



PENGEMBANGAN PRODUK INOVASI PENGHARUM MOBIL BERBASIS NILAM BERDASARKAN RESPON PELANGGAN DAN ANALISIS SWOT

THE DEVELOPMENT OF PATCHOULI-BASED CAR FRAGRANCE INNOVATION PRODUCT BASED ON CUSTOMER RESPONSE AND SWOT ANALYSIS

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ABSTRACT

This study aims to observe customer's responses toward car fragrance products, examine the volatility and properness of the essential oil-based product. Essential oil is a group of vegetable oil in form of liquid that easily evaporated at room temperature. Hence, it gives unique scents. This research is carried out with a descriptive method using a qualitative approach. The data analysis technique of this research is using SWOT analysis (Strength, Weakness, Opportunity, and Threat) and calculation of Cost of Goods Sold to compare the two samples of car freshener. The result of this research shows that product A, which is based on patchouli essential oil and other essential oils was more preferable by the customer with the range of selling price in IDR 19.000 – IDR 22.000 than product B. SWOT analysis explains that the product's strength is the multifunction of the product as aromatherapy and the opportunity of the product to compete in a wider market; while the weakness of the product is the high labour of production process. The total calculation of the Cost of Goods Sold for product A is IDR 15.440 and product B is IDR 15.960.

1. INTRODUCTION

People are exposed to various smells every day, both pleasant and unpleasant odors, including scents. The aroma that is inhaled every day by humans is a mixture of gases in the air found on the earth's surface. Air is an environmental component that is very important for human life and can affect health. According to WHO data in 2011, 2.7 million people died from air pollution and 2.2 million of them were caused by indoor air pollution. Meanwhile, EPA (Environmental Protection Agency of America) states that indoor air pollution is the fifth most risky to the

environment for public health (Warobi et al., 2021). A study carried out by Adams and Doucé (2017) found that exposure to scents affects human behavior and performance. Moreover, nowadays, many commercial products promote scents, including air freshener. There is a chemical process to produce air freshener products. The process aims to remove displeasing smells and freshening the air in an enclosed area. Air fresheners are divided into two types, namely natural materials and synthetic materials. Synthetic materials produce a sharp fragrance that can cause dizziness, while natural ingredients produce a softer and natural aroma that can provide comfort and tranquility (Surbakti and Swadana, 2018). Nowadays, the use of fresheners has increased as in various types of fresheners. The fresheners have been using in many places, like rooms, cars, offices etc. Nevertheless, this research would only focus on the utilization of car fresheners.

The car freshener is a variety of air fresheners

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distinctively functioned for the enclosed car cabin.

Besides the odour function, the other utilisation of a car freshener is its purpose as a passive stimulus for the driver. The use of car fragrances can help drivers maintain their alertness compared to light and alarm (Mahachandra et al., 2015). Car freshener products gain popularity for their purposes and functions.

Patchouli (*Pogostemon cablin*) is a herbaceous plant that has smooth leaves and rectangular trunks. The patchouli plant produces a distinctive fragrance that is produced from all parts of the plant from the roots, stems and leaves. To extract this plant, several steps are needed to make it into patchouli oil. The highest patchouli oil content is found in patchouli leaves (Slamet et al., 2019). Patchouli (*Pogostemon cablin*) oil is one of the essential oil that has many purposes. The patchouli essential oil works as a fixative agent (Syahputra et al., 2017). The utility of the fixative agent itself is to fixate the odor of the scents in cosmetic and perfume products. Patchouli oil has a high fixation power for mixing fragrance ingredients and can bind and prevent the evaporation of the aroma so that it can last a long time (Rahmawati et al., 2021).

Patchouli plant also is one of the featured plants of Aceh Province. Therefore, it is necessary to support the utilization and development of patchouli derived products. According to the Ministry of Agriculture of Indonesia, the total amount of Aceh's patchouli production in 2019 was 1,219 tons (Ditjenbun, 2021). The amount of patchouli production of Aceh Province was the biggest nationally. Therefore, patchouli has become one of the featured commodities, which continues to be developed by Aceh Province. There are four districts in the province of Aceh which are centers of production and the largest patchouli crop in Indonesia, namely the districts of South Aceh, West Aceh, Gayo Lues and Aceh Jaya.

Along with the development of patchouli utilisation in Aceh province, Atsiri Research Center (ARC USK) was established with the Memorandum of Understanding (MoU) between Syiah Kuala University with Korean Intellectual Property Office (KIPO), Korea Invention Promotion Association (KIPA), Aceh Patchouli Forum, and Bappeda Aceh. ARC USK is a Center of Excellence in Higher Education (PUI-PT) that focus on patchouli-related science and technology development.

The development of this car freshener product offers coffee scents as a fragrant variant. Coffee has become something that most people are familiar with and is one of the most consumed

beverages in the world. The amount of coffee consumption showed that people like the flavor and the fragrances of coffee. The positive impact of inhaling coffee fragrances can enhance alertness and improve short-time memory ability (Hawiset, 2019). In addition, research conducted by (Madzharov et al., 2018) shows that the aroma of coffee can improve performance in analyzing analytical reasoning and the aroma of coffee can also increase passion at work.

2. MATERIAL AND METHOD

This study was carried out with a descriptive method using a qualitative approach. The qualitative approach is research that uses the only description without calculation. Descriptive qualitative research is a method aimed at describing and describing the phenomena contained in research, both natural and human engineered, which pays attention to the characteristics, quality, and interrelationships between activities (Jumiati, 2018). According to (Palinggi and Allonggi, 2019) states that qualitative descriptive research is used to collect actual and detailed information from problems that only describe responses to situations or events, so that they do not explain quality relationships or carry out hypotheses. The data collecting process was done with a questionnaire distribution to the respondents along with showing the sample product. Data were analyzed using SWOT analysis (Strength, Weakness, Opportunity, and Threat) and Cost of Goods Sold calculated to compare the production cost.

SWOT analysis is a method to analyze the strengths, weaknesses, opportunities, and threats that a company may encounter. According to Sutojo and Kleinsteuser (2002), SWOT Analysis is a method of analysis aiming to decide business goals that are realistic and convenient with the company condition to ease achieving the company goals. SWOT analysis includes efforts to identify strengths, weaknesses, opportunities and threats that can determine the performance of a business. This identification can be done by seeking external information from many sources such as customers, suppliers, government documents, banking, market trends, and even other company documents (Mashuri and Nurjannah, 2020). SWOT analysis is based on the assumption that an effective strategy can maximize existing strengths and opportunities and minimize threats and weaknesses. So if applied properly and accurately this simple assumption can have a big impact on business strategy (Astuti and Ratnawati, 2020).

The cost of goods sold (CGS) calculation summarises expenditure to produce one unit of product from procurement tool to ready to sell the product. The cost of production is very much needed by the company's management and the outside of the company so that the company's accounting records and classifies the calculation of the cost of making products (Fadli and Ramayanti, 2020). The purpose of the basic cost calculation is to determine the total price of a product and be able to monitor the realization of production costs, calculate gross profit and loss for a certain period and can determine the cost of inventory of finished products and products in process presented in the balance sheet.

Production of car fragrance is operated in the Laboratory of ARC (Atsiri Research Center), University of Syiah Kuala. The car fragrance utilised two different fragrances. The first fragrance consisted of patchouli essential oil, coffee essential, gadenza essential, and citronella essential oil. Meanwhile, the second product consisted of patchouli essential oil and other essential oils. The comparison of alcohol and fragrant seeds in every product is 60:40. The tools for producing this car fragrance production are a glass bottle, measuring cylinder, dropper pipette, funnel, mask, gloves, and 10 ml glass packaging bottle. The production steps of the car fragrance are as follows:

- a. The first product is product A, which contains patchouli, coffee, gadenza and citronella essential oils in the package of 10ml bottle. The first step is to insert patchouli essential oil into the measuring cylinder. Then add other essential oils and stir the mixture until mixed. After that, add 6 ml of alcohol and stir until the mixture of fragrant seeds and alcohol is stirred properly.
- b. The second product is product B which contains patchouli, and other essential oils in the package of 10 mL bottles. The composition of alcohol and fragrant seeds is 60:40. The production steps of product B are as follows. The first step is to insert patchouli oil into the measuring cylinder and add other essential oils and stir. Before adding 6 ml of alcohol, ensure that all essential oil variants are stirred properly. After the mixture is mixed, then put it in the glass bottle and package it with the label.

3. HASIL DAN PEMBAHASAN

The products evaluation consists of several physical examinations. The examinations are analysis of colour, fragrant, and weight difference between A and B products. First, based on the

colour evaluation, product A has denser colour rather than the B product. The reason is because of the different coffee essential amounts.

The fragrance of both products is not substantially different because the formulation of the product A and B are nearly equivalent. The difference in the formulation of both products is the ingredient of citronella essential oil and cajuput oil. Product A provides a coffee-dominant fragrance. On the other hand, product B provides a softer fragrance.

Lastly, both products A and B have equal weight and size with the comparison of alcohol and mixed essential oil is 60:40 percent. Thus, an identical comparison of product composition resulted to equal weight and volatility between the product A and B.

This study is carried out by distributing the questionnaire to several respondents. Thus, the results of the questionnaire are provided below:

a. Fragrance

The table of fragrance percentages chosen by respondents are as presented in Table 1. According to the Table 1, the product A which has a coffee scent is more favoured by the respondents rather than B product which has the cajuput scent.

Table 1. Customer Response on Fragrance

No	Name	Percentages (%)
1	Product A	85
2	Product B	15

b. Volatility

The volatility percentages of both chosen product are shown in Table 2. According to the Table 2, both products could last until 3 weeks or more with percentages of 90% and 10%. The volatility depends on the car or room environment. Therefore, there is still 10% of possibility that the products last 2 weeks only.

Table 2. Customer Response on Volatility

No	Volatility	Percentages (%)
1	2 Weeks	10
2	3 Weeks	90

c. Price

The respondents favoured price percentages are as shown in Table 3. According to the Table 3, respondents favoured price range is IDR 19,000 - IDR 22,000 for 10 ml product. The competitor companies sell their products within the same price range. Therefore, it is appropriate to sell the product start from IDR 19,000 up to IDR 22,000.

S	W	O	T
STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
<ol style="list-style-type: none"> 1. Product quality 2. Unique product design 3. Various Fragrances option 4. Adequate Facilities and infrastructures 5. Ability to produce on time 6. Product could be use as aroma therapy 7. The employees possesses reliable skills 8. Good employees inter personal relation 	<ol style="list-style-type: none"> 1. Production is done manually 2. Lack of employees in product marketing 3. Narrow marketing reach 4. Very simple organizational structures 5. Inability to do mass scale production 	<ol style="list-style-type: none"> 1. Price of product relatively cheaper 2. Able to compete with owned local brand 3. The use of coffee scent has many potential costumer 	<ol style="list-style-type: none"> 1. Competitor product ingredients potentially better 2. Similar design with different price 3. More intense competitor product promotion 4. More advance technology used by competitor

Figure 1. SWOT Analysis

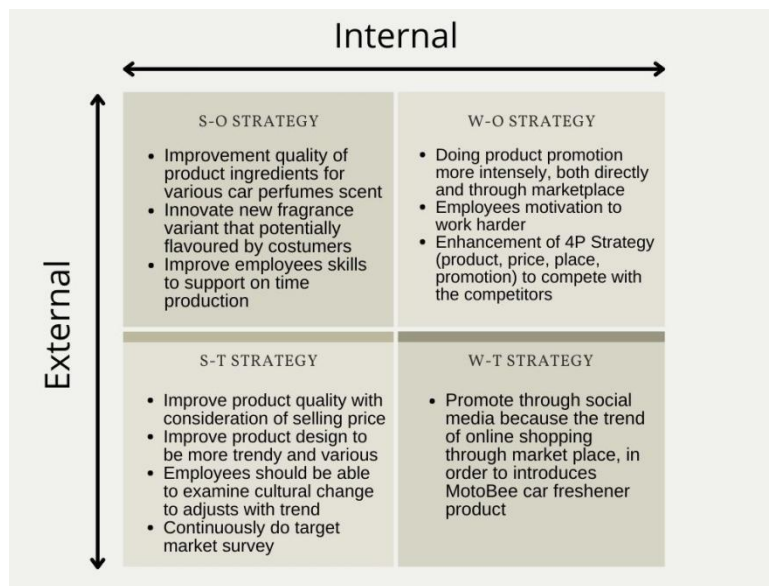


Figure 1. SWOT Strategy Decision Matrix



Table 3. Customer Response on Price

No	Price (IDR)	Percentages (%)
1	18,000	25
2	19,000-22,000	70
3	> 22,000	5

d. Packages

The pictures of packaging bottle for this product are provided bellow. According to the table of packages picture, respondents are more interested toward the package bottle B. The packaging is closely related to the aesthetic of the product. Therefore, the customer response reflect the customer preference and it is best to produce the products with the chosen packaging.

Table 4. Customer Response on Packaging

No	Packages picture	Packages name	Percentages (%)
1		A Package	25
2		B Package	75

Then we calculated the Cost of Goods Sold (CGS) for producing each product variation. The aim of this calculation is to compare which one has the cheaper production cost than another one. The calculation is as shown in Table 6. According to the Table 6, total expenditure in production of Product A is IDR 15440, while Table 7 shows that the total expenditure in production of Product B is IDR 15960.

The SWOT Analysis is a method to evaluate the product position in the market. The SWOT variables consist of strength factors, weaknesses, opportunities, and threats that influenced the marketing of the product. The SWOT of this product has been analysed as shows in Figure below.

It is necessary to integrate the strength and weakness of the product with the opportunity and threat of the product. This integration aims to gain alternative strategy to identified and analyzed the strategy decision matrix. Strategy decision matrix in SWOT matrix could be implemented for strategy decision matrix that related directly to marketing

strategy that could be beneficial for the company. The factors of strength, weakness, opportunity, ad threat generated strategy decision matrix as provided in the Figure 2.

Table 6. CGS of Car Freshener Product A

Tools, Ingredient and Other Cost	Product A (IDR)	Product B (IDR)
Packaging Bottle	Rp. 2000	Rp. 2000
Patchouli Essential 0,4 ml	Rp. 1160	Rp. 1160
Essential Oil A	Rp. 7280	-
Essential Oil B	-	Rp. 7800
Alcohol	Rp. 500	Rp. 500
Ingredient	Rp. 2000	Rp. 2000
Transportation Cost		
Promotion Cost	Rp. 500	Rp. 500
Costumer Subscription Cost	Rp. 1000	Rp. 1000
Distribution Cost	Rp. 1000	Rp. 1000
Total Cost	Rp. 15440	Rp. 15960

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3. CONCLUSION

Factors of strength, weakness, opportunity, and threat of a business need to be considered in order to decide the most appropriate strategy for the business process. It is also necessary for the company to consider all the consumer responses during the prototype process, because a good product is a product that is able to attract consumer. Hence, the quality of the product should be appropriate with consumer expectation. There is a slight difference between two products and it is not significantly affect the final results as the consumer will still buy both products. Therefore, the company can continue to produce this product and start to plan the marketing strategy to market the products.

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