Green marketing strategy for local specialty agro-industry development to support creative agro-industry

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Abstract. Environmental problem including various aspects has become one of the central issues in industrial development such as in the agricultural industry. Thus, green nuance is not only implemented in the green production process, but also applied to the marketing aspect. Therefore, in order to meet business objectives, especially consumer demand, green marketing has now begun to be developed. This research was aimed to formulate a green marketing strategy that could be applied in the local specialty agro-industry development. This research employed a case study of local specialty at XYZ. The analysis was carried out by using SWOT matrix and Quantitative Strategic Planning Matrix (QSPM). The results of SWOT matrix analysis revealed six recommended strategies then analyzed using QSPM. The results of SWOT analysis on the IE matrix indicated that XYZ was at the level V (hold & maintain); in this level, the strategies that can be developed are market penetration and product development. The alternative strategies were obtained from the results of brainstorming with XYZ. There were 6 alternatives consisting of increasing efficiency of using raw material, maintaining efficiency of lighting energy, using eco-friendly plastic shopping bags, providing ISO 140001 training for employees, promoting the use of eco-friendly materials and actions, and encouraging innovation in eco-friendly production processes. The alternative strategies that obtained from the results of data processing by using QSPM indicated three highest priorities; the priorities consisted of promoting the use of eco-friendly materials and actions, providing ISO140001 training for employees, and increasing efficiency of using raw materials.

1. Introduction
Malang is one of the cities in East Java Province which has the main potential in agriculture, culinary and tourist attractions. The development of the processing sector of agricultural products (culinary) synergized with the service industry has become the leading sector in boosting the economy in Malang. The growth of the Small and Medium Enterprises (MSMEs) sector in Malang shows a rapid development. Based on the data from Cooperatives, Small and Medium Enterprises Service [1], the development reached 5.61 percent or above the average economic growth of East Java which was 5.5 percent.

One of the SMEs in Malang is a SME which produces Apel Strudel; this type of food is one of iconic specialties of Malang. Apel Strudel has become a popular specialty in Malang since 2015 and the number of Apel Strudel outlets in Malang has reached 8 outlets. As this product becomes the iconic specialty of Malang, many competitors use this opportunity to sell similar product with different
brands. Thus, planning an appropriate marketing strategy is needed in order to increase competitive advantage. One of the main objectives of marketing is reaching consumers during the most influential purchasing decision making. Marketing involves more than just promoting and selling goods or services, it aims to educate, communicate and influence society [2].

In recent years, global warming, climate change and pollution are some of the concerns that have been raised internationally and have resulted in more consumers being aware of the environmental challenges they face. This environmental challenge has advantages in the business environment, as well as in the public domain. These critical environmental problems combined with demand from consumer groups for green products have led to the emergence of green marketing. According to D’Souza [3], green marketing consists of marketing goods and services that are considered environmentally friendly and promoting environmental conservation in a sustainable way. In recent years, green marketing has begun to affect consumers and business activities.

XYZ is one of the small-scale industries that produces and sells processed apple products. XYZ provides various types of flavors. Small-scale industrial activity such as marketing is still considered to be inefficient and eco-unfriendly. In order to achieve an efficient process, marketing needs to be optimized, so that the marketing activity is appropriate to its usage and the waste produced can also be minimized. In an efficient marketing process, a strategic plan must be planned to optimize green marketing of Malang Study by employing Strength, Weakness, Opportunity, Threat (SWOT) and Quantitative Strategic Planning Matrix (QSPM) analysis methods.

SWOT analysis is an important matching tool to help managers develop four types of strategies, namely the SO strategy (strength-opportunity), WO strategy (weakness-opportunity), ST strategy (strength-threat) and WT strategy (weakness-threat). In the QSPM analysis, some alternative strategies are evaluated objectively based on the internal and external factors of the company that have previously been identified. QSPM also has features in which the set of strategies can be viewed and observed sequentially based on the results of the TAS (Total Attractive Scores) value. Moreover, researchers can incorporate breakthrough strategies based on appropriate internal and external factors in the decision making process.

2. Materials and Methods
   2.1. Data collection
   The data collection was carried out by means of literature studies, field observations, interviews, and documentation. The data collection related to field conditions data covered the general included the research locations, products, sales, and other general information and the specific conditions included marketing strategies employed by the enterprise. Interviews were conducted with managers or department leaders who were related to marketing strategies; the managers involved were marketing managers, marketing employees, and employees at the outlet since they met the consumers directly.

   2.2. Research limitation and variables
   This research only discussed the internal and external factors of the enterprise based on the results of the interviews with the management of XYZ. This research did not discuss the problems regarding finance and production systems in XYZ. The internal environment only explained about the physical evidence and marketing. The external environment only covered competitors and demographic of XYZ outlet.

   After the data were obtained, the next step was determining the research variables. This study used variables and indicators based on the 7Ps of Marketing Mix on green marketing, namely product, place, price, and promotion, people, physical evidence and process. The variables can be seen in Table 1.
2.3. Research respondents
The respondents were selected by employing purposive sampling. There were two people involved as the respondents, general manager and store manager of XYZ. Those respondents were considered to have information about internal and external strategy factors and play a role in formulating a marketing strategy and marketing the product as well as knowing the real condition of the enterprise.

2.4. Data Analysis
The data were analyzed qualitatively and quantitatively. The methods employed in this research were SWOT and QSPM method. The preparation of a green marketing strategy at XYZ used SWOT method and QSPM involving three stages of data analysis implementation.

| No | Variable | Indicator |
|----|----------|-----------|
| 1. | Green Product | Raw materials are safe for the environment and health [4] The product’s primary packaging is not harmful to human health (food grade) [5]. Plastic shopping bags are environmentally friendly (biodegradable)[6] |
| 2. | Green Place | Raw materials are obtained from local suppliers nearby the enterprise[5,7] The production site has EIA permit and commits not to pollute the surrounding environment[7] The store or outlet encourages lighting energy efficiency [7] Easy disposal of solid waste [8] |
| 3 | Green Price | The price of the product charged includes environmental conservation cost [7] The price of the product is compared to similar competing product [8] |
| 4 | Green Promotion | The enterprise uses promotional media that is environmentally friendly [8] The product promotion involves activity of environmental conservation [9] |
| 5 | Green people | The employees are aware of energy savings [5] The enterprise tries to minimize waste [5] Local government policies on environmental conservation[5] |
| 6 | Green physical evidence | Eco-label is found on the product packaging [7] The dominance of green color identical to the environment is chosen for product packaging and store decoration [7] Stores are located on strategic area and accessible [7] |
| 7 | Green process | The production process is based on ISO 14001 certification [8] The enterprise applies raw materials efficiency [9] The enterprise applies energy efficiency process [9] |

3. Results and Discussion
3.1. SWOT analysis
3.1.1. Internal factor evaluation (IFE) matrix
The IFE matrix analysis was the result of identifying internal factors in the form of influential strengths and weaknesses at XYZ outlet. The IFE matrix for XYZ development can be seen in Table 2. Based on the IFE matrix, it could be seen that the main strength possessed by XYZ was the use of safe and eco-friendly raw materials. This factor had a total weighted value of 0.2537. The use of environmentally friendly raw materials has now become a demand in running agricultural business; it is useful for producing high quality products by optimizing local resources. The selection of pure raw materials includes in the principle of preventing pollution in environmental management for the creation of conditions that are very low in pollutants. The application of environmentally friendly agro-industry can be done by using quality and pure raw materials to avoid contamination in the production process. This strength must be maintained by XYZ.
The main weakness of XYZ was that the employees’ awareness of energy savings was not comprehensive indicating a value of 0.0551. In green marketing, employees play an important role. The enterprise must encourage the employees to commit to preserve the environment. An effective employees training is required to educate them about eco-friendly mindset. The enterprise must also increase employees’ awareness of ‘greenness’ by conducting eco-cycle training. The enterprise must implement an environmentally friendly mindset in its daily business activities [8]. The total weighted value of internal factors (strengths and weaknesses) was 2.5671.

Table 2. Internal factor evaluation (IFE) matrix.

| No | Internal factor | Weight (a) | Rating (b) | Score (c = axb) |
|----|----------------|------------|------------|-----------------|
| **STRENGTH** | | | | |
| 1 | Raw materials are safe for the environment and health | 0.0634 | 4 | 0.2537 |
| 2 | The product's primary packaging is not harmful to human health (food grade) | 0.0588 | 3 | 0.1765 |
| 3 | There is a Tidyman logo on the secondary packaging | 0.0634 | 2 | 0.1268 |
| 4 | Production sites do not pollute the surrounding environment | 0.0625 | 4 | 0.2500 |
| 5 | The store provides a lot of trash bins | 0.0570 | 2.5 | 0.1425 |
| 6 | The store applies lighting energy efficiency | 0.0616 | 4 | 0.2463 |
| 7 | The price of the product charged includes environmental conservation cost | 0.0616 | 2.5 | 0.1540 |
| 8 | The enterprise uses eco-friendly print media for promotion | 0.0542 | 2 | 0.1085 |
| 9 | The enterprise tries to minimize waste | 0.0607 | 3 | 0.1820 |
| 10 | The enterprise applies raw materials efficiency | 0.0533 | 2 | 0.1066 |
| **WEAKNESS** | | | | |
| 1 | Plastic shopping bags are eco-unfriendly | 0.0643 | 3 | 0.1930 |
| 2 | There is no eco-label on the packaging | 0.0414 | 2 | 0.0827 |
| 3 | Raw material suppliers are far from the enterprise | 0.0561 | 1.5 | 0.0841 |
| 4 | The advertisements displayed have not involved environmental conservation efforts | 0.0643 | 2.5 | 0.1608 |
| 5 | The employees’ awareness of energy savings was not comprehensive | 0.0551 | 1 | 0.0551 |
| 6 | There is no ISO 14001 certification for the production process | 0.0579 | 2 | 0.1158 |
| 7 | Energy efficiency in the process has not been performed optimally | 0.0643 | 2 | 0.1287 |
| **TOTAL** | | 1.0000 | | 2.5671 |

3.1.2. External factor evaluation (EFE) matrix

The EFE matrix analysis was the result of identifying external factors such as opportunities and threats that affected XYZ outlet. Multiplication between the average weighting and rating resulted in a total score. The EFE matrix of XYZ development can be seen in Table 3.

Based on Table 4, it could be seen that the main opportunity for this enterprise was based on the highest score of the local government policy on environmental conservation with a score of 0.6250. According to expert responses, the local government policies that support environmental conservation will be an opportunity for the development of XYZ to be an environmentally friendly industry. Based on the data from Environmental Service of Malang Regency, the government is very supportive and has done many things related to environmental conservation. Since 2014, there have been two locations of green open space managed together with the community. Construction of infrastructure and facilities for independent waste management run by the community from 4 villages (800 units of trash bins, 50 units of composters, 5 units of garbage carts, 8 springs that are conserved, 25 units of built infiltration wells, 25 conserved springs, and many more. In 2017, the government created some programs including environmental pollution and damage control program, pollution control
improvement program, natural resource protection and conservation program, quality improvement program and access to information on natural resources and the environment, solid waste management performance development program, and others.

Table 3. External factor evaluation (EFE) matrix.

| No | External Factor                                      | Weight (a) | Rating (b) | Score (c = a x b) |
|----|------------------------------------------------------|------------|------------|------------------|
|    | OPPORTUNITY                                          |            |            |                  |
| 1  | There is an increase in consumer interest in environmentally friendly products | 0.1607     | 3.5        | 0.5625           |
| 2  | Local government policy on environmental conservation | 0.1786     | 3.5        | 0.6250           |
| 3  | The store locations are strategic and accessible     | 0.1429     | 3          | 0.4286           |
| 4  | Easy access to solid waste disposal                  | 0.1190     | 2          | 0.2381           |
|    | THREAT                                               |            |            |                  |
| 1  | The product prices are more expensive than similar competitors | 0.1548     | 1          | 0.1548           |
| 2  | The competitor of similar product also uses the dominance of green color that is identical to the packaging design and store decoration | 0.1012     | 1.5        | 0.1518           |
| 3  | The consumers lack understanding of environmentally friendly products | 0.1429     | 2          | 0.2857           |
|    | TOTAL                                               | 1.0000     |            | 2.4464           |

The main threat to XYZ was that the competitor of similar product also used the dominance of green color that was identical to the packaging design and store decoration. The brand of the competitor’s products is Apple Strudel. Competitors are a threat to a business. One of the threats in the industry is increasing competition from competitors. It can be caused by price war and new product innovations from competitors [10]. Therefore, the enterprise must continue to encourage product innovation so that it becomes difficult to replicate by competitors. Based on the total weighted on the EFE matrix showing 2.4464, it indicated that the external conditions of the company were weak.

3.1.3. Internal external matrix (IE)

Internal External Matrix Analysis (IE) aims to determine the position of XYZ in order to formulate the right alternative strategy. The IE Matrix of XYZ can be seen in Figure 1. Based on the results of IFE and EFE matrix, it can be arranged in an IE matrix. The average value of IFE was 2.5671 and the average EFE was 2.4464. The result of IE matrix indicated that XYZ was in the quadrant V, which explained that the strategy needed by the company was hold and maintain strategy. Hold and maintain strategy shows that companies need a strategy for product market development and market penetration to improve the enterprise’s performance. The strategy that can be applied by the enterprise today is an intensive and integrative strategy.

3.1.4. SWOT matrix

The alternative strategies for developing XYZ were obtained from SWOT matrix. The alternative development strategies of XYZ were based on green marketing variables which consisted of green product, green place, green price, green promotion, green physical evidence, green people, and green processes. The alternative strategies were divided into 4 categories. The first category was SO (Strength-Opportunity) strategy aimed to improve the efficiency of the use of raw materials and maintain lighting energy efficiency. Then, WO (Weakness-Opportunity) category focused on using environmentally friendly shopping plastic bags and conducting ISO 140001 training for employees. Next, ST (Strength-Threat) category was aimed to promote the use of environmentally friendly materials and actions. Lastly, WT (Weakness-Threat) category focused on encouraging innovation of environmentally friendly production processes.
3.2. QSPM analysis

After obtaining an alternative strategy from the SWOT matrix, the final stage of the strategy priority analysis was using QSPM. Based on the results of the assessment of two expert respondents, there are three best strategic priorities that are feasible to run by XYZ. The strategy with the highest TAS value (top priority) is to promote using eco-friendly materials and taking eco-friendly actions. The second priority strategy is to conduct ISO140001 training to employees. The third priority is to increase the efficiency of using raw materials. The results of data processing using QSPM can be seen in Table 4.

Table 4. Data processing results using QSPM.

| Strategy | Alternative Strategy                                           | Total TAS | Rank |
|----------|----------------------------------------------------------------|-----------|------|
| ST 1     | Increasing the efficiency of using raw materials               | 6.0388    | 3    |
| ST 2     | Maintaining lighting energy efficiency                          | 4.8841    | 6    |
| ST 3     | Using eco-friendly plastic shopping bags                       | 5.8953    | 5    |
| ST 4     | Conducting ISO 14001 training for employees                    | 6.1736    | 2    |
| ST 5     | Conducting promotion using eco-friendly materials and actions  | 6.2120    | 1    |
| ST 6     | Encouraging innovation in eco-friendly production processes     | 6.0135    | 4    |

3.2.1. Conducting promotion using eco-friendly materials and actions

This strategy was from the S-T strategy that utilized the strength of XYZ, which was using environmentally friendly promotional media. Eco-friendly promotion is currently rarely used. If XYZ succeeds in doing eco-friendly promotion, then it can get added value from consumers. Green promotion can be associated with green advertising. Green advertising has elements that are used to communicate environmentally friendly campaigns from a company or product which includes one or more of the following things, namely green color (green), nature (scenery), eco labels, statement of...
environmental friendliness, emphasis on renewable raw materials (treatment of raw materials), environmentally friendly production processes, recyclability (can be recycled) [11]. This strategy can be realized by involving environmentally friendly media, such as eco-friendly paper and packaging. XYZ has fulfilled one thing from the elements of green advertising by using dominant green color both on the packaging and decoration at the outlet. XYZ can try to create strudel advertisements with eco label packaging as environmentally friendly products. Eco-label is a tool to motivate consumers to buy green products and it provides information about products [12]. In addition, XYZ can hold events that are environmentally friendly and provide information on environmentally friendly activities at each outlet. XYZ can invite its customers to attend open house in order to demonstrate environmentally friendly production processes. Corporate image that implements green advertising will increase consumer perception related to environmental sustainability [13].

3.2.2. Conducting ISO 14001 training for employees
Conducting ISO14001 training for employees can provide benefit to the enterprise because the employees will understand thoroughly about environmentally friendly products and the efforts to minimize waste and energy use. According to ISO14001 [14], there are several reasons for implementing ISO 14001, the main reason is to improve the company's image, increase employee participation, reduce environmental pollution and consumer demands. By implementing ISO 14001, the company can reduce environmental pollution by 20%. The overall objective of implementing the ISO 14001 Environmental Management System as an international standard is to support environmental protection and prevention of pollution that is balanced with socio-economic needs such as improving environmental performance, reducing costs and increasing market access.

3.2.3. Increasing the efficiency of using raw materials
The attempt to achieve environmentally friendly conditions in an agro-industry related to raw materials can be done by applying 6 (six) basic principles namely Refine, Reduce, Reuse, Recycle, Recovery and Retrieve Energy [15].

4. Conclusion
The results of SWOT analysis on the IE matrix indicated that XYZ was at level V (hold & maintain). At this level, it is expected that there is a strategy in market penetration and product development. There were six proposed alternative strategies consisting of increasing the efficiency of using raw materials (ST1), maintaining lighting energy efficiency (ST2), using eco-friendly plastic shopping bag (ST3), conducting ISO 140001 training for employees (ST4), conducting promotion using eco-friendly materials and actions (ST5), and encouraging innovation in eco-friendly production processes (ST6). The alternative strategies were obtained from the results of data processing using QSPM. Those three strategies with the highest priority were conducting promotions using eco-friendly materials and actions, conducting ISO140001 training to employees, and increasing the efficiency of using raw materials.

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