Marketing Strategy Formulation on Rubber Plantation in Kampar District, Riau Province

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Abstract. Tambang district is one of the districts that produce natural rubber in Kampar regency. Marketing system of these rubber commodities in the district mines has not been well-organized, because it was still through an intermediary institution that is collecting merchants and large traders.The purpose of this research is to formulate a marketing strategy for the marketing of rubber can be more efficient, so there are improvements in the rubber marketing system and benefit the rubber farmers. Analysis of the data used in this researchuses a descriptive analysis of qualitative and stage strategies, which are matrix IFE and EFE, SWOT matrix and QSPM.The data retrieval process is done with observation and interviews. The results showed that there were 3 strengths and 6 weaknesses and on external factors there were 2 chances and 4 threats. From the results of IFE matrix and EFE obtained score of 3.2 and 3.34. The recommendation of the rubber marketing strategy gained from the QSPM analysis results in improving the quality of rubber sold by the application of standardization and grading to increase rubber prices, re-enable farmer group activities, Increasing the participation of farmer groups as a means of extension, education, introduction of fund technology access to capital.

Keywords: Rubber Marketing, Internal Factor, External Factor, SWOT Matrix, QSPM

1 Introduction

Rubber (Hevea Brasiliensis) is a plantation commodity that has a very close relationship with human needs. Rubber has a significant role in Indonesia's growth. Indonesian people rely heavily on these latex-producing competitors as their livelihoods. Rubber plantations are cultivated by large state-owned plantations as well as private and public property (PS Writer Team, 2013). The Indonesian state once controlled the world's rubber products and rivaled the results of other countries [1]. In early 2007 rubber exports declined to 2009 by 394,306.6 tons. This is because the result of the crisis that hit the United States. Automotive sales in the United States refused rubber demand also fell by the tire industry including those using Indonesian rubber [2].

Rubber is one of the superior and strategic plantations in Riau Province. The amount is quite large in supporting public finance. Riau rubber plantations in 2017 reached 487,952 ha and production reached 355,613 tons [3]. Rubber excellence still shows its existence as a strategic commodity in optimizing agricultural resources and increasing farm household income. One of the sub-districts in Kampar Regency that produces rubber is the Tambang District. The number of farmers in Tambang District was 2,721 farmers in 2017 with a rubber

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plantation area of 5,016 ha. In 2017 the production of rubber plantations in Tambang District was 3,758 tons [3].

Marketing is a social and managerial process in which individuals and groups get their needs and desires by creating, offering and exchanging with each other [4]. The problem of rubber marketing in Tambang District is rubber farmers in marketing their rubber profitably in transactions conducted must be at the institution. Before buying, buy rubber through large traders, so farmers take a weak position and traders who take a strong position. In general, collecting traders also provide loans to farmers for their daily needs, so farmers really need the traders and receive prices determined by the traders.

Tambang District has a rubber downstream industry called PT. Hervenia Kampar Lestar. Sungai Pinang Village and Kuapan Village are bokar production sites which are very close to the factory. The distance between the rubber production location and the nearby factory makes it easy for farmers to market bokar directly to the factory. However, the yields of rubber farmers must go through collectors or large traders and cannot be sold to the factory, because it is related to no transportation to enter the factory, the amount of rubber production does not meet the minimum factory entry requirements of 500 kg bokar which must be related and there is interaction between rubber farmers and existing traders, so farmers become victims of the price game by the traders in order to get a large profit. Finally, the price of rubber received by farmers is low.

The current condition of the research location is the low price of rubber received by farmers. The price of rubber is only around Rp. 6,000 / kg-Rp. 7,000 / kg. government to be able to increase rubber prices. Related to these problems, it is necessary to formulate a marketing strategy that can improve the existing marketing system in marketing farmers' rubber products so that rubber marketing can be more efficient and farmers get higher profits.

The purpose of this research is to formulate a marketing strategy so that rubber marketing can be more efficient, so that there is an improvement in the rubber marketing system and benefit the rubber farmers. The strategy was formulated using qualitative descriptive analysis and strategy stages, namely the IFE and EFE matrix, SWOT and QSPM matrices. The results of internal and external factor analysis were analyzed using the IFAS (Internal Strategic Factors Analysis Summary) matrix and EFAS (External Strategic Factors Analysis Summary). Alternative rubber marketing strategies are obtained by formulating strategies based on a combination of internal and external factors. The SWOT matrix formulation consists of formulations, namely: 1) S-O (Strength-Opportunity) Strategy, 2) W-O (Weakness-Opportunity) Strategy, 3) S-T (Strength-Threats) Strategy and W-T (Weakness-Threat) Strategy. The best strategy priority to be implemented is obtained from the evaluation of alternative strategy choices using the QSPM (Quantitative Strategic Planning Matrix) method [5]. The advantage of using QSPM analysis is that all strategies can be examined sequentially and together and there is no limit to the number of strategies that can be evaluated simultaneously [6]. QSPM evaluates the relative attractiveness of several alternative strategic choices objectively [7].

2 Method

2.1 Research Location and Time

The research location was determined purposively, namely Tambang District because this area is one of the rubber producers in Kampar District and there is a downstream industry. The study was conducted in March 2019 to September 2019.

2.2 Sampling Methods and Techniques

This research uses survey method. Determination of the number of samples is done by taking between 10% -15% of the total population of rubber farmers [8]. The population in this study are all rubber farmers in Sungai Pinang and Kuapan villages, as many as 636 people. The research method is the survey method. The research subjects are rubber farmers and marketing institutions involved in rubber marketing, from farmers to factories. And also the object of research for recommendations on rubber development strategies besides farmers, traders and factories, namely the Head of the Plantation Office, the Head of the Mining District Head, the Sungai Pinang Village Head, the Kuapan Village Head and the Farmer Group Chair. The sampling technique in this study uses a purposive sampling method that is a technique of deliberate sampling based on a certain sample criteria. The sampling criteria are based on the largest number of rubber farmers in the land ownership status. So the sample criteria taken are rubber farmers whose land ownership status belongs to itself as well as tapper. So that the number of samples can be seen in the table as follows.

Table 1. Determination of Population and Samples of Rubber Farmers in Tambang District

No	Village Name	Group	Population (people)	Percentage (%)	Samples (people)
1	Sungai Pinang	Owners and Tappers	190	15%	29
2	Sungai Pinang	Tappers	127	-	-
3	Kuapan	Owners and Tappers	223	15%	33
4	Kuapan	Owners	96	-	-
	Total		636		636

(Processed Data, 2019)

2.3 Data Type

The data collected in the field is tabulated first, then some analysis is presented in a descriptive form and the others are analyzed in the form of cost calculations in accordance with the research objectives. The data used consists of primary data and secondary data. Primary data were obtained through direct interviews with farmers, collectors, large traders, farmer groups and factories using a questionnaire consisting of the identity of sample farmers (age, length of education, experience, number of members). The secondary data needed is obtained from relevant agencies, namely from the Plantation Office of the District of Kampar, the Central Statistics Agency (BPS), Sungai Pinang Village Office, Kuapan Village Office and other literature related to research. Secondary data needed includes the condition of the study area, population. Secondary data needed includes the condition of the study area, population, livelihoods, education, facilities and infrastructure as well as supporting institutions that support research.

2.4 Data Analysis

Descriptive analysis is used to describe the factual conditions encountered in the field of rubber marketing, identify and analyze the internal and external environmental factors of rubber marketing in Tambang District. Quantitative analysis is used to evaluate the formulation of strategies to improve the existing rubber marketing system.

The formulation of the strategy was obtained using the SWOT and QSPM methods. SWOT analysis is a qualitative analysis tool to produce alternative strategies by considering internal and external organizational factors. QSPM is used to determine the alternative strategies generated in the SWOT matrix [9].

The analysis phase with the SWOT and QSPM matrices is as follows.

a) Determination of EFEM (The External Factor Evaluation Matrix). At this stage the determination and evaluation of external factors is carried out.
b) Determination of IFEM (The Internal Factor Evaluation Matrix). At this stage the determination and evaluation of internal factors is carried out.
c) Determination of SWOT Matrix. At this stage an analysis of strengths, weaknesses, opportunities and threats for alternative strategies is carried out.
d) Determination of alternative strategies that have been generated and SWOT analysis with QSPM analysis [9].

2.5 The stage of determining EFEM (The External Factor Evaluation Matrix)

The stages to determine EFEM (The External Factor Evaluation Matrix), IFEM (The Internal Factor Evaluation Matrix), SWOT (Strength, Weakness, Opportunity, Threats) Matrix and QSPM (Quantitative Strategic Planning Matrix) are as follows.

2.6 IFE and EFE matrix

The IFE matrix is used to identify internal environmental factors and is classified as a company's strengths and weaknesses by weighting. While the EFE matrix is used to identify external environmental factors and is classified into opportunities and threats of the company by weighting. The steps to identify environmental factors in the IFE and EFE matrices are as follows [10].

a) Compile a list of the main factors that have important impacts (critical success factors) for internal aspects (strengths and weaknesses) and external (opportunities and threats) of the company. after that place it in the first column.
b) Determine the weight (weight) of critical success factors. The determination of weights is done by submitting identification of internal and external strategic factors to the company management using the "Paired Comparison" method. This method is used to provide an assessment of the weight of each internal and external determinant. To determine the weight of each variable used a scale of 1, 2 and 3.

   The scale used to fill in the columns are:
   1: If the horizontal indicator is less important than the vertical indicator
   2: If the horizontal indicator is as important as the vertical indicator
   3: If the horizontal indicator is more important than the vertical indicator

   The total weight given must be equal to 1.0. This weighting is placed in the second column of the IFE and EFE matrices.
c) Determining the rating of each critical success factor between 1 and 4, where for the IFE matrix, the rating scale for the strengths used is:

   1 = very weak 3 = strong
   2 = weak 4 = very strong

If for the factors of weakness namely scale 1 means very strong and scale 4 means very weak. Whereas for external strategic factors the opportunity for a company to be rated with the scale used is:

1 = very low, response less 3 = high, response above
2 = low, response equal to 4 = very high, response

For threat factors, scale 4 means very low. Scale 1 means high, less response to the company. Rating is based on the effectiveness of the company's strategy, and rating is based on company conditions.

d) Multiply the weight value by the rating value to get a weighting score and all times results are totaled vertically to get the total score for the company being assessed. Weighting results and ratings based on an analysis of the company's situation are included in the matrix. The total weighting score ranges from 1 to 4 with an average of 2.5. If the total IFE score (3.0 - 4.0) means that the company's internal condition is high / strong, (2.0 - 2.99) means that the company's internal condition is low or weak. The total EFE score is classified as strong (3.0 - 4.0), which means that the company's external conditions respond strongly to opportunities and threats.

2.7 SWOT Matrix (Strength, weakness, Opportunity, Threats)

The SWOT martrik is used to develop a company's strategy. This matrix can clearly illustrate how opportunities and threats faced by companies are adjusted to their strengths and weaknesses. The SWOT matrix can produce four possible alternative cell strategies, namely the S-O strategy, the W-O strategy, the W-T strategy and the S-T strategy. The steps in the preparation of the SWOT matrix are as follows [10].

a) Write down the decisive external opportunities of the company
b) Write down decisive external threats to the company
c) Write down the company's internal strengths that determine
d) Write down the company's internal weaknesses that determine
e) Matching internal forces with external opportunities and writing the resultant SO strategy in the right cell.
f) Match internal weaknesses with external opportunities and write the resultant WO strategy in the right cell.
g) Match internal forces with external threats and write the resultant ST strategy in the right cell.
h) Match internal weaknesses with external threats and write the resultant WT strategy in the right cell.

Analysis of the results of the SWOT matrix is expected to provide several alternative marketing strategies that can be chosen so that marketing activities can provide maximum results.

2.8 QSPM (Quantitative Strategic Planning Matrix)

The company must be able to evaluate after developing a number of alternative strategies which then choose the best strategy and best fit the company's internal conditions and external environment. Following are the steps that must be followed in making the QSPM matrix [10].

a) Compile a list of strengths, weaknesses, opportunities and threats.

b) Give weight to strengths, weaknesses, opportunities and threats.
c) This weight is the same as the weight given to the IFE and EFE matrices.
d) Develop alternative strategies to be evaluated.
e) Determine the value of attraction (Alternativeness Scores - AS) which ranges from 1 to 4. 1 = Interesting value, 2 = rather interesting, 3 = quite interesting, 4 = very interesting. If there is an influence on alternative strategies under consideration no value (AS).
f) Calculate the total number of attractions (STAS). Alternative strategies that have the greatest total value are the best strategies.

3 Results and Discussion

The elements of the formulation of rubber marketing recommendations in Tambang District to be more efficient contained in the preparation of rubber SWOT are as follows:

3.1 Strength (S)

3.1.1 The number of relatively large traders

The number of traders is relatively large, where in the study sample there are 9 traders namely 7 traders and 2 large traders in the District of Tambang, this benefits farmers because farmers can choose to sell their traders to any trader that farmers think is more profitable.

3.1.2 Location of traders who are close to farmers' farms

The merchant location at the research location is on the average adjacent to the farmer's garden because the location of the farmer farm is not altered from the area of the people's homes and highways.

3.1.3 Relatively close factory location

The location of the factory is relatively close because in Tambang District there is a rubber factory called PT. Hervenia Kampar Lestari. So that in Tambang District is a sub-district that is very suitable for rubber development areas because with the location of a factory close to transportation costs or other transportation costs can be more efficient and marketing benefits can be greater.

3.2 Weakness (W)

3.2.1 Low Rubber Prices

The price of rubber farmers in Tambang Subdistrict is low, ranging from Rp.6,800 / kg-Rp. 7,200 / kg so that the income of rubber farmers becomes low. For farmers the reasonable price of rubber is Rp.10,000/kg. Low rubber prices cause rubber farmers to be lazy to tap and also many who make the work of rubber farmers into a side job. Comparison of farm-level rubber prices with crumb rubber prices is very different, that is, the selling price of crumb rubber is around Rp.26,200 / kg-Rp26,500 / kg while the farmer's price is only around Rp.6800 / kg-Rp.7,200 / kg. This is because it is still the number of rubber marketing intermediaries.

3.2.2 Lack of Development of Rubber Farmers

The lack of guidance for rubber farmers is due to the lack of active role of farmer group institutions in Tambang District, this is because the extension agents have not been able to raise awareness of the members of farmer groups in Tambang District to run the farmer group

institutions well. The inability of Agricultural Extension Workers to accommodate members of farmer groups is due to the lack of interest of farmers in the rubber business due to low prices so that many farmers leave the farmer groups and ultimately the management of farmer groups is less active.

3.2.3 Limited capital of farmers

The limited capital of farmers is closely related to the limited ownership of land in addition to the low productivity value so that the income of farmers from their plantation business results is very limited. The large amount of capital to market rubber directly to factories makes farmers forced to sell it to collectors or large traders.

3.2.4 The marketing chain is relatively long

Bokar marketing is carried out by farmers through intermediary institutions before reaching the factory so that the marketing chain becomes longer. The existence of a longer marketing chain will affect the costs, profits and marketing efficiency. Then a discount on the water content of the rubber given by the intermediary to the farmer makes the price received by the farmer lower.

3.2.5 Institutional functioning of farmers is not yet functional

The development of the plantation sub-sector is the area, the District Plantation Office has carried out activities to develop farmers' institutions, which are informants such as farmer groups, joint business groups and cooperatives.

3.2.6 The quality of the box is not good

The quality of bokar in Tambang Subdistrict is not good because from the results of the research the water content in bokar is high, so traders are free in determining the price of rubber.

3.3 Opportunities (O)

3.3.1 Rubber (synthetic rubber) substituents are increasingly expensive

The selling price of synthetic rubber reaches Rp. 20,200 / kg-Rp. 20,500 / kg. Meanwhile, the selling price of natural rubber produced by farmers is only around Rp. 6,800 / kg-Rp. 7,200 / kg. With the selling price of synthetic rubber which is more expensive, it can cause the high demand for natural rubber.

3.3.2 The availability of processing plants

One of the rubber factories in Kampar Regency, PT. Hervenia Kampar Lestari.PT. Hervenia Kampar Lestari, located in Sungai Pinang Village, Tambang District, Kampar Regency. PT. Hervenia Kampar Lestari is a company engaged in the export of rubber. Where this company carries out processing of rubber that is still raw, and then ground in an open (rubber milling), which is then exported to other countries. The factory production capacity is 8 tons per hour There are several countries that import rubber from PT. Hervenia Kampar Lestari, including Singapore, China, Japan and the United States.

3.4 Threat (T)

3.4.1 The price of rubber in the international market has declined

Rubber prices in the global market are always experiencing a decline. Currently, rubber prices range from US $ 1.45 kg. This has caused concern for rubber producing countries such as Indonesia, Malaysia and Thailand. The price decline was caused by the formation of prices in the Shanghai, China and Singapore future markets. Because there are abundant different

types of rubber production there. The type of rubber found in the future market is high-quality rubber which is usually used as a mixture of medical equipment.

3.4.2 Rubber Price Fluctuations

Fluctuations in rubber prices on the international market are due to the law of supply and demand. When the supply is high, the price falls and vice versa when the supply is low, the price will increase. The weakening of the currency exchange rates in producing countries against the US dollar made rubber producers in these countries sell their rubber stocks to enjoy the situation. As a result, the supply of rubber in the international market is abundant and causes a price decline. The price of rubber since 2014 has decreased from Rp10,000-Rp.18,000 per kilogram and in 2015-2019 it has ranged from Rp4,000-Rp.8,000 per kilogram. The decline in rubber prices caused an economic crisis for rubber farmers.

3.4.3 Industrial raw materials are decreasing

Supply of raw materials in the form of rubber or bokar processing materials to the factory of PT. Hervenia Kampar Lestari is decreasing. The supply of bokar is decreasing due to the reduced production of farmers. This is due to farmers not caring for and harvesting their rubber. Farmers become lazy in maintaining and harvesting rubber because of low rubber prices. In fact, factories are very dependent on smallholder rubber production or more than 90% bokar comes from smallholder rubber.

3.4.4 Many farmers switch to work in other sectors

Many rubber farmers switch to work in other sectors such as building works, workshops or others. Whereas the job as a rubber farmer is only a side job. This is because the price of rubber is so low that it is not enough for farmers to provide for their families if they only rely on being a rubber farmer.

From the elements of the formulation of rubber marketing recommendations in Tambang District to make it more efficient in the preparation of rubber SWOT, the following strategic factors are obtained:

a) Number of relative traders a lot
b) Location of traders who are adjacent to the farmers' garden
c) Relatively close factory location
d) Low Rubber Prices
e) Lack of Development of Rubber Farmers
f) Limited capital of farmers
g) The marketing chain is relatively long
h) Farmer Institution Not Functioning Yet
i) Bokok quality is not good
j) Substituent rubber (synthetic rubber) is getting more expensive
k) Availability of processing plants
l) Rubber prices on the international market are declining
m) Rubber Price Fluctuations
n) Industrial raw materials are increasingly lacking
o) Many farmers switch to work in other sectors

The following is a table 2 of questionnaire results to 62 respondents based on each strategic factor:

Table 2. Strategic Factors

Respondent	Strategic Factor														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	2	1	1	4	3	3	4	4	3	1	3	3	4	1	3
2	2	2	2	4	2	4	4	4	3	1	3	3	4	1	3
3	2	2	1	4	3	4	3	3	3	1	2	2	4	1	3
4	3	1	2	4	4	4	2	4	4	1	3	2	4	1	4
5	3	1	2	4	4	3	4	3	3	1	3	3	4	1	4
6	2	1	1	4	4	2	4	3	4	2	3	3	4	1	4
7	1	2	2	4	3	4	3	3	4	1	2	4	4	1	4
8	1	1	2	4	3	4	3	3	4	2	3	2	4	1	3
9	2	2	2	4	3	4	4	4	3	1	3	4	4	1	3
10	3	2	1	4	2	4	3	3	3	1	3	2	4	1	3
11	2	1	1	4	3	4	4	4	3	1	3	4	4	1	3
12	2	2	2	4	3	4	2	3	3	2	3	3	4	2	4
13	3	2	2	4	4	3	2	4	3	2	4	2	4	1	4
14	1	2	2	4	4	3	3	4	4	1	4	3	4	1	4
15	1	1	2	4	4	3	3	3	3	1	3	3	4	1	3
16	2	1	2	4	3	4	3	4	4	2	2	4	4	2	3
17	3	1	1	4	3	4	3	4	3	2	3	4	3	1	3
18	1	2	1	4	2	2	3	3	3	1	4	2	3	1	4
19	2	1	3	4	2	3	3	3	4	3	3	2	4	1	4
20	2	2	3	4	2	3	4	4	4	1	4	2	3	1	4
21	2	1	3	4	3	3	4	4	3	1	3	2	3	1	4
22	1	1	1	4	2	4	3	4	3	1	4	2	3	1	4
23	3	2	2	4	4	2	3	4	3	2	4	3	3	1	4
24	2	3	1	4	3	2	2	4	4	1	4	2	3	1	4
25	2	3	2	4	4	4	2	4	4	1	4	2	4	1	3
26	3	1	1	4	4	4	3	3	4	2	3	2	3	1	3
27	3	2	1	4	2	2	3	4	3	1	4	2	4	1	3
28	3	2	1	4	2	3	3	4	4	1	3	4	4	1	3
29	1	2	3	4	1	4	2	4	4	2	3	4	4	2	4
30	2	2	3	4	1	2	4	4	3	1	3	4	4	1	4
31	2	1	1	4	3	4	4	4	3	2	4	4	3	2	4
32	3	1	1	4	3	2	3	3	2	2	4	2	4	1	2
33	3	2	2	4	3	2	3	4	2	2	4	2	3	1	2
34	2	2	1	4	1	4	3	3	4	2	3	4	4	1	3
35	1	2	2	4	2	3	2	3	4	1	1	3	4	1	3
36	1	2	1	4	2	3	1	4	4	1	1	2	4	2	3
37	2	2	2	4	3	3	2	3	3	1	1	3	4	1	4
38	2	1	2	4	3	2	1	4	3	1	1	3	4	1	3
39	1	3	1	4	4	2	2	4	2	1	1	4	4	1	4
40	1	3	1	4	1	1	2	4	3	1	1	3	4	1	4
41	2	1	3	4	1	3	3	3	3	1	3	3	3	1	3
42	2	2	3	4	3	4	1	4	2	3	1	4	4	1	4
43	2	2	1	4	4	2	4	3	3	1	1	4	4	1	4
44	2	2	1	4	4	3	3	3	3	1	2	3	4	1	3
45	2	2	3	4	2	2	2	3	4	2	2	4	3	1	3
46	1	1	1	4	2	1	2	4	2	2	1	3	4	1	3
47	1	1	2	4	4	2	2	3	3	1	1	4	3	1	3
48	2	2	1	4	4	2	3	3	3	1	2	3	3	1	3
49	1	1	2	4	4	2	3	3	3	2	3	3	4	1	3
50	2	1	1	4	4	2	3	3	4	3	2	4	3	1	4
51	2	2	2	4	4	2	3	3	4	2	2	4	4	1	3
52	1	2	2	4	4	1	3	3	3	2	2	4	4	1	3

53	3	2	1	4	4	2	3	3	4	2	3	3	4	1	4
54	1	2	1	4	4	2	3	3	4	3	3	4	4	1	4
55	3	1	2	4	4	2	3	3	4	3	2	3	4	2	3
56	3	1	2	4	4	2	3	3	4	2	2	3	4	1	3
57	2	1	2	4	4	1	3	4	2	2	2	4	4	1	3
58	1	2	2	4	4	2	3	3	3	3	4	4	4	1	4
59	1	2	1	4	4	2	3	4	3	2	3	3	4	2	3
60	2	1	1	4	1	2	3	4	2	2	3	4	3	1	3
61	2	1	1	4	1	2	3	4	3	3	2	4	4	1	4
62	3	1	2	4	1	1	2	4	3	2	3	4	3	1	4
Total	121	101	104	248	167	169	175	219	202	100	202	194	231	69	212
Range	2	1,6	1,7	4	2,7	2,7	2,8	3,5	3,3	1,6	3,3	3,1	3,7	1,1	3,4

From the results of the questionnaire obtained an average value of each strategic factor. The average value is rounded according to the number rounding rule. The following is a total score of strategic factors.

Table 3. Total Score of Strategic Factors

No	Strategic Factor	Value	Quality	Rating	Score
1	The number of traders is relatively large	2	0,05	3	0,14
2	The location of the merchant is close to the farmer's garden	2	0,05	3	0,14
3	Factory location is relatively close	2	0,05	3	0,14
4	Low Rubber Price	4	0,10	4	0,38
5	Lack of Guidance for Rubber Farmers	3	0,07	2	0,14
6	Limited capital for farmers	3	0,07	3	0,21
7	Relatively long marketing chain	3	0,07	3	0,21
8	Farmers' Institutions Not yet Functioning	4	0,10	2	0,19
9	Bokar quality is not good	3	0,07	4	0,29
10	Rubber substitute goods (synthetic rubber) are getting more expensive	2	0,05	2	0,10
11	Availability of processing plant	3	0,07	4	0,29
12	The price of rubber in the international market decreases	3	0,07	3	0,21
13	Rubber Price Fluctuation	4	0,10	4	0,38
14	Industrial raw materials are decreasing	1	0,02	3	0,07
15	Many farmers switch to work in other sectors	3	0,07	3	0,21
	Score total	42	1,00	46,00	3,12

Information:

Weighting Size: Rating Size:

1 = a little important 1 = a little strong

2 = rather important 2 = rather strong

3 = important 3 = strong

4 = very important 4 = very strong

3.5 IFEM (TheInternalFactorEvaluationMatrix)

After determining the internal rubber marketing strategy factors which include strengths and weaknesses, a questionnaire was given regarding the weighting and rating of the strength and weakness variables. Furthermore, weighting using the paired comparison matrix method [11]. The results of the ranking and weighting can be seen in Table 3.

3.6 EFEM (The External Factor Evaluation Matrix)

The EFEM matrix is used to find out the organization's external factors related to threats and opportunities that are considered important. After getting the factors of the external strategy, which includes opportunities and threats. The next stage is like the stage in IFE analysis [11]. The results of the ranking and weighting can be seen in table 4.

Table 4. The EFEM Matrix and IFEM Rubber Marketing

No	External Factors Strength	Total	Rating	Quality %	Quality x Rating
1	The number of traders is relatively large	15	2	0,11	0,33
2	The location of traders near the farmer's garden	16	2	0,12	0,36
3	The location of the factory is relatively close	18	3	0,13	0,4
No	Weakness	Total	Rating	Quality %	Quality x Rating
1	Low Rubber Prices	20	1	0,15	0,59
2	Lack of Development of Rubber Farmers	9	3	0,07	0,13
3	Limited farmers' capital	13	2	0,1	0,29
4	The marketing chain is relatively long	17	1	0,13	0,38
5	Institutionalism of Farmers Not Functioning Yet	11	2	0,08	0,16
6	Bokar quality is not good	11	1	0,13	0,53
	TOTAL	128		1	3,2
No	Opportunity	Total	Rating	Quality %	Quality X Rating
1	Rubber (synthetic rubber) substituents are increasingly expensive	10	3	0,11	0,21
2	Availability of processing plant	18	4	0,19	0,77
No	Threats	Total	Rating	Quality %	Quality X Rating
1	Rubber prices on the international market declined	15	1	0,16	0,48
2	Rubber Price Fluctuations	20	1	0,21	0,85
3	Industrial raw materials are decreasing	15	3	0,16	0,48
4	Many farmers switch to work in other sectors	16	2	0,17	0,51
	TOTAL	94		1	3,34

Strengths and weaknesses of rubber marketing are illustrated in Table 3. The main strength is the strength variable which has the largest average weighting score, ie the factory location variable is relatively close (0.40). This variable is the main strength because it can contribute to more efficient rubber marketing. While the weakness of rubber marketing is the low rubber

price (0.59). The current price of rubber ranges from Rp6000 to Rp7000. This causes rubber farmers to get low profits and income.

External factors that affect more efficient rubber marketing are shown in Table 3. The main opportunity is the availability of a rubber processing factory with a value of 0.77. That way rubber farmers have the opportunity to market their rubber products directly to the factory. While the main threat to rubber marketing is rubber price fluctuations (0.85). This makes rubber farmers lazy to harvest their rubber due to unstable prices. And make farmers look for other jobs.

3.7 SWOT Matrix Analysis

SWOT analysis is called a situation analysis that is classified into internal factors (strengths and weaknesses) or is associated with indirect impacts and external factors (opportunities and threats) are directly related impacts. Both of these factors provide positive impacts that come from opportunities and strengths of negative impacts that come from weaknesses and threats. Using the SWOT matrix, we can assign weights and scores to predetermined parameters to obtain a value. Values will provide a conclusion about the effect of the activity on the optimal rubber business followed by the preparation of a strategy. To find out the marketing strategy of rubber can use a SWOT analysis. Alternative strategies used in the rubber marketing strategy in the Mine District are based on the SWOT matrix in Table 5.

Table 5. SWOT Matrix

Internal Factors / Eksternal Factors	*Strenghts*	*Weeknesses*
	1. The number of traders is relatively large. 2. Location of traders who are adjacent to the farmers' garden. 3. The location of the factory is relatively close.	1. Low Rubber Prices 2. Lack of Development of Rubber Farmers. 3. Limited capital of farmers. 4. A relatively long marketing chain. 5. Institutional farmers have not functioned. 6. Bokar quality is not good.
Opportunites 1. Rubber (synthetic rubber) substituents are increasingly expensive. 2. The availability of processing plants.	**Strategi SO** 1. Market rubber in groups. (S1, S3, O1, O2) 2. Reactivating farmer group activities. (S1, O1, O2)	**Strategi WO** 1. Facilitation of capital guarantees through savings and loan agencies and farmer groups so that they are not constrained by fluctuations in input and output prices. (W3, W5, O1) 2. Improve the marketing chain to be more efficient and profitable. (W4, O1, O2)
Threats 1. The price of rubber in the international market has declined. 2. Rubber price fluctuations. 3. Industrial raw materials are decreasing. 4. Many farmers switch to work in other sectors.	**Strategi ST** 1. Defend the rubber plantation land so it will not be converted. (S3, T4) 2. Increasing bokar production (S3, T3)	**Strategi WT** 1. Increasing the participation of farmer groups as a means of extension, education, technology introduction and access to capital. (W2, W5, T6), 2. Improving the quality of carbohydrates sold by applying standardization and grading to increase rubber prices (W1, W6, T1, T2, T3).

3.7.1 SO Strategy

a) Market rubber in groups. (S1, S3, O1, O2)

b) Reactivating farmer group activities. (S1, O1, O2)

3.7.2 WO Strategy

a) Facilitation of capital guarantees through savings and loan agencies and farmer groups so that they are not constrained by fluctuations in input and output prices. (W3, W5, O1)
b) Improve the marketing chain to be more efficient and profitable. (W4, O1, O2)

3.7.3 ST Strategy

a) Defend the rubber plantation land so it will not be converted. (S3, T4)
b) Increasing bokar production (S3, T3)

3.7.4 WT Strategy

a) Increasing the participation of farmer groups as a means of extension, education, technology introduction and access to capital. (W2, W5, T6),
b) Improve the quality of rubber sold by applying standardization and grading to increase rubber prices (W1, W6, T1, T2, T3).

3.8 QSPM Analysis (Quantitative Strategic Planning Matrix)

The QSPM Matrix (Quantitative Strategic Planning Matrix) is an analysis technique in the literature designed to establish the relative attractiveness of alternative actions that can be carried out [12]. The QSPM matrix is used for decision making by evaluating and choosing the strategy that best fits the internal and external environment of the business / organization [13]. Conceptually, QSPM determines the relative attractiveness of various strategies based on up to a number of key critical external and internal success factors utilized or enhanced. The relative attractiveness of each strategy is calculated by determining the cumulative impact of each of the external and internal crisis success factors. A positive characteristic of QSPM is that a series of strategies can be examined sequentially or together. This tool also requires that strategic planners integrate internal and external factors involved in the decision process [10]. After inputting the internal and external environment analysis through the IFE and EFE matrix and matching the SWOT matrix, the next stage is the decision stage using QSPM. This technique objectively indicates which alternative strategies are the best. QSPM uses input from the first stage and matching from the second stage to determine objectively between alternative strategies [11]. The alternative strategy that has the largest total value on the QSPM matrix is the best strategy [13].

According to Mahfud and Mulyani [11], alternative strategies analyzed using QSPM are as follows:

a) Market rubber in groups.
b) Reactivating farmer group activities.
c) Facilitation of capital guarantees through savings and loan agencies and farmer groups so that they are not constrained by fluctuations in input and output prices.
d) Improve the marketing chain to be more efficient and profitable.
e) Defend the rubber plantation land so that it does not function.
f) Increasing bokar production.
g) Increasing the participation of farmer groups as a means of extension, education, technology introduction and access to capital.
h) Improve the quality of carbohydrates sold by applying standardization and grading to increase rubber prices.

QSPM (Quantitative Strategic Planning Matrix) analysis that can be used in rubber marketing strategies in Tambang District can be seen in table 6.

Table 6. QSPM Analysis (Quantitative Strategic Planning Matrix)

			Alternative Strategies															
			S-O 1		S-O 2		W-O 1		W-O 2		S-T 1		S-T 2		W-T 1		W-T 2	
	Main Factor	Bobot	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS
Strengths																		
1	S1	0,11	2	0,22	4	0,44	3	0,33	2	0,22	3	0,33	2	0,22	3	0,33	3	0,33
2	S2	0,12	1	0,12	4	0,48	2	0,24	1	0,12	2	0,24	1	0,12	2	0,24	2	0,24
3	S3	0,13	2	0,26	2	0,26	1	0,13	2	0,26	3	0,39	2	0,26	2	0,26	2	0,26
Weaknesses																		
1	W1	0,15	1	0,15	4	0,6	2	0,3	1	0,15	2	0,3	1	0,15	2	0,3	2	0,3
2	W2	0,07	2	0,14	1	0,07	1	0,07	1	0,07	1	0,07	4	0,28	1	0,07	2	0,14
3	W3	0,10	4	0,4	3	0,3	2	0,2	2	0,2	2	0,2	2	0,2	3	0,3	2	0,2
4	W4	0,13	3	0,39	4	0,52	2	0,26	3	0,39	2	0,26	1	0,13	2	0,26	3	0,39
5	W5	0,08	4	0,32	1	0,08	2	0,16	3	0,24	1	0,08	2	0,16	2	0,16	1	0,08
6	W6	0,13	4	0,52	1	0,13	1	0,13	1	0,13	2	0,26	1	0,13	1	0,13	2	0,26
Opportunities																		
1	O1	0,11	3	0,33	4	0,44	3	0,33	4	0,44	2	0,22	1	0,11	3	0,33	3	0,33
2	O2	0,19	1	0,19	3	0,57	3	0,57	3	0,57	1	0,19	1	0,19	1	0,19	4	0,76
Threats																		
1	T1	0,16	3	0,48	2	0,32	4	0,64	2	0,32	4	0,64	2	0,32	3	0,48	3	0,48
2	T2	0,21	1	0,21	1	0,21	2	0,42	2	0,42	1	0,21	1	0,21	1	0,21	1	0,21
3	T3	0,16	1	0,16	3	0,48	1	0,16	1	0,16	1	0,16	2	0,32	2	0,32	4	0,64
4	T4	0,17	1	0,17	1	0,17	3	0,51	3	0,51	2	0,34	1	0,17	3	0,51	2	0,34
Total				4,06		5,07		4,45		4,2		3,89		2,97		4,09		4,96

Based on the results of the QSPM assessment, alternative strategies that have the highest TAS value are the best strategies. From the TAS value, the three highest TAS values are taken to be an alternative strategy priority so that from the highest TAS value can be generated priority strategies that can be implemented by rubber farmers to market their rubber products. From the results of the QSPM analysis, alternative priorities are obtained as follows.

a) Reactivate the activities of farmer groups with the highest value of 5.07. So that the farmer groups can foster farmers to improve the quality of rubber and sell bokar directly to the factory so that the price received by farmers is higher.
b) Improve the quality of karetyang sold by applying standardization and grading to increase the price of rubber with a value of 4.96. Rubber farmers must minimize water content and there is no impurities in the bokar so prices can be higher.
c) Increasing the participation of farmer groups as a means of extension, education, technology introduction and access to capital with a value of 4.09. So that rubber farmers

can understand more in cultivation, maintenance, processing rubber and marketing their rubber with high quality rubber and higher prices.

4 Conclusion

Alternative Strategies for Rubber Marketing in the Mining District (i) Reactivating the activities of farmer groups, (ii) Improving the quality of karety sold by applying standardization and grading to increase rubber prices (iii) Increasing the participation of groups in the range of education, education, and introduction of capital access technology.

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