Marketing Strategy of Star Fruit (Averhoa bilimbi L) in Tulungagung District

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Abstract: Star fruit (Averhoa bilimbi L) is widely planted in Tulungagung Regency, East Java, because according to its agro-climate, it is easy to plant and maintain, and also easy to market. The research objectives are 1. Analyzing the condition of internal and external factors in the marketing of star fruit in Tulungagung Regency, and 2. Determining the strategy that needs to be done in marketing star fruit in Tulungagung Regency. The study was conducted in Tulungagung Regency, the data obtained were analyzed by the SWOT method, then a strategy was established. Based on the results of the analysis it can be concluded that the star fruit marketing strategy in Tulungagung Regency is an SO strategy that is to use power to take advantage of opportunities, its activities are: 1. Specific guidance for star fruit farmers; 2. Increase production to meet market needs; 3. Policy for guiding and processing star fruit; 4. Coordinating distributors with transportation services; 5. Priority for exemplary farmers; 6. Utilization of the local market.

Keywords: Star Fruit, Tulungagung Regency, SWOT Analysis

1. Introduction

Tulungagung Regency covers an area of 1,055.65 km², including 23,392 ha of paddy fields, 105,565 Ha of dry land. The average rainfall is 2,507 mm and rainy days are 130 days. The population is 985,122, consisting of 488,349 lives of men and 496,773 women. Approximately 399,836 people live in agriculture.

Star fruit plants were planted in 16 districts out of 19 districts in Tulungagung Regency, namely: Besuki District 348 trees, Bandung 840 trees, Pakel 4,750 trees, Campurdarat 239 trees, Kalidawir 208 trees, Rejotangan 4,916 trees, Ngunut 27,776 trees, Sumbergempol 160 trees, Boyolangu 24,378 trees, Gondang 1,904 trees, Kauman 949, Tulungagung District 665, Ngantru 2,705 trees, Karangrejo 1,434 trees, Sendang 506 trees, Pagerwojo 115 trees, the total number of Tulungagung District was 71,893 trees. If the productivity per tree is 48 kg, it can reach 34,620 tons of fresh star fruit per year.

2. Research Methods

The study was conducted for 4 months starting in October 2018 until January 2018. The research site is in Tulungagung Regency. The type of research chosen in accordance with the objectives, objects, and procedures, namely descriptive research (descriptif research), is research that does not test hypotheses (non-hypotheses).

The research clearly presents the main points of the problem under study, namely providing a descriptive description that clearly, factually, systematically and carefully points out the issues encountered and their consequences, and then looks for a solution for solving the problems encountered. Sampling Technique, the object of this study was the starfruit farmers and farmers group, collectors, distributors, retailers and star fruit consumers, related institutions of the Tulungagung Regency Agriculture Office. Determination of the type of sample deliberately, that is chosen according to needs because it is difficult to determine the population. For farmers and
farmer groups that precisely plant star fruit, for traders and distributors the star fruit traders and distributors are selected, for consumers selected star fruit buyers in the market found and for the relevant Dinas selected personnel who handle directly in the development of star fruit cultivation.

The technique of data collection by: Dept interviews, namely collecting data and information directly from data sources using several instruments that have been prepared. Documentation technique, which is data collection by recording secondary data that has been available, in the form of data relating to the area of planting starfruit, starfruit production, starfruit marketing and others. And observations, especially to observe the existence / reality of star fruit marketing institutions, farmers’ groups and starfruit grower farmers, starfruit plant physical, and others.

Data analysis technique is used qualitative analysis techniques, namely SWOT (Strength, Weakness, Opportunity and Threats) analysis techniques which are carried out through a logical thought process by assessing the internal strengths and weaknesses of farmers and farmer groups in relation to external opportunities and threats they face to formulate steps next strategic step (Bryson, 1997).

3. Performance Observation

3.1. Internal Factor Analysis

3.1.1. Strongths

1. Production can still be increased

Increased productivity is caused by increasing plant age, the more plant age, the larger the tree makes more and more fruit, the average age of star fruit plants in Tulungagung Regency is still young so that star fruit trees have not reached optimal size. Star fruit plants are optimally capable of producing 500-600 kg per tree (Anonymous, 2004).

2. Collector traders

Star fruit collecting traders in Tulungagung Regency are quite a lot, they work as collecting traders starting from star fruit plants that are still fruiting until now still remain a special star fruit gathering sword, with a feeling of pleasure because they get the benefits as expected. They live close to where starfruit farmers live, so farmers have no difficulty in marketing old starfruit ready for picking.

3. Distributor

Star fruit marketing from Tulungagung by distributors out of the city to Ngawi, Yogyakarta, Semarang and Jakarta, some also came out of Java, namely to the islands of Bali and Kalimantan. The presence of star fruit distributors in Tulungagung is very helpful for starfruit farmers, so that production is not abundant in producers. The existence of this distributor has no cooperative ties with farmers, the work ties only need each other. Farmers need to sell star fruit and distributors need star fruit to sell outside the city.

4. Potential ecology

Tulungagung Regency consists of 19 districts; starfruit plants are planted in 16 Districts and produce well, so only 3 Districts are not planted with starfruit. This shows that 16 sub-districts in Tulungagung Regency have climate and soil potential to develop starfruit plants.

5. Number of farmers

The number of farmers in Tulungagung Regency is quite high at 399,838 people or 40.59% of the total population. Is an agricultural human resource that is sufficient to develop agricultural products, especially star fruit in Tulungagung Regency.
6. Model farmers

With the existence of early farmers or pioneer farmers who have successfully pioneered the cultivation of star fruit in Tulungagung Regency is a potential asset for the Government of Tulungagung Regency for the development of star fruit plants. Mulyono (40 years old) planted an area of 6 hectares of star fruit with 25 members of the "Tunas Belimbing" farmer group in Moyokketen Village, Boyolangu District, Tulungagung Regency. Planting began in 2011 and became a role model for other farmers in Tulungagung Regency. Many other farmers came to learn to plant starfruit. Mulyono expanded his business into a collecting trader by establishing "UD Mulyono Belimbing" to collect star fruit products from farmers and taken by distributors. Many distributors have known UD Mulyono Belimbing.

3.1.2. Weaknesses

1. Low quality.

The quality of star fruit there are 3 kinds. A quality is a very good quality star fruit size 4-6 pieces per kilogram of normal shape and color without defects. Quality B is a good quality star fruit size 7-9 pieces per kilogram of normal shape and color without defects. Quality C is a medium quality or normal starfruit small size of more than 9 pieces per kilogram of the shape and color of the mixture there is normal there is no normal. Starfruit production from Tulungagung still has 40% C quality, collectors do not want to buy starfruit quality C, so starfruit farmers must market specifically to retailers or consumers. For star fruit from Tulungagung Regency to be competitive in the market, quality must be A.

2. Prices are determined by the market.

Determination of star fruit prices is determined by the market and is strongly influenced by the presence of other fruit on the market, so farmers are not able to determine prices. As a result, star fruit producers farmers can experience losses, and farmers are powerless / do not have the strength, usually just accepting it.

3. Limited water.

One of the problems faced by the Tulungagung Regency government in agriculture is the limited water supply and the high water shortage in the irrigation channel. This certainly affects the quality and quantity of star fruit production, because star fruit fruit throughout the year.

4. Small planting area.

Paddy fields in Tulungagung Regency are 23,392 hectares and tegal land is 22,698 hectares. Starfruit planting area reaches 143.7 hectares or 0.3% of agricultural land in Tulungagung Regency. Starfruit planting areas are scattered in 16 Districts. It seems that starfruit plants do not yet dominate, so they do not attract the attention of market participants.

5. There are no promotions.

Star fruit promotion from Tulungagung Regency has never been seen. If star fruit is made as a superior product, it needs to be promoted through mass media or others, for example apples from Batu city are promoted by making apple statues in the middle of Batu City, cow milk production in Pujon sub-district is promoted by cow statue in Pujon, pondoh salak production from Sleman is promoted by making salak market in Sleman, the production of durian petruk from Jepara is promoted by making a special durian market in Jepara. Due to the lack of promotion of star fruit from Tulungagung Regency, it is less known by market participants and has not yet received Brand Image from consumers. This brand image is very influential on the price received by farmers. For example, petruk durian is well-known by market participants, in large supermarkets who dare to sell petruk durian at 3 times the price of ordinary durian, but it still sells because petruk durian has received brand image from consumers, so consumers are satisfied to buy petruk durian even though the price is more expensive.

Farmers in Tulungagung Regency who work on starfruit plants are on average small farmers with small business scale; an average farmer plants 70-100 starfruit trees. If calculated in the same unit, the smaller business scale will incur greater costs, and the smaller the business scale is relatively less profitable in terms of farming. This does not attract the attention of market participants, especially large traders.

3.2. External Factor Analysis

3.2.1. Opportunities

1. High market requirements.

According to the Tulungagung Regency Agriculture Office records that the need for star fruit based on the request of distributors who come to Tulungagung is 4,000 tons annually with quality A. Even though starfruit production in Tulungagung Regency is only 3,462 tons per year (before grading). Thus there is still an opportunity to increase star fruit production to meet market demand.

2. Local Government Support.

With regional autonomy in budget regulation, there is flexibility for the Tulungagung District Government to allocate the budget according to need. Regions are given full authority in the regulation of the APBD, so that local governments can easily take policy for agricultural development, especially the development of superior products, which requires local government policies that support these activities. Without the support of policies, development will proceed slowly or not even work. In this policy one of them needs to allocate funds, especially the allocation of funds for star fruit development activities in Tulungagung Regency.

3. Export opportunities

Through "UD Mulyono Belimbing" received offers of star fruit exports to China and Hong Kong. The export requirements are almost fulfilled, namely the minimum area of 10 hectares, good packing, volume / quota can be negotiated. Only export support loans that have not been realized. UD Mulyono Belimbing promised that if export-supporting loans could be disbursed for the next 6 months, they could carry out exports.

4. High economic value

Star fruit has a higher economic value than pineapple, papaya, banana and others. Star fruit has the same economic value as fruit - oranges, oranges and others. Granting value by consumers is an opportunity for star fruit producers.

5. Fruit market.

The fruit market located in the city of Tulungagung greatly opens the opportunity for starfruit farmers. Star fruit in small quantities at any time can be sold at the Tulungagung fruit market. Tulungagung fruit market in addition to retail sales to consumers also occur transactions between traders. Therefore, star fruit producers / farmers who are not bought by traders can still be sold at the Tulungagung fruit market.

6. Transportation and communication.

Means of transportation in the form of public roads and public transportation of goods from producers to consumers are quite available. Communication tools to facilitate the distribution of star fruit is quite available.
3.2.2. Threats

1. Free Market.
   The free market of world trade in the sense of the movement of goods from the center of production from one country to consumers or to other countries has taken place. This indicates that consumers have been offered a number of various items to meet their needs and get lower prices. Trade liberalization has spurred competition so that products have higher quality at lower prices. At this time the flow of information, technology, goods and services between countries is increasingly open, and there are no more obstacles to enter the market (Barrier to entry is low). There are no barriers to entering the market, this is getting wider after there are agreements by several countries in the GATT (The General Agreement on Tariffs and Trade). This treaty was signed by an agreement of 128 countries. Furthermore GATT formed the WTO (World Trade Organization). The application of non tariff barriers (NTBs) in the free market era does not rule out the possibility of entry of fruits from abroad which are cheaper than domestic fruits produced by farmers themselves. This is a threat to starfruit grower farmers in Tulungagung Regency, it is feared that imported fruit will increase in number and the price is cheaper, as a result star fruit from Tulungagung Regency are unable to compete and are unsold in the market. If this is the case, starfruit farmers in Tulungagung Regency will lose their livelihoods, because star fruit is not sold.

2. Prices are not stable.
   The price of star fruit is not stable is affected by the harvest time of other fruits. Star fruit selling price is highest in April to August (4 months), and there is an unstable price in September to March (8 months). September to March is the harvest season for fruits with seasonal fruit such as mango, jackfruit, rambutan, apokat, durian, orange and others. If the production of fruits that are harvested seasonally is very abundant then the price of the fruit is very low, the impact on the price of star fruit is low even slow sales. If this is the threat of loss for starfruit farmers in Tulungagung Regency, because the production costs incurred are higher than the income received.

3. Fruit fly attack.
   Fruit fly pests (Dacus pedestris L.) attack all fruits by placing their eggs on young fruits, these eggs hatch into caterpillars directly into the fruit. As a result, rotten fruit because in it there are caterpillars that eat the fruit. If the pest population is high then the star fruit is rotten and cannot be consumed by humans, thus the amount of production and the quality of the fruit decreases.

4. Natural disasters.
   In Tulungagung Regency floods occur frequently on land in the southern region and drought in some rain-fed lands. This is a threat to star fruit farmers in the region.

5. There is no partnership.
   Starfruit farmers in Tulungagung Regency do not have a business partnership, so all risks must be born by themselves. These risks include: price fluctuations, marketing collateral, capital (production costs / variable costs), production facilities, and others. On the other hand because farmers are not trading partners, starfruit farmers are considered as objects by traders, farmers are not given the right to determine prices, farmers are in a weak position.

6. Long marketing chain
   To convey star fruit to consumers, it takes routes, routes and places of consumers called the marketing chain. Star fruit from Tulungagung Regency can reach consumers outside the city through a very long marketing channel. Starting from the producer farmers □ collecting traders □
distributors besar large traders in the city to the destination  retailers  consumers. The length of the marketing chain makes the costs that consumers must pay are too high. If consumers reject high prices, the disadvantaged is that producers / starfruit farmers must be willing to accept low prices. On the other hand between producers and all market participants there is no relationship, they are related because they benefit from each other. If there is someone who feels aggrieved, the chain will break automatically, resulting in a jam in the marketing of star fruit.

4. Results and Discussion

The results of the study can be described aspects of the internal environment which are Strengths and Weakness, as well as external aspects which are opportunities (Opportunities) and threats (Treaths), in the Star Fruit Marketing Strategy in Tulungagung Regency.

Table 1. Internal Factor Analysis Summary (IFAS)

<table>
<thead>
<tr>
<th>Internal Strategy Factors</th>
<th>Weight</th>
<th>Rating</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strengths (S)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Production can still be increased</td>
<td>0.10</td>
<td>4</td>
<td>0.40</td>
</tr>
<tr>
<td>2. Collectors</td>
<td>0.10</td>
<td>4</td>
<td>0.40</td>
</tr>
<tr>
<td>3. Distributors</td>
<td>0.10</td>
<td>4</td>
<td>0.40</td>
</tr>
<tr>
<td>4. Potential of ecology</td>
<td>0.10</td>
<td>4</td>
<td>0.40</td>
</tr>
<tr>
<td>5. Number of farmers</td>
<td>0.05</td>
<td>3</td>
<td>0.15</td>
</tr>
<tr>
<td>6. Exemplary farmers</td>
<td>0.05</td>
<td>3</td>
<td>0.15</td>
</tr>
<tr>
<td><strong>Sub Total</strong></td>
<td>0.50</td>
<td></td>
<td>1.90</td>
</tr>
<tr>
<td><strong>Weaknesses (W)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Low quality</td>
<td>0.10</td>
<td>2</td>
<td>0.20</td>
</tr>
<tr>
<td>2. Market determined prices</td>
<td>0.10</td>
<td>2</td>
<td>0.20</td>
</tr>
<tr>
<td>3. Limited water</td>
<td>0.05</td>
<td>1</td>
<td>0.05</td>
</tr>
<tr>
<td>4. Small planting area</td>
<td>0.05</td>
<td>1</td>
<td>0.05</td>
</tr>
<tr>
<td>5. Lack of promotion</td>
<td>0.15</td>
<td>2</td>
<td>0.30</td>
</tr>
<tr>
<td>6. Small business scale</td>
<td>0.05</td>
<td>1</td>
<td>0.05</td>
</tr>
<tr>
<td><strong>Sub Total</strong></td>
<td>0.50</td>
<td></td>
<td>0.85</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1.00</td>
<td></td>
<td>2.75</td>
</tr>
</tbody>
</table>

Table 2. External Factor Analysis Summary (EFAS)

<table>
<thead>
<tr>
<th>Internal Strategy Factors</th>
<th>Weight</th>
<th>Rating</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Opportunities (O)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. High market requirements</td>
<td>0.20</td>
<td>4</td>
<td>0.80</td>
</tr>
<tr>
<td>2. Local Government support</td>
<td>0.05</td>
<td>4</td>
<td>0.20</td>
</tr>
<tr>
<td>3. Export opportunities</td>
<td>0.10</td>
<td>4</td>
<td>0.40</td>
</tr>
<tr>
<td>4. High economy value</td>
<td>0.05</td>
<td>3</td>
<td>0.15</td>
</tr>
<tr>
<td>5. Fruit market</td>
<td>0.05</td>
<td>3</td>
<td>0.15</td>
</tr>
<tr>
<td>6. Transportation and communication</td>
<td>0.05</td>
<td>3</td>
<td>0.15</td>
</tr>
<tr>
<td><strong>Sub Total</strong></td>
<td>0.50</td>
<td></td>
<td>1.85</td>
</tr>
<tr>
<td><strong>Threats (T)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Free market</td>
<td>0.10</td>
<td>2</td>
<td>0.20</td>
</tr>
<tr>
<td>2. Instable market prices</td>
<td>0.10</td>
<td>2</td>
<td>0.20</td>
</tr>
<tr>
<td>3. Fruit fly attack</td>
<td>0.10</td>
<td>1</td>
<td>0.10</td>
</tr>
<tr>
<td>4. Natural disasters</td>
<td>0.05</td>
<td>1</td>
<td>0.05</td>
</tr>
<tr>
<td>5. Lack of partnership</td>
<td>0.10</td>
<td>1</td>
<td>0.10</td>
</tr>
<tr>
<td>6. Long marketing chain</td>
<td>0.05</td>
<td>1</td>
<td>0.05</td>
</tr>
<tr>
<td><strong>Sub Total</strong></td>
<td>0.50</td>
<td></td>
<td>0.70</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1.00</td>
<td></td>
<td>2.55</td>
</tr>
</tbody>
</table>


From the analysis in table 1 Internal Factor Analysis Summary (IFAS) strength factor (S) has a strength value of 1.90 whereas the weakness factor has a value of 0.85 which means that in the framework of fruit marketing marketing in Tulungagung district still has better strength than weaknesses that exist.

Analysis of table 2 shows that for the Opportunities (O) factors the score is 1.85 and the Threat Factors (T) value is 0.70, it means that in the context of star fruit marketing in Tulungagung Regency there is still a chance, considering the threat is smaller in value from opportunity.

By compiling the IFAS and EFAS matrices, it can produce scores on each of the internal and external factors as follows:

- Strength factor (S) = 1.90
- Weakness Factor (W) = 0.85
- Chance Factor (O) = 1.85
- Threat Factor (T) = 0.70

The above results can be described in the SWOT matrix formulation in table 3.

<table>
<thead>
<tr>
<th>IFAS</th>
<th>Strengths (S)</th>
<th>Weaknesses (W)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EFAS</strong></td>
<td>Strategy – SO = 1.90 + 1.85 = 3.75</td>
<td>Strategy – WO = 0.85 + 1.85 = 2.70</td>
</tr>
<tr>
<td>Opportunities (O)</td>
<td>Strategy – ST = 1.90 + 0.70 = 2.60</td>
<td>Strategy – WT = 0.85 + 0.70 = 1.55</td>
</tr>
</tbody>
</table>

**SWOT Matrix**

Based on IFAS and EFAS matrix analysis, a SWOT matrix is developed to analyze strategic alternative formulations, both SO, WO, ST and WT strategies, the results of the SWOT matrix analysis are shown in the following table 4.

**Decision-making**

From the following SWOT matrix formulation is a quantitative model analysis of strategy formulation. Based on the sum of the score values for each of the factors that are present in each strategy in both the SO, WO, ST and WT strategies, it is possible to draw a quantitative model of the strategy summary in table 5 as follows.
Table 4. Correlation of IFAS and EFAS

<table>
<thead>
<tr>
<th>IFAS</th>
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<th>Weaknesses (W)</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>1. Production can still be increased,</td>
<td>1. Low quality,</td>
</tr>
<tr>
<td></td>
<td>2. Collectors,</td>
<td>2. Market determined prices,</td>
</tr>
<tr>
<td></td>
<td>3. Distributors,</td>
<td>3. Limited water,</td>
</tr>
<tr>
<td></td>
<td>4. Potential of ecology,</td>
<td>4. Small planting area,</td>
</tr>
<tr>
<td></td>
<td>5. Number of farmers,</td>
<td>5. Lack of promotion,</td>
</tr>
</tbody>
</table>

Opportunities (O)
1. High market requirements,
2. Local Government support,
3. Export opportunities,
4. High economy value,
5. Fruit market,
6. Transportation and communication.

Weaknesses (W)
1. Special guidance for starfruit crop farmers,
2. Increase production to meet market needs,
3. Starfruit cultivation and processing policy,
4. Coordinate distributions with transportation services,
5. Priority of exemplary farmers,
6. Use of local markets.

Threats (T)
1. Free market,
2. Instable market prices,
3. Fruit fly attack,
4. Natural disasters,
5. Lack of partnership,

Table 5. Quantitative Matrix of Strategy Planning

<table>
<thead>
<tr>
<th>IFAS</th>
<th>Strengths (S)</th>
<th>Weaknesses (W)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strategy – SO uses power to take advantage of opportunities = 3.75</td>
<td>Strategy – WO minimize weaknesses to take advantage of opportunities = 2.70</td>
</tr>
<tr>
<td></td>
<td>Strategy – ST uses power to overcome threats = 2.60</td>
<td>Strategy – WT minimize weaknesses for avoiding threats = 1.55</td>
</tr>
</tbody>
</table>

Table 5 shows that the star fruit marketing strategy in Tulungagung Regency needs to utilize the SO strategy which has the highest score of 3.75. This strategy is taken on the basis of the results of the SWOT analysis, which is a SO strategy that uses internal strength to take advantage of external opportunities with the following strategic priorities.

1. Special guidance for starfruit farmer groups.
2. Increase production to meet market needs.
3. Policy for guiding and processing star fruit.
4. Coordinate distributors with transportation services.
5. Priority for exemplary farmers.
6. Utilization of the local market.
5. Conclusions


The strategy established in the context of the marketing of star fruit in Tulungagung Regency is an SO strategy that is using power to take advantage of opportunities, the activities are as follows:
1. Special guidance for starfruit farmer groups.
2. Increase production to meet market needs.
3. Policy for guiding and processing star fruit.
4. Coordinating distributors with transportation services.
5. Priority for exemplary farmers.
6. Utilization of the local market.

6. Acknowledgment

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