

# Formulating Strategies for Improving the Competitiveness of Cajuput Small Industry in Buru Regency's (A Case Study)

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**Abstract**—This study aimed to determine the best strategy for increasing the competitiveness of cajuput small industries in the Buru Regency. The data was received from observation, interview, discussion, library study, and from related stakeholders in Buru Regency. The data were analyzed based on IFE matrix, IE matrix, IE Matrix, and AHP Method. The results of this study indicated that 23 internal factors and 19 external factors affected the cajuput small industry in Buru Regency. Adulteration cajuput oil and unprofitable contract of cajuput land were the main threat of cajuput small industries, while limited marketing, promotion, entrepreneurial skills, and lack of managerial capabilities were the major weaknesses of the industry. Based on the IE matrix, the position of the cajuput oil industry was in the hold and maintain, as well as the market penetration and product development can be applied as the intensive strategies. The recommended strategies to improve the competitiveness of the cajuput small industry in Buru Regency were: perceiving and maintaining the quality of the cajuput oil which related to the market, creating a brand and brand awareness for cajuput product, and investing in the scaling-up of distillation equipment

**Keywords**—competitiveness, cajuput small industry, cajuput oil, Buru Regency, strategies

## I. INTRODUCTION

Cajuput oil has been applied as a topical oil to prevent cold, flatulence, and nausea in Indonesia [1] [2]. It also has been regulated by the Indonesia National Agency of Drug and Food Control (NADF) as a low-risk essential oil and traditional medicine [2]. According to [3], cajuput oil contains 1.8 cineole which has potential benefits as the active compound to inhibit bacterial activity. Therefore, it also used globally as a key ingredient and an active compound on nutraceutical (nutrition/food/flavor and pharmaceutical) products, such as balm, baby oil, and candy [4].

As one of the main essential oil from Indonesia, cajuput oil has an emerging opportunity. It is not only required by the huge market in Indonesia, but also by the global market. Moreover, the total demand in Indonesia grows annually [5]. [6] Noted that about 1.500 tons of cajuput oil is inquired by the pharmaceutical industry in Indonesia and it is applied for some products, such as cajuput topical oil and the baby oil. Instead of that, the total output from all industry in Indonesia has not been met to the total demand yet. Based on [5], the total output of cajuput oil in Indonesia is  $\pm$  650 tons, in detail: 350 tons from Java Island and 300 tons from Maluku Island, where both of them are the center of cajuput industry. Driven the condition, the pharmaceutical industry imported

eucalyptus oil for completing the requirement. According to the statistical data of the Trade Ministry, over 1000 MT eucalyptus oil was imported by Indonesia.

The main producer of cajuput oil in Indonesia consists of two industries: a large-scale industry and a small-scale industry or the cottage industry. The large industry operates extensively in Java Island, where the cajuput plant is cultivated. Meanwhile, the small industry grows permanently in Maluku Island, includes Buru Regency, where the raw material is collected from the cajuput forest [5, 7]. [5] Mentioned that the difference between both industries was related to the size of their distillation equipment. The large industry had 1-1.5 ton of the distillation capacity, while the small one had 150-500 kg of the size.

Buru regency, a part of Maluku Island, is the largest cajuput forest in Indonesia. Approximately, the total area of cajuput forest in Buru Regency is 120,000 acres or 48% of the total cajuput forest in Indonesia [6] [8]. Cajuput Industries existed in the region are dominated by the small-scale industry and they have been producing cajuput oil since the colonial era [7]. They also have been playing an important role to serve employment in Buru Regency and to equip the cajuput oil for all users in Indonesia. Despite the numerous raw material in the Buru district, the total output of the industry is lower than the industry in Java Island. Some obstacles faced by the industry are low quality of cajuput plant and oil, traditional and small-scale distillation equipment, less of the distillation yield and productivity, lack of marketing, managerial, and ITC knowledge [4],[5],[9]. The problem indicates that the competitiveness of the cajuput small industry was poor and the industry should fight for the challenge. To fulfill it, the industry should be supported by some competitive factors, such as the qualified skills, infrastructure, capital, innovation, technological mastery, entrepreneurial spirit, and other business strategies [10]. Thus, it can maintain its sustainability and provide its optimal benefit. However, these factors are relatively scarce in small and medium-scale industries (SMI) or micro small and medium enterprises (MSMEs) in Indonesia, including the small-scale cajuput industry in Buru Regency. Therefore, the appropriated strategies and the involvement of relevant stakeholders are needed to develop the competitiveness. The purpose of this study was to determine the best strategy for improving the competitiveness of cajuput small industry in Buru Regency.

## II. METHODS

### A. Data Collection

The main location of this research was in Buru Regency, Maluku Province, precisely in the Districts of Namlea, Waeapo, Lillialy, and Waplau. The study started from April to September 2019. The main data in this research was primary and secondary data. Primary data was collected by interview, field observation, and discussion with relevant stakeholders which consist of 10 owners of small-scale industry, 12 distillers, 4 collectors, 1 extension workers, and 3 traders emerge as the owner of a large scale industry, the head of regional owned enterprises (BUMD Gelan of Buru Regency), the owner of the pharmaceutical industry, as well as, the staff of Department of Industry and Trade, Forest Management Unit (KPH) Waeapo, and Regional Development Planning Agency of Buru Regency. Meanwhile, the secondary data was accessed from literature, the Department of Industry and Trade, The Central Bureau of Statistics, and Environmental Service. All the respondents were determined purposively and by snowball sampling.

### B. Procedural Analysis

The strategy to increase the competitiveness of cajuput small-scale industries was formulated in three stages: the stage of industrial environment analysis, the matching stage, and the decision stage. The industrial environment has consisted of internal and external factors, which described and evaluated in an internal factor evaluation (IFE) and an external factor evaluation (EFE) matrix. The assessment of those factors used a scale between 1 and 4 [11], while the calculation of the score of each external and internal factor followed [12]. In the matching stage, the total score of internal and external factors is met on the internal-external (IE) matrix for to get the industrial position and the reference of the alternative strategies. Then, the alternative strategies were evaluated by five experts using a Saaty scale of 1-9, and based on two criteria: cost (level of effort) and benefit (effectiveness). Furthermore, the evaluated values were processed using the AHP template on Microsoft Excel 2013, developed by [13].

## III. RESULT AND DISCUSSION

### A. External and Internal Strategic Analysis

#### 1) External Strategic Analysis

The key external factors effected to cajuput small-scale industry consisted of 6 opportunities and 13 threats (Table I). The major opportunities of it were: the demand for cajuput oil increase annually (O2) and the growing market of cajuput oil as souvenirs in the Maluku region (O1). Based on the results of the interview with the traders in Buru Regency, cajuput oil as a souvenir has a high potential market related to the rise of the traveling trend. However, it needs the market penetration. Then, the main threats of the industry were: adulteration of cajuput oil (T7) and unprofitable contract of cajuput land (T12). All of them have a score of 0.032 and a rating of 1.200. According to [9], adulteration of cajuput oil is done by mixing cajuput oil with certain liquids, such as kerosene and turpentine. It is due to the cajuput distiller and some of the owners need to get high profits and income. Nonetheless, it has not engaged with market preference and demand.

The land contract in Buru regency has been continued since the colonial era. [7] Argued that the contract has not

profited for the landowners or the small-scale industry, due to the type of the contract was an informal contract and the system of the contract was unilaterally beneficial. Hence, the landowners have been depended on the bonded system and capital from the collectors.

TABLE I. EXTERNAL ANALISYS SUMMARY

No	Opportunities/ Threats Factors			
	Opportunities	Weight	Rating	Score
O1	The growing market of cajuput oil as souvenirs in Maluku region	0.084	3.800	0.319
O2	Annual demand of cajuput oil	0.088	4.000	0.354
O3	Aromatherapy market in Indonesia	0.080	3.600	0.287
O4	Trend of online business in Indonesia	0.075	3.400	0.256
O5	Geographic index for cajuput oil from Buru Regency	0.075	3.400	0.256
O6	Export opportunity	0.075	3.400	0.256
	<b>Threats</b>	<b>Weight</b>	<b>Rating</b>	<b>Score</b>
T1	Annual land fires	0.034	1.600	0.057
T2	Weeds and pests of cajuput tree	0.030	1.400	0.043
T3	Competition with cajuput oil from other Maluku regions	0.051	2.400	0.127
T4	Conversion cajuput field to a residential, plantation, and mining areas	0.038	1.800	0.072
T5	Low mental and ethos of distiller or worker	0.042	2.000	0.088
T6	Competition with large scale industry	0.034	1.600	0.057
T7	Adulteration of cajuput oil	0.025	1.200	0.032
T8	Competition of raw material	0.055	2.600	0.150
T9	Lack of institution for distiller	0.038	1.800	0.072
T10	Less support from the government	0.042	2.000	0.088
T11	Lack of accessed road to pick raw material	0.042	2.000	0.088
T12	Unprofitable contract of cajuput land	0.025	1.200	0.032
T13	High of distribution cost and wages of laborer	0.042	2.000	0.088
	<b>Total</b>	1.000		2.722

#### 2) Internal Strategic Analysis

The internal strategic factors of cajuput small industries consisted of 7 strengths and 16 weaknesses, which can be seen in Table II. The most strengths factors were: Buru regency as the largest cajuput forest in Indonesia (S1), cajuput tree grows naturally and endemically (S2), availability of water and fuel around the distillery site (S3), cajuput oil have been using in Maluku, as topical oil and hand deodorizer to remove the fishy odor (S4), cajuput oil have been using in pharmaceutical industry (S5), and each industry has their own cajuput forest (smallholder) (S7).

TABLE II. INTERNAL ANALYSIS SUMMARY

No	Strengths/weaknesses factors			
	Strengths	Weight	Rating	Score
S1	Buru regency as the largest cajuput forest in Indonesia	0.073	4.000	0.293
S2	Cajuput tree grows naturally and endemically	0.073	4.000	0.293
S3	Availability of water and fuel around the distillery site	0.073	4.000	0.293
S4	Cajuput oil have been using in Maluku as topical oil and hand deodorizer to remove the fishy odor	0.073	4.000	0.293
S5	A raw material of the pharmaceutical industry	0.073	4.000	0.293
S6	Cajuput oil from Buru island has its own uniqueness	0.066	3.600	0.237
S7	Each industry has its own cajuput forest (smallholder)	0.073	4.000	0.293
	<b>Weaknesses</b>	<b>Weight</b>	<b>Rating</b>	<b>Score</b>
W1	Traditional and small-scale distillation equipment	0.037	2.000	0.073
W2	The random quality of raw materials and cajuput oil	0.044	2.400	0.105
W3	Lack of managerial skills	0.022	1.200	0.026
W4	The low level of education of industrial owners and distillers	0.033	1.800	0.059
W5	Most distiller are above 40 years old	0.033	1.800	0.059
W6	Limited capital and the owner of the small industry cannot debt in the banks	0.029	1.600	0.047
W7	Dependence on capital from collector	0.029	1.600	0.047
W8	Lack of marketing, promotion, and entrepreneurial skills	0.022	1.200	0.026
W9	The specific gravity of cajuput oil as a price taker and as the main standard of cajuput quality in Maluku	0.026	1.400	0.036
W10	Lack of waste treatment	0.026	1.400	0.036
W11	Lack of value added and downstream skills	0.026	1.400	0.036
W12	Lack of ITC Knowledge	0.029	1.600	0.047
W13	Lack of the quality control	0.040	2.200	0.089
W14	Inadequate distribution and transportation facilities for harvesting raw materials and delivery product	0.033	1.800	0.059
W15	Low yield, while long production time	0.026	1.400	0.036
W16	Lack of packaging	0.040	2.200	0.089
<b>Total</b>		<b>1.000</b>		<b>2.867</b>

All of that has a rating of 4.000 and a score of 0.293. Meanwhile, the main weaknesses of the cajuput small-scale industry were: lack of managerial skills (W3) and lack of marketing, promotion, and entrepreneurial skills (W8). Both of them have a rating of 1.200 and a score of 0.026. Based on

field observation and interview, the limitation of the cajuput small industry due to the lack of education, less of knowledge and information of the owners or distiller, the industry run in the rural area with traditional equipment and self-entrepreneurial, limited business networks, and the weak role of the government in improving the skills of the cajuput business owner.

**B. Strategic Decision**

*1) The Strategic Position*

The total weighted score of the external and internal factors was verified through the IE matrix for obtaining the strategic position for the cajuput small-scale industry in Buru Regency. The result of it shown in Table 3. Based on Table 1 and 2, the total scores of external and internal factors respectively were: 2.722 and 2.867. Both of them were in V-quadrant and it revealed that the industrial position was in the hold and maintain. Related to the position, the recommended strategy which could be applied was market penetration and product development [11]. Market penetration is a strategy to increase the market share of a product or service in an existing market through intensive efforts [14]. Three main approaches can be taken in the market penetration, namely: encouraging customers to increase the buying quantity, attract competing customers, and convincing the new potential costumers [15]. According to [16], the marketing strategy of essential oil or aromatherapy products must consider several factors, including the quality and benefit, the attribute and functions of the product, such as natural and traditional medicine, and the acceptance of customers towards the product brand or brand awareness. The efforts can be supported by increasing product value, service innovation, business performance, innovative business models, and strong brand awareness. However, product development is an effort to create new products with improving the quality of the product for existing markets [14]. The strategies were driven by creating products with new features, improving product quality, and gathering research on the latest technology [15]. Related to industrial position and the referred strategies, 10 alternative strategies were created for improving the competitiveness of cajuput small industry. All of them shown in Table III

TABLE III. THE STRATEGIC POSITION

<i>The EFE Total Weighted Scores</i>				
	High 4.0-3.0	Medium 2.99-2.0	Low 1.99-1.0	
<i>The IFE Weighted Scores</i>	High 3.0-4.0	(I) <i>Grow and build</i>	(II) <i>Grow and build</i>	(III) <i>Hold and maintain</i>
	Medium 2.0 -2.99	(IV) <i>Grow and build</i>	(V) <i>Hold and maintain</i>	(VI) <i>Harvest and divest</i>
	Low 1.0-1.99	(VII) <i>Hold and maintain</i>	(VIII) <i>Harvest and dives</i>	(IX) <i>Harvest and divest</i>

*2) Alternative Strategic Decision by using AHP*

The prioritized strategy was chosen based on two criteria: cost and benefit. The cost criteria showed that the effort level of those alternative strategies, while the benefit criteria indicated that the effectiveness level of formulated strategy to increase the competitiveness of the cajuput oil small industry in Buru Regency. Then, the recommended strategies were the

strategies that have the high benefits and low-cost of their weights. All evaluated strategies could be seen in Table IV.

TABLE IV. THE STRATEGIC POSITION

No	Alternative Strategies	Benefit		Cost	
		Weight (%)	Rating	Weight (%)	Rating
I	Create a brand and brand awareness	10.24	7	8.14	8
II	Design a business model	11.24	4	9.12	6
III	Design an innovative and creative packaging	14.13	1	9.53	5
IV	Build marketing and distribution system	11.53	2	11.69	3
V	Improve and maintain the quality of cajuput oil, related to market preference	11.48	3	8.90	7
VI	develop the downstream product	6.59	9	11.40	4
VII	Invest in the scaling up of the distillation equipment	11.03	5	7.54	9
VIII	Promote with ads-social media and e-commerce	8.63	8	15.15	1
IX	Conduct direct selling and promotion	4.60	10	6.40	10
X	Join corporation and promotion with various distributors	10.53	6	12.12	2

All of the strategies were grouped to conceive the high benefits and the lowest cost (Fig. 1). Based on the Fig. 1, those strategies were in the cell of Q2 which consisted of improving and maintaining the quality of cajuput oil, related with market preference (V), investing in the scaling up of the distillation equipment (VII), and creating a brand and brand awareness for cajuput product (I).

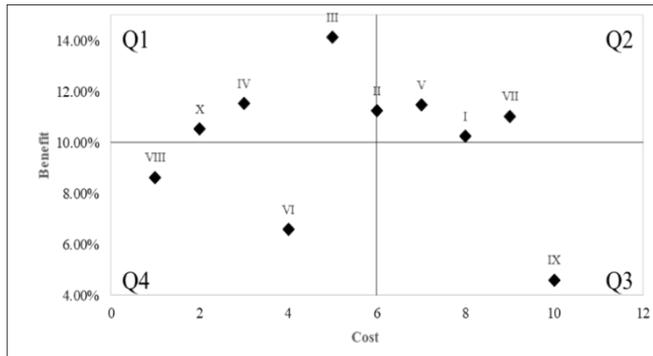


Fig. 1. The cluster of strategy

**IV. CONCLUSIONS**

This research concluded as follows: first, the key constrains of the cajuput small industry’s competitiveness were: adulteration of cajuput oil, unprofitable contract of cajuput land, as well as the lack of managerial, marketing, promotion, and entrepreneurial skills. Second, the

recommended strategies for increasing the competitiveness of cajuput small industry were: improve and maintain the quality of cajuput oil, related to market preference, invest in the scaling up of the distillation equipment, and create a brand and brand awareness.

The future work should be conducted, especially related to the competitiveness measurement, the performance of the industry and its supply chain.

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