate	0.08	3.00	0.24	2.00	0.16	4.00	0.32	3.00	0.24
Extensive marketing network	0.12	2.00	0.24	4.00	0.48	3.00	0.36	3.00	0.36
High profit margin	0.10	3.00	0.30	4.00	0.40	2.00	0.20	3.00	0.30
Weaknesses (W)									
Limited business capital for expansion	0.12	3.00	0.36	2.00	0.24	4.00	0.48	2.00	0.24
The number of workers is still limited	0.08	2.00	0.16	3.00	0.24	2.00	0.16	3.00	0.24
Lack of digital promotion and branding	0.10	2.00	0.20	4.00	0.40	3.00	0.30	2.00	0.20
Limited hanjeli raw materials	0.15	4.00	0.60	2.00	0.30	3.00	0.45	3.00	0.45
Opportunities (O)									
Healthy food trend on the rise	0.18	3.00	0.54	4.00	0.72	2.00	0.36	4.00	0.72
Government support for MSMEs	0.12	3.00	0.36	2.00	0.24	4.00	0.48	4.00	0.48
Strengthening the national market through expansion into modern markets	0.10	2.00	0.20	3.00	0.30	3.00	0.30	4.00	0.40
Increased demand for low-gluten foods	0.15	3.00	0.45	4.00	0.60	2.00	0.30	4.00	0.60
Partnership opportunities with farmers	0.10	4.00	0.40	2.00	0.20	3.00	0.30	3.00	0.30
Threats (T)									
Competition with other food products	0.10	3.00	0.30	3.00	0.30	2.00	0.20	3.00	0.30
Fluctuations in hanjeli raw material prices	0.08	3.00	0.24	2.00	0.16	3.00	0.24	3.00	0.24
Lack of public awareness	0.12	2.00	0.24	4.00	0.48	2.00	0.24	3.00	0.36
Total TAS Score	1.00	5.29		5.59		4.63		5.68	

Source: Processed data, 2025

Description

S1: Develop farmer partnerships to improve raw material supply.

S2: Expand digital marketing to increase public awareness of hanjeli.

S3: Accessing capital for production and marketing expansion.

S4: Capitalize on healthy food trends and government support for national market strengthening.

Based on the QSPM analysis in Table 6, Strategy S4, which leverages the healthy food trend and government support to strengthen the national market, received the highest attractiveness score of 5.68, indicating a strategic advantage over other alternatives. This strategy is crucial to focus on as it directly addresses two main opportunities identified in the external analysis: the increasing public awareness and demand for nutritious local foods, and the growing policy attention towards food diversification and the development of local commodities.

ISSN 2580-0566; E-ISSN 2621-9778
http://ejournal2.undip.ac.id/index.php/agrisocionomics
Vol 9 (3): 755 - 771, November 2025

This is in line with the findings of Sundari & Sandriya (2024), who emphasize the importance of diversifying local products as an effort to improve community nutrition while supporting the local economy, facilitated by government initiatives for sustainable development. Furthermore, the study by Purwanti et al. (2024) on the industrialization of a functional food diversification prototype shows that government support in developing healthy local foods can enhance national market competitiveness while promoting a green economy. Thus, Strategy S4 is not only theoretically relevant but also empirically supported by evidence of the successful synergy between healthy food trends, local food diversification, and active government roles in strengthening the national market.

The researcher argues that the urgency of promoting hanjeli through strategy S4 lies in hanjeli's potential as a functional food rich in fiber and micronutrients, which matches current consumer preferences for healthy and natural products. By positioning hanjeli as a nutritious local alternative, cooperatives can open wider market access while contributing to the achievement of national food security goals. Expected government support in strengthening the national market includes:

a. Inclusion of hanjeli in food diversification programs managed by the Ministry of Agriculture or Food Security Agency;
b. Subsidies or assistance facilities for modern processing equipment and packaging through MSME support schemes;
c. Promotion of hanjeli products in government procurement programs such as social assistance packages, school meal programs, or institutional catering such as correctional institutions and hospitals;
d. Assistance in the certification process, such as P-IRT or halal certification, to increase product legitimacy and consumer confidence;
e. Support for participation in national or international food exhibitions to expand market exposure.

As an implementation example, the Ministry of Agriculture can work with Pantastik Cooperative to include hanjeli in the “Local Food Diversification Movement,” which is then supported with grant assistance for packaging improvement and ease of access through e-catalog platform for government procurement. Although internal challenges remain, such as constraints in capital, labor, and marketing, focusing on strategy S4 can indirectly help to overcome these obstacles. Government subsidies and MSME support programs can alleviate capital shortages by providing funding and access to modern processing technologies. Additionally, capacity-building initiatives and training supported by the government can address labor skill gaps, increasing productivity and efficiency within hanjeli cooperatives. In terms of marketing, integrating hanjeli into government procurement and certification programs not only legitimizes the products but also expands market access beyond conventional channels, complementing digital marketing efforts under strategy S2. Because strategy S4 scored the highest in the QSPM, this indicates that it has the potential for greater impact and sustainability than other strategies such as S2 (digital marketing). Therefore, strategy S4 needs to be studied and developed in more depth as the main strategy in advancing hanjeli as a sustainable agribusiness commodity.

ISSN 2580-0566; E-ISSN 2621-9778
http://ejournal2.undip.ac.id/index.php/agrisocionomics
Vol 9 (3): 755 - 771, November 2025

CONCLUSIONS AND SUGGESTIONS

This study confirms that hanjeli processing at Pantastik Cooperative significantly enhances economic value, with a value-added ratio of 66.00%, demonstrating the crucial role of processing in profitability. While internal strengths and external opportunities like growing health trends and government support provide a strong foundation, persistent challenges in capital, labor, and marketing threaten long-term sustainability. Beyond economic gains, these dynamics highlight hanjeli's potential to contribute to broader goals such as food security and rural development. Therefore, realizing hanjeli's full potential requires not only business growth but also systemic support addressing resource and market barriers.

Policymakers must prioritize creating enabling environments through improved access to finance, infrastructure, and capacity-building tailored for cooperatives. Practitioners should innovate in product development and digital marketing while optimizing supply chains to capture emerging market segments. Crucially, integrating sustainability metrics and market diversification strategies will safeguard hanjeli's resilience against future economic and environmental uncertainties. Forward-looking research and policies should thus focus on holistic value chain strengthening, positioning hanjeli as a competitive and sustainable agribusiness on national and global stages.

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