

Analysis of the Business Model Canvas (BMC) on the Development of Processed Citrus Products

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Abstract

Oranges are a type of fruit with a fresh taste and vitamin C content, so it is great to consume in fresh form. Some processed citrus fruit products on the market and in minimarkets are still not in demand by consumers, this is because some products marketed are not through market research. Another problem is that the business strategies implemented by some processed orange-based products do not keep up with the times. Therefore, it is necessary to do a Business Model Canvas (BMC) to analyze business strategy. The purpose of this study is to obtain a model for developing processed citrus fruit products with market research methods and produce a business strategy for processed citrus fruit product with Business Model Canvas. The methods used are Business Model Canvas (BMC) and SWOT analysis. The results of this study show that most marketable and preferred orange-based product of consumers are health drink products with C1000 mg vitamins and business position on the cartesius diagram iin quadrant I with IFAS (2.12) and EFAS (3.50) values, so the focus of the strategy used is the SO strategy developed in the map of 9 blocks of retionale. Keywords: bmc, processed citrus products, market research, swot.

Keywords: BMC, IFAS, EAS, Citrus product, Market research, SWOT

INTRODUCTION

Indonesia is a tropical country that has great potential to produce various kinds of fruit. Various types of primary fruit are produced in Indonesia and can be found in

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processed products, including mango, orange, pineapple and passion fruit. Other processed products include canned fruits, cider drinks, sweets and jams. The development of the fruit processing industry needs to be developed as a priority in an effort to increase added value and absorb labor, based on the potential of fruits (oranges, mangoes, passion fruit, and pineapples) and export opportunities (Diny, et al. 2020). With advances in technology, human behavior has improved in many areas of daily life, including food preparation. Not only semi-finished materials, but also fresh fruits, can be made to work better and become more practical. But unlike other oil products, fruit doesn't last much longer.

Production of fruit crops in Indonesia in 2020 reached 24.87 million tons in 2020. Bananas were the most produced fruit, namely 8.18 million tons. Mango ranks second because national production is 2.9 million tons in 2020. Siamese/tangerine production was recorded at 2.59 million tons. Domestic pineapple production is 2.45 million tons in 2020. Thus, salak and durian production are 1.23 million tons and 1.13 million tons respectively. Papaya produced in Indonesia is 1.02 million tons. Meanwhile, East Java is the largest fruit-producing province in 2020. The amount reaches 7.09 million tons or 28.5 million of the total national production (BPS, 2020).

Fruits are a good source of vitamins for the body's metabolic processes, but fruits are very quickly damaged by physical, chemical and microbiological influences, if not handled properly. One way to minimize food spoilage is processing which can increase the value of the quality and variety of processed products. Fruits can be made into various processed forms such as cold drinks, fruit syrup, candy, dodol, chips and jam. Orange is a type of fruit with a fresh taste and contains vitamin C, so it is very good for consumption in fresh form. Processed products have the ability to increase the price of agricultural goods and convert various agricultural goods into various types of processed goods. Most notable is the diversification of soft candies, also known as fruit-based foods. Oranges, apart from being consumed fresh, are also consumed in the form of syrup, while the food they consume is jam and jelly. In addition, oranges can be used to make wine. The use of oranges can also be processed into various snacks, dodol and others (Rosita, et.al., 2021). Unfortunately, this processed orange product is still less attractive to the public.

Market research is a research activity in the field of marketing which includes planning, collecting, analyzing data relevant to decision making in the field of marketing management. "Marketing research is the identification, collection, analysis, and



dissemination of systematic and objective information for the purpose of assisting management in making decisions related to identifying and solving problems and opportunities in marketing (Mariana Simanjuntak, 2022:3). Market research is important because it is the basis for management decisions related to product marketing strategies. Some processed citrus products on the market and in mini markets are still not attractive to consumers.

Objectives

Another problem is that the business strategy implemented by several citrus-based products does not keep up with the times. In addition, processed orange products in the market cannot compete with similar products because they do not yet have a business strategy in marketing processed citrus fruit products. Therefore, it is necessary to use the Business Model Canvas (BMC) to analyze business strategy. The Business Model Canvas offers modern business strategies that can be used to solve sales or business problems. Based on some of the problems above, it is necessary to do research on the development of processed citrus products by conducting market research and business strategy using the Business Model Canvas.

This research aims to; Developing a diversification model for processed citrus fruit products using market research methods, so as to produce a business strategy for processed citrus products using the Business Model Canvas.

The Business Model Canvas (BMC) is a framework with a business model that can explain how companies can deal with problems in business or sales by creating, delivering, capturing a value which is then used to find the best business model. Ostewalder (2014) in his book explains that a business model is like a blueprint for a strategy that is implemented through organizational structures, processes and systems. Then in another book entitled Business Model Generation, it is explained that the business model is "We defined "B" as the logic by which an enterprise sustains it self financially. Put simply, it's the logic by which an enterprise earns its livelihood".

The Business Model Canvas can be used to analyze the SWOT of business strategy, where this SWOT analysis acts as a reflection of the business and challenges facing business dynamics. To develop a new product, SWOT analysis involves implementing external and internal factors through data analysis. In addition, also get a visualization of the business strategy efforts. As for the perspective of the Camvas



Business Model model on SWOT analysis, namely aspects of market analysis, competition analysis, general review and macroeconomics.

The analysis of IFAS and EFAS calculations is an analysis used to formulate plans by giving weights and ratings to each strategic factor and then producing a score which is the result of multiplying the weights and ratings. How to fill in weights and ratings based on the results of analysis and observations of researchers in each filling. This analysis process uses qualitative methods as an ingredient in planning a business model for citrus processed products. The steps for calculating the IFAS and EFAS factors are as follows:

- Compile internal and external factors from the identification results
- The weighting of internal and external factors is determined according to importance on a scale from 0.00 (not important) to 1.00 (very important) and where the total weight cannot exceed a total score of 1.00
- Giving a rating value in the IFAS table is based on a scale of 1 (not good) to a scale of 5 (very good).
- Giving a rating value in the EFAS table is based on a scale of 1 (not important) to a scale of 5 (very good). The assessment of strengths and weaknesses is always contradictory, as well as opportunities and threats.
- Calculation of scores from the multiplication of weights and ratings.

To interpret IFAS/EFAS values, you can use the following formula:

Range Formula:

Range : (Highest score – Lowest score) : Number of classifications Known : Highest score = 5 and Lowest score = 1 So: Range = (5-1) : 5 = 0.80

IFAS/EFAS	Score Interpretation
4.20 – 5.00	Very Good
3.40 – 4.19	Good
2.60 – 3.39	Moderate
1.80 – 2.59	Not Good
1.00 – 1.79	Very Not Good

Canva's Business Model (BMC), is used to filter information obtained from the observations of researchers, then mapped based on 9 BMC blocks. Furthermore, data development is carried out by examining more deeply the results of each of the 9 blocks.



DISCUSSION

Market research is the basis for determining trends in products that will be sold to the public. The products being marketed are not necessarily liked by the public continuously, it could change in the future. Therefore, it is necessary to do what trends are liked by the community. It aims to find out the preferred product or desire of the community.

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Competitor Analysis Results

Competition in the industry makes it difficult for a company to survive without creative and innovative strategies to attract attention and influence consumers. Processed citrus fruit products that have many types and brands circulating in the market and in mini markets have enormous power in determining consumer choices. Brand (brand) is the main value of marketing. According to Sidik, Abdurrahman (2018), the stronger the manufacturer's brand on the market, the more brands there are, especially in relation to consumer awareness to consume these products.

In Indonesia, there are many products with citrus fruit flavors that are direct competitors. These products are sold under various brands, packaging variations, prices, and health claims. Processed citrus products can be in the form of food and beverage products, or other types of products that each have health claims. Based on the results of observations, researchers collected 40 citrus-based products, both sold directly and e-commerce. It aims to analyze the advantages and disadvantages of each product so that it can decide which innovative products are worth developing. The results obtained from the interviews showed that the citrus-based products that were the most in demand and preferred by consumers were health drink products with vitamin C-1000 mg.

Today's human lifestyle is busy with various types of activities, coupled with high stress levels, due to work pressure, traffic jams, pollution, and unhealthy lifestyles, especially people who smoke and others., requires intake of health drinks with vitamins C- 1000 mg which can help maintain the immune system so that they can carry out their respective activities. In addition, with the emergence of the Covid-19 virus outbreak which attacked all countries and especially in Indonesia in May 2020, various efforts were made by the government to reduce the spread of Covid-19, one of which was to increase the body's immune system by consuming supplements containing vitamin C as a source of



antioxidants. which can boost the immune system. One of the health drinks that many people buy is a health drink with vitamin C-1000 mg.

SWOT Analysis Results

SWOT analysis is a method used to identify various factors and formulate a strategy for developing citrus processed products. The details of using a SWOT analysis are as follows:

a) IFAS and EFAS Score Factors

Table 1 is the result of calculating the IFAS and EFAS values for processed citrus products.

Table 1. Results of Calculation of IFAS and EFAS Values in Processed Orange Products.

No	Product Name	IFAS Value	Interpretation	EFAS Value	Interpretation
1	ABC Squash Delight Jeruk Florida	3,48	Good	3,67	Good
2	Marjan Squash Orange	3,43	Good	3,67	Good
3	Tropicana Slim Sirup Orange 750 ml	3,74	Good	3,75	Good
4	Indofood Syrup Freiss Orange	3,43	Good	3,67	Good
5	Minute Maid Nutriboost Orange	3,53	Good	3,40	Good
6	You-C 1000 Orange	3,88	Good	3,67	Good
7	Floridina Orange	3,67	Good	3,25	Passably
8	Hemaviton Vitamin C 1000 mg	3,53	Good	3,22	Passably
9	Minute Maid Pulpy Orange	3,87	Good	2,71	Passably
10	Larutan Penyegar jeruk	3,71	Good	2,50	Passably
11	Kiranti Orange	3,50	Good	2,71	Passably
12	Buavita Juice Slim Orange	3,71	Good	3,40	Good
13	Sunquick Mandarin	3,71	Good	3,57	Good



14	Morin Selai Marmalad Jeruk	3,55	Good	3,43	Good
15	Naraya Jelly Jeruk Mandarin Orange	3,22	Passably	3,67	Good
16	Milna Biscuit Baby Jeruk	3,27	Passably	2,71	Passably
17	Zyluc Mini Black Orange Biskuit	3,50	Good	3,67	Good
18	Monde Potato Biskuit Jeruk	3,67	Good	3,57	Good
19	Marimas rasa jeruk	3,25	Good	3,67	Good
20	Parago Orange Chewy Candy Rasa Jeruk	3,43	Good	3,67	Good
21	Heinz Farley's Biskuit Jeruk	3,33	Passably	3,89	Good
22	Relaxa Permen Wangi Orange	3,33	Passably	3,67	Good
23	Mamio Bubuk Minuman Jeruk Mandarin/Orange	3,60	Good	3,67	Good
24	Vicee jeruk 500 mg perstrip isi 2 Tablet	3,71	Good	3,40	Good
25	Minuman ale-ale rasa jeruk	3,67	Good	3,75	Good
26	Sweet Orange Pengharum Ruangan, Pengharum Mobil	3,67	Good	3,55	Good
27	Alpenliebe Juicyfills	3,43	Good	3,55	Good
28	CDR (Calcium D Redoxon) Jeruk Mandarin	3,67	Good	3,33	Good
29	Soffell Botol Kulit Jeruk	3,55	Good	3,57	Good
30	Minuman Juice Jeruk ABC	3,55	Good	3,40	Good
31	SUN Biskuit Bayi Jeruk	3,33	Passably	3,89	Good
32	Fanta rasa jeruk	3,71	Good	3,07	Passably
33	On Push Vape Orange	3,55	Good	3,67	Good
34	Kodomo Bodywash With Bubble Stick Orange	3,71	Good	2,92	Passably



35	Emeron Lovely White Jeju Orange Hand&Body	3,80	Good	3,22	Passably
36	Nutrisari Instan Drink Jeruk Maroko	3,33	Passably	2,89	Passably
37	Sabun Mandi Harmony Fruity Refreshing Orange Satsuma	3,64	Good	2,64	Passably
38	Dettol Sabun Batang Re-energize Jeruk Mandarin	3,73	Good	3,22	Passably
39	Kodomo Toothpaste Orange	3,50	Good	2,67	Passably
40	Jasjus Rasa Jeruk	3,50	Good	3,67	Good

Based on the calculation of the IFAS and EFAS tables for citrus-based products, it shows that the highest IFAS table obtained a value of 3.88 with a good interpretation and the highest EFAS table obtained a value of 3.89 with a good interpretation. Therefore, citrus-based products that are feasible to develop are health drinks with vitamin C-1000 mg. A health drink with vitamin C-1000 mg is a health drink that is much liked by consumers and has enormous potential to be developed due to the increasing welfare and level of public awareness of body stamina and a healthy lifestyle.

This is in accordance with research from Muhammad, T, et.al (2020) which states that consumers have interest and consumer awareness to buy these products because of the many benefits provided to health drink products with vitamin C-1000 mg. In addition, product quality variables affect buying interest, different characteristics and taste variants so that they are very suitable for consumer tastes and packaging made of glass can maintain the quality of Vitamin C for the better.

b) Calculation of IFAS and EFAS Matrix Weights and Ratings

The calculation of the IFAS/FAS matrix is a calculation to determine weights, ratings, scores where the total weights cannot exceed 1.00 and gives a rating value from a predetermined scale. The results of the calculation of the IFAS and EFAS matrices for health drink products with vitamin C-1000 mg are as follows:



Table 2. Calculation of the IFAS Matrix Health Drinks with Vitamin C-1000 mg

No	Strength	Weight	Rating	Score
1	Have permits and a complete quality assurance system	0,20	5	1,00
2	The packaging design uses citrus fruits and is dominated by orange	0,20	5	1,00
3	The product storage temperature is written clearly	0,12	3	0,36
4	Health supplement	0,16	4	0,64
	Total Strength	0,68		3,00
No	Weakness			
1	Does not include a target age	0,12	3	0,36
2	Soft drinks containing less than 10% fruit juice	0,12	3	0,36
3	High sugar content	0,08	2	0,16
	Total Weakness	0,32	25	0,88
	Total internal factors (IFAS)	1,00		3,88

Table 3. EFAS Matrix Calculation of Health Drinks with Vitamin C-1000 mg

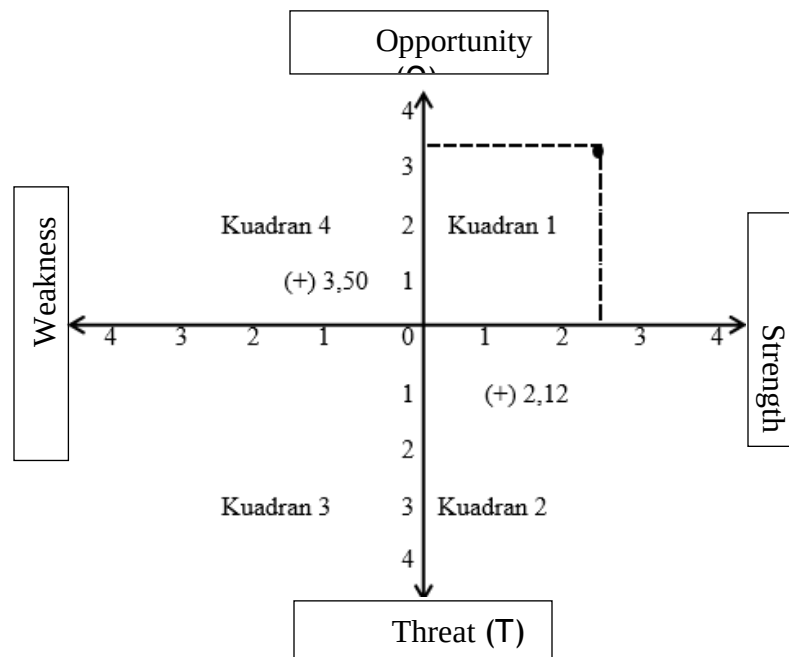
No	Opportunity	Weight	Rating	Score
1	Include the consumption age target	0,25	3	0,75
2	Substitute non-carbonated drinks	0,42	5	2,08
3	Reducing sugar content	0,25	3	0,75
	Total Opportunity	0,92		3,58
No	Threat			
	No health supplements	0,08	1	0,08



1				
	Total Threat	0,08		0,08
	Total external factors	1,00		3,67

Based on Table 2 and Table 3 above, the total results of calculating the IFAS and EFAS matrix scores for health drink products containing vitamin C-1000 mg are as follows:

- Total strength score (strengths) = 3.00
- Total score of weaknesses (weaknesses) = 0.88
- Total opportunity score (opportunities) = 3.58
- Total threat score (threats) = 0.08



Based on Figure 1, the cartesius diagram shows that health drink products containing vitamin C-1000 mg are located in quadrant 1 or the aggressive position. From the results of the IFAS calculation, the result is (2.12) while the EFAS is (3.50). In quadrant



1, health drinks with vitamin C-1000 mg have a big advantage or strength to maximize the opportunities that exist. Therefore the right strategy to apply to this position is the SO strategy, which is to make the most of existing opportunities based on their strengths.

Competitor SWOT analysis results can be developed into new products. The following is a brief overview of new product development:

Table 4. New Product Development Health Drink Products with Vitamin C-1000 mg

<i>Idea Title :</i> Low Calorie Glucose Healthy Drinks	
<i>Opportunity Plan :</i> Competitor SWOT analysis results	
<i>Describe :</i> Increasing patterns of food or drink that are excessive in the number of calories and the importance of maintaining body immunity and skin health, people now understand more about choosing the best drink for their health by paying attention to serving sizes, nutritional adequacy rates, and nutritional content, especially sugar, salt content, and fat as well as trends. The absence of a product with a similar concept makes this product likely to take on a different market already available.	
<i>In More Detail :</i>	<i>Time Frame :</i> 12 months
Claim High Calcium and iron, low calorie glucose, Contains 7 vitamins and 5 minerals	<i>Benefits :</i> Opening up new markets that support existing public health trends
Packaging Describe the target market and specific target age, feel joy and excitement that can remind health and vitality.	
Marketing Advertising, Social Media, Community Ways of making Own production	

Along with advances in information technology, competition in the business world is getting tougher. Every competitive businessman competes to increase customers and provide good service and satisfaction to his customers. Industry 4.0 and Society 5.0 are

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the era of analog to digital transformation. Social technology 5.0 is a continuation of Industry 4.0 technology. Social issues of technology began to be widely discussed, which turned out to have changed the phase of the industrial revolution. Technology Society 5.0 development focuses on humans in controlling the development of science and technology. According to Razak, M, et.al (2019), Society 5.0 consists of six main pillars, namely infrastructure, technology innovation, finance, health care, logistics, and artificial intelligence.

The development of new products with technology towards the Industrial 5.0 era requires technology and innovation strategies which consist of three aspects, namely product innovation, process innovation and marketing innovation. In the Industrial 5.0 era, human position becomes important, innovation is directed to produce products needed to deal with human problems. Innovative marketing is very important in the Industry 5.0 era. Innovation marketing focuses on product strategy i.e. technology-based innovation, where technology can be the key to produce new and different products, innovation as a unique exhibition of rights control, innovating to find unmet customer needs, innovating creating pure imagination generates creative activities, innovation based on functional strength.

CONCLUSION

Based on research conducted in developing citrus processed products using the Business Model Canvas (BMC) method, the following conclusions can be obtained:

1. The results of market research with competitor analysis show that the most salable and preferred citrus-based product is the health drink product with Vitamin C-1000 mg.
2. The results of IFAS and EFAS calculations show that the cartesius diagram for Health Drink products with Vitamin C-1000 mg is located in quadrant 1 with IFAS (2.12) and EFAS (3.50) values, so the focus of the strategy used is the SO strategy which is mapped based on 9 BMC blocks.

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