Marketing Strategy Analysis using AHP-SWOT Method to Increase Sales Volume

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Article Information	Abstract
	PT. X is a food manufacturer located in Gresik. Currently, the company, which was established in 2018, is facing an issue, namely a decline in sales figures leading to a significant decrease in profit. Therefore, this research will analyze the existing marketing strategies to propose new strategies to increase sales. The method used in this study is AHP-SWOT. AHP is used to determine the weighting of each aspect, while SWOT is used to determine proposed strategies. Based on the research conducted, it was found that the aspect with the highest weight, at 43.35% as determined by AHP, is the product aspect, which includes product quality, variety, and display. Based on the SWOT results, it was found that PT. X is in quadrant 2, indicating that the company still has strengths but faces various threats. Proposed strategies include increasing product quality with halal-labeled products and expanding promotion reach by utilizing social media campaigns and marketplace.

A. Introduction

The food industry in Indonesia has developed rapidly[1][2]. In addition, competition between companies comes not only from within the country but also from foreign companies[3][4], [5]. PT. X was established in 2018 and is one of the businesses engaged in food manufacturing in Gresik. The marketing area for PT. X covers the surrounding areas, including Gresik, Lamongan, and Mojokerto. During the two years since the establishment, developments in terms of revenue have been considered relatively stable and tended to increase. Based on the last year of sales data, PT. X experiencing decrease in sales. Even though sales volume before the Covid-19 pandemic was relatively stable. The sales volume reached 8000 pcs to 9500 pcs each month. However, the business has begun to experience a decline in sales volume last year till now. This resulted in a significantly decreased in company profits. Several factors could cause this decline such as lack of promotional strategy [6] and the emergence of new competitors[7] in the local area. Therefore, in this study, an analysis of marketing strategies is conducted to provide the best marketing strategy recommendations that can be proposed using AHP-SWOT.

AHP is a decision support model developed by Saaty. This decision support model will describe a complex and multi-factor hierarchy or multi-criteria issues [8][9], [10]. Hierarchy is defined as a representation of a complex problem in a multi-level structure where the first level is the goal, followed by the factor level, criteria, sub-criteria, and forward down to the last level of alternatives[11]. AHP generates weights that can then be used in the EFAS-IFAS matrix calculation in SWOT analysis [12]–[14].

SWOT stands for Internal factors such as strengths, weaknesses environment, and the external factors such as opportunities and threats environment faced by the business world[15]. SWOT analysis compares opportunities and threats with internal strengths and weaknesses. The application of SWOT Analysis is the identification of various factors systematically to formulate corporate strategy. This analysis is based on a logic that can maximize Strengths, including product advantages and Opportunities while minimizing weaknesses and threats simultaneously. SWOT can provide the best strategy recommendations based on the combination of Strengths, Weaknesses, Opportunities, and Threats of a company, tailored to where its quadrant is located[16]–[18]. This method has been proven in previous studies to effectively provide strategy recommendations by comprehensively considering many factors[19], [20].

B. Research Method

Data analysis was carried out descriptively. Namely, the research is used to conclude in the form of descriptions or opinions from the data obtained or collected. In this case, the author uses a SWOT analysis. This SWOT analysis is to consider and analyzes several factors, both internal and external factors.

The steps for solving the problem in this study are:

1. Analyzing the 4P criteria for the product marketing system has impacted sales in the company.
2. Collect data by distributing questionnaires to the company's marketing manager.
3. Create a pairwise comparison matrix of criteria and sub-criteria

4. Make a comparison matrix of normalized results on each criterion and sub-criteria and calculate the weight value.
5. Calculating the Consistent Test on each criterion and sub-criteria from the results of normalization to find out the Consistency Index (CI) and Consistency Ratio (CR) values of the selected criteria and sub-criteria. The formula for CI and CR is:

$$CI = \frac{\lambda \max - n}{n-1}$$ (1)

With:
$\lambda \max$: Maximum eigen value
N : The number of items being compared

$$CR = \frac{CI}{RI}$$ (2)

Notes :
CI : Consistency index
RI : Random index

6. Create a weighted normalized decision matrix by shifting the priority criteria to AHP with a minimized decision matrix
7. Determine internal factors and external factors in the SWOT method

C. Result and Discussion
1. Marketing Mix Evaluation
The first step in the weighting process is to make a pairwise comparison questionnaire shown to Experts who understand the evaluation of product marketing, namely business owners, the marketing department, finance department. In determining the weight using Microsoft Excel, the Consistency Ratio value must be less than 0.1 if CR is greater than or equal to 0.1. then the results are inconsistent [13], [14], and the paired matrices must be repeated.

Table 1. Ratio of Value Matrix Consistency Ratio

Description	Value
Lambda Max	0,25
CI (Consistency Index)	- 1,25
CR (Consistency Ratio)	- 1,389
Results	Consistent

From Table 1, it is known that the value of the consistency ratio (CR) is -1.389, which is below 0.1, so it is said that the comparison is consistent. Following is the recapitulation of the calculation of the weight values of the pairwise comparison matrix criteria using the AHP (Analytical Hierarchy Process) method that can be seen in Table 2.

Table 2. Recapitulation of Comparison Matrix Criteria Weight calculation

No	Indicators	Respondents				Weighted Average (%)
		1	2	3	4	
1	Product	0,347	0,441	0,484	0,462	43,4
2	Place	0,159	0,164	0,168	0,275	19,2
3	Price	0,314	0,256	0,231	0,142	23,6
4	Promotion	0,179	0,139	0,117	0,122	13,9
CR (Consistency Ratio)		- 0,990	- 0,998	- 1,005	- 0,974	
Conclusion		Consistent	Consistent	Consistent	Consistent	
Total						100,00

Furthermore, the criteria for each sub-factor were assessed based on the distribution of the AHP comparison questionnaire for the 4P sub-factor. Following is the recapitulation of the matrix ratio consistency values, which can be seen in Table 3.

Table 3. Ratio Consistency Value Matrix

Description	Value
Lambda Max	0,519
CI (Consistency Index)	- 1,241
CR (Consistency Ratio)	- 2,139
Results	Consistent

The following is a recapitulation of strategic target weighting between sub-factors using Microsoft Excel software which can be seen in Table 4.

Table 4. Sub-factors weghting result

Product Factors	Weight R1	CR 1	Weight R2	CR 2	Weight R3	CR 3	Weight R4	CR 4
Product Quality	0,633		0,590		0,658		0,638	
Product Variants	0,106	- 2,163	0,283	- 2,139	0,253	- 2,071	0,262	- 2,109
Product Display	0,260		0,128		0,089		0,101	
Place Factors	Weight R1	CR 1	Weight R2	CR 2	Weight R3	CR 3	Weight R4	CR 4
Location	0,478		0,433		0,589		0,552	
Marketing Reach	0,350	- 2,24	0,466	- 2,23	0,252	- 2,20	0,277	- 2,17
Outlet Display	0,172		0,101		0,159		0,172	
Price Factors	Weight R1	CR 1	Weight R2	CR 2	Weight R3	CR 3	Weight R4	CR 4
Wholesaler Price	0,25	- 0,00	0,2	0,00	0,2	0,00	0,2	0,00
Discount Price	0,75		0,8		0,8		0,8	
Promotion Factors	Weight R1	CR 1	Weight R2	CR 2	Weight R3	CR 3	Weight R4	CR 4
Advertisement	0,186	- 2,068	0,323	- 2,158	0,224	- 2,156	0,277	- 2,168

Product Factors	Weight R1	CR 1	Weight R2	CR 2	Weight R3	CR 3	Weight R4	CR 4
Buyer Power	0,077		0,220		0,190		0,172	
Brand Awareness	0,737		0,458		0,586		0,552	

From the data processing results using the AHP, it can be concluded that each sub-factor with the highest weight will be the company's priority to increase sales. The product factor that is the company's priority is product quality. The place factor is the location of the business, the price factor is the discounted price, and the promotion factor is brand awareness.

2. ***SWOT Analysis***

Internal factors is factors that comes from within the business itself. Internal factors identified in PT. X are:

a) Strengths. The strengths of PT. X are: has a variety of products, the products have a delicious and special taste, and provide product quality assurance to consumers

b) Weaknesses. The weaknesses possessed by PT. X are: the outlet's location is far from the center of the crowd, physical evidence that is still lacking, products are not durable, the promotional reach is limited.

External factors is factors that influence a business that comes from outside the business itself and identified below:

a) Opportunities. Opportunities that can be utilized by PT. X includes: high market demand, affordable prices, the marketing scope that can be expanded with the presence of social media, a workforce knowledgeable in IT, thus able to leverage social media campaigns, its potential market is the industry sector.

b) Threats. Threats are threatening conditions or external factors from outside the company that can disrupt a business and can be described as: the emergence of several similar industries, competitors dare to compete with lower prices, competitors use online media in product marketing, the emergence of product innovation from other companies.

After calculating the results of the IFAS and EFAS questionnaires to obtain scores on each indicator, the next step is mapping in the SWOT matrix. The mapping results provide information about the company's position in the SWOT matrix quadrant. The scores from the IFAS and EFAS questionnaires were adjusted to the 7P sub-factors used in the SWOT matrix mapping. Table 5 and Table 6 are summarize of the company's internal and external factor assessments. Those summary will use for constructing the SWOT matrix.

Table 5. IFAS Matrix Result

No	Aspects	Weight (%)	Strength (S)		Weakness (W)	
			Score	Value	Score	Value
1	**Product**	43,35	3,33	1,45	1,07	0,46
	Quality	-	2,8	-	0	-
	Variants	-	1	-	0	-
	Display	-	0	-	0	-

No	Aspects	Weight (%)	Strength (S)		Weakness (W)	
			Score	Value	Score	Value
2	**Place**	19,15	0	0	0,87	0,17
	Location	-	-	-	2,6	-
	Marketing Reach	-	-	-	3,2	-
	Outlet Display	-	-	-	0	-
3	**Price**	23,6	1,30	0,3	1,00	0,24
	Wholesaler Price	-	-	-	-	-
	Discounted Price	-	-	-	-	-
4	**Promotion**	13,9	0	0	1,07	0,15
	Advertisement	-	-	-	-	-
	Buyer Power	-	-	-	-	-
	Brand Awareness	-	-	-	-	-
Total Weight		100,00		1,75		1,01
Difference = (1,75 – 1,01) = 0,74						

Table 6. EFAS Matrix Result

No	Aspects	Weight (%)	Opportunities (O)		Threat (T)	
			Score	Value	Score	Value
1	**Product**	43,35	0	0	2,73	1,18
	Quality	-	6,8	-	-	-
	Variants	-	-	-	8,2	-
	Display	-	-	-	-	-
2	**Place**	19,15	2,33	0,45	-	0,00
	Location	-	7	-	-	-
	Marketing Reach	-	15,8	-	8,6	-
	Outlet Display	-	-	-	-	-
3	**Price**	23,6	4,40	1,0	4,30	1,01
	Wholesaler Price	-	-	-	-	-
	Discount Price	-	-	-	8,6	-
4	**Promotion**	13,9	5,27	0,73	2,87	0,40
	Advertisement	-	8,6	-	8,6	-
	Buyer Power	-	-	-	-	-
	Brand Awareness	-	-	-	-	-
Total Weight		100,00		2,22		3,60
Difference = (2,22 – 2,60) = - 0,38						

After EFAS IFAS calculation, the next step is plotting the value into quadrant taht be seen in Figure 1 below. After determining the quadrant where PT. X is positioned, which is quadrant 2, several proposed strategies that are suitable for this quadrant can be provided. In quadrant 2, the strategies formulated should consider the strengths possessed by PT. X to overcome the challenges that need to be addressed.
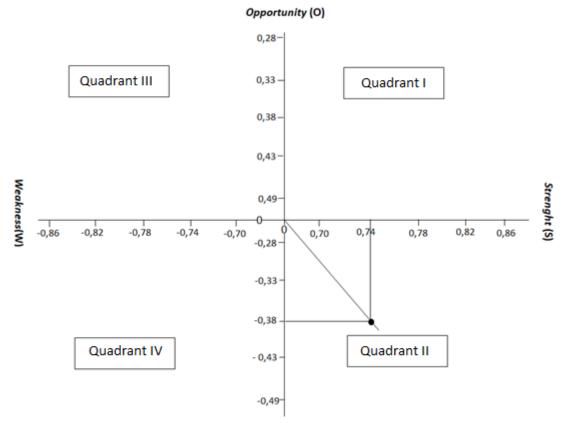
Figure 1. SWOT Position Map

The proposed strategies for quadrant 2 can be seen in Table 6.

Table 6. EFAS Matrix Result

IFAS	Strength (S)
EFAS	1. Has a variety of product variants 2. The product has a delicious and special taste 3. Provide product quality assurance to consumers
Threat (T) 1. The emergence of new competitors with big names 2. Competitors dare to compete with lower prices 3. Competitors use online sales 4. The emergence of product innovation from competitors	**ST Strategy** 1. Develop new products at affordable prices and make halal certificates and certificates from BPOM 2. Expanding the reach of Promotions 3. Maximizing Sales on social media and marketplaces

D. Conclusion

Based on the results of factor weighting using the AHP method. The product factor has the highest weight of 43.4%, the price factor ranks second with a weight of 23.6%, the price factor ranks third with a weight of 19.2%, and in last place is the promotion factor with a weight of 13.9%. Product has the highest weight, which means that this factor most influenced in PT. X sales reduction. The sub-factor of the product consists of product quality, product variants, and product display. Based on the diagram of weights and ratings for each element of the SWOT matrix, PT. X is currently in quadrant II, namely the meeting between IFAS at point -0.38 and EFAS at point 0.74. So, despite facing various threats, Armina Food Bakery still has internal strength. The strategy must implement one that uses strength to take advantage of long-term opportunities through a diversification strategy (product/market). The marketing strategy that PT. X can carry out to increase sales is by increasing product distribution, such as expanding marketing reach by expanding marketing targets and seeing the high desire of the community to consume healthy food. Besides that, promotion is also carried out optimally through print media (such as newspapers, brochures, and magazines), social media campaign (such as facebook and instagram), and marketplaces.

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