



Analysis of Marketing Mix and Revenue of Hydroponic Crop Business (Case Study: Greenhouse Bajeng Hydroponic Farm)

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ABSTRACT: Green House Bajeng Hydroponic Farm in running its business allegedly has not implemented the marketing mix properly so that it can affect the amount of income earned. Therefore, the purpose of this study is to analyze the marketing mix and income earned by the Bajeng Hydroponic Farm business. This research is a type of qualitative and quantitative research with a case study approach. The method used is observation, interviews using questionnaires and documentation. The results of this study indicate that the implementation of the marketing mix with the 7 P (product, price, place, promotion, people, process, physical evidence) has been carried out well and is able to maintain consumer loyalty so that this business can be developed. Income derived from the production of lettuce, mustard greens and packcoy for one year is IDR 40,320,000, - with an income of IDR 19,849,000, - . The R/C ratio is 1.97 greater than 1, which means that the Green House Bajeng Hydroponic Farm business is feasible from a financial perspective.

KEYWORDS: Hydroponic Plant Business, Marketing Mix, Income

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I. INTRODUCTION

Growing crops using the hydroponic method is currently a form of new innovation carried out by the Green House Bajeng Hydroponic Farm. Hydroponic technology uses water, nutrients and oxygen. When compared to traditional farming methods, hydroponic technology offers many advantages. The advantages of hydroponics include being environmentally friendly, producing hygienic products, accelerating plant development, maintaining quality and increasing the quantity of crop yields [1].

Currently organic vegetables are horticultural products that are in great demand in organic farming for cultivation. Hydroponic vegetables are of higher quality than traditional vegetables, but they are expensive. The cost of hydroponic vegetables is more expensive than ordinary vegetables because the plants produced are of higher quality and healthier. It is not surprising that hydroponic vegetable customers fall into the middle consumer category because they can afford to pay higher [2]

Vegetables are one of the primary needs that are used to support the nutritional needs of the community, so that many farmers see them as a viable business potential [3]. Increased public awareness of the importance of consuming organic vegetables for health and a decent quality of life has created opportunities for the organic product industry. This opportunity is seen by the increasing number of farmers who manage organic farming and the increase in organic product outlets in supermarkets [4].

There are not many hydroponic plant business actors on a business scale because hydroponic farming has relatively high production costs [5]. The hydroponic plant business requires quite large capital, so that production risks will affect production results and income earned by farmers [6]. The quality of the final product will greatly affect the price which will ultimately affect the total income and yields of the crop in that period [7]. Farmer income is one of the metrics to measure success in farming [8]. Income level can be used to measure how successful a business owner is in managing his hydroponic plant business.

The decision to buy Hydroponic vegetables is based on consumer behavior so that consumers can later make the decision to buy the right choice of Hydroponic vegetables, consumers in assessing a product want to

feel their needs are met and obtain a high level of satisfaction. Price is often used as the first concern when buying an item, which is then weighed against product quality. Apart from product quality, consumers check the place/location and constant promotions when buying a product. The marketing mix includes product, price, location, and promotion components. In principle, the marketing mix is a controllable set of tools that function as a marketing plan which can then be used to gain market share [9].

However, in the business activities of the Green House Bajeng Hydroponic Farm, the marketing mix has not been implemented properly. Therefore, a marketing strategy is needed that is able to reach a wider market so that the potential for these business activities can generate better profits. Many studies have been carried out on the marketing mix and hydroponic plant business income, including: [10]; [11]; [12]; [13]; [14]; [15]; [16]; [17]; [18]; [19]. Each business actor has his own strategy for implementing the marketing mix and increasing revenue in his business, as is done in the hydroponic plant business "Green House Bajeng Hydroponic Farm". To obtain maximum business results, you must use the 7P marketing mix (*Product, Price, Place, Promotion, People, Process, Physical Evidence*), which is an innovation or something new in this research. Therefore, research on marketing mix analysis and income is needed to find out whether the business can develop with its marketing mix.

II. RESEARCH METHODS

Location and Time of Research

The research location for the GREEN HOUSE BAJENG HYDROPONIC FARM business is in Mata Allo Village, Bajeng District, Gowa Regency. This location was chosen (*purposively*) with the consideration that the GREEN HOUSE BAJENG HYDROPONIC FARM is one of the hydroponic growing businesses which is located close to downtown Makassar. This research was carried out in December 2022.

Data Types and Sources

The research used by researchers is a case study approach using qualitative and quantitative descriptive research types . Researchers in this qualitative study used instruments to collect data based on various facts found in the field. This research relies on primary and secondary data sources. As for what is meant by primary data, namely information collected directly through field observations and interviews with business owners and customers . While secondary data, namely a number of information obtained indirectly, what is meant in this case is obtained through scientific journals, books and other literature.

Data Analysis

The data analysis method used in this research is descriptive analysis, according to the research objectives. The purpose of the analysis is to provide narratives and explanations related to the 7P marketing mix. [20], explains that income is assessed by subtracting total receipts from total costs using the formula below:

$$I = TR - TC$$

Description:

I = Income (IDR)

TR = Total Revenue (IDR)

TC = Total Cost (IDR)

Meanwhile Efficiency is the comparison of revenues and costs where revenues exceed total costs. [21], explained that for the sake of seeing R/C ratio received by the GREEN HOUSE BAJENG HYDROPONIC FARM using the following formula:

R/C ratio

Description:

R/C ratio = Comparison between receipts and costs

TR = Total Revenue (IDR)

TC = Total Cost (IDR)

Decision :

R/C ratio >1 = work done economical way profitable or efficient .

R/C ratio <1 = business done economically unprofitable or inefficient.

R/C = 1 = means that the business has a breakeven point.

III. RESULTS AND DISCUSSION

7P Marketing Mix Analysis

1. **Product**

Vegetable products cultivated by the Green House Bajeng Hydroponic Farm are lettuce, pakcoy and mustard greens. Mustard greens and pakcoy are two vegetables that are often considered the same, because the color and shape are almost similar and people often confuse the two. Mustard greens and pakcoy have differences in the leaves, the leaves in mustard greens are denser and smaller, while the leaves in pakcoy are wider and spoon-shaped and tend to be short.

Were obtained from a specialty agricultural/hydroponic shop in Makassar city. To produce 45 kilograms of lettuce in a month, you need 1 pack of lettuce seeds containing approximately 1,000 lettuce seeds. Meanwhile, the production of vegetables from mustard greens and pakcoy is 26 kilograms each a month. The seeds used are 1 pack each where each pack contains 300 mustard seeds and Pakcoy seeds. The nutrients or liquid fertilizer needed for the three types of plants are as much as 20 liters of nutrients every month. Orders of products by household consumers are usually packed in packaging bags/packs containing one stick of vegetable, while consumers order products from agents such as in shops, supermarkets or markets are usually packaged in kilograms.

Products are usually categorized according to the type of consumer and product purpose. In choosing a product, consumers form expectations about value and satisfaction [22]. Every company has a product that will be offered to consumers by using a product strategy. The product strategy carried out by the Green House Bajeng Hydroponic Farm, namely: determining the logo and motto, creating a brand, and product packaging. The product strategy implemented is to increase sales to consumers and show that the product is of good quality.

2. **Price**

Pricing greatly affects sales. Consumers choose to buy a product if they believe that the profit is greater than the price. The Green House Bajeng Hydroponic Farm sets a selling price for mustard greens and pakcoy by kilogram at IDR 30,000. If consumers buy by pack containing one stalk of vegetables, the price is IDR 10,000. Then for one pack of lettuce, IDR 10,000 per stick. To purchase one kilogram of lettuce, the price is IDR 40,000. Prices are adjusted according to changing seasons, for example when it's the rainy season, the selling price automatically goes up because of the difficulty in producing due to weather or unfavorable season conditions.

3. **Place**

The application of the marketing mix through place at the Bajeng Hydroponic Farm Green House is choosing a location not far from the sub-district market, being in the middle of the population around the business location so that it can be easily reached by consumers. The distribution channel for Green House Bajeng Hydroponic Farm hydroponic plant products, namely using the consumption distribution channel, in which the Green House Bajeng Hydroponic Farm sells to agents such as in shops, supermarkets and markets. However, if there are consumers who are around the sales location who want to buy directly, services will be provided to them.

One of the keys to the success of a business is location [23]. Location or place as one of the elements of the marketing mix where customers receive products and services [24]. One of the fundamental elements in creating a business is choosing a strategic location [25]. Because location can affect a person's income level, sufficient consideration must be given to location selection [26].

4. **Promotion**

Green House Bajeng Hydroponic Farm in promoting or introducing its products, besides marketing digitally it also promotes it directly. Digital marketing is carried out by utilizing social media such as: *WhatsApp*, *Facebook* and *Instagram* with the business account name @Bajeng Hidroponik.

An effort to introduce products must be observed in maintaining customer satisfaction [27]. As was done by the Green House Bajeng Hydroponic Farm in advertising products on its social media accounts. Apart from using digital, these products are also promoted directly either through family to other families or from friends to friends. That way these products can be spread widely both in cyberspace and in the real world such as among the general public.

5. **People**

Participant or person as an element important in the marketing mix [28]. Participants are all human resources involved in the success of the business or business being run. Those involved in the Bajeng Hydroponic Farm Green House business are employees recruited from the family circle. The number of employees is 3 people consisting of one person in the maintenance and production division, one person in the delivery or transportation section and one person in charge of managing finances. If the business is going well, the best and most effective human resource management must be practiced by a business .

6. Process

In terms of the service process in ordering products, the Green House Bajeng Hydroponic Farm is quite fast in processing incoming orders, according to who is the first to order, which will be processed earlier so that hydroponic vegetable plant products are also quickly received by consumers without a long wait. The service system also makes it easy for consumers to contact the parties concerned in ordering and in transactions. The process shows how the many components of the marketing mix are coordinated to ensure quality and consistency of customer service. Customer satisfaction is influenced by purchasing decisions [29]. Therefore, marketing professionals often participate in service quality monitoring. In addition, they also provide the best service to consumers by implementing 3S (Smile Greetings) in carrying out production and service activities. Because all of that can be an element important in the marketing mix [30].

7. Physical Evidence

Physical evidence is everything related to physical facilities or equipment used to accommodate ongoing business activities. The higher the scale of the business, the more equipment and facilities are needed. The Green House Bajeng Hydroponic Farm in running its business is also influenced by the existence of physical evidence of business such as having a room that is arranged quite well, having service facilities, equipment or equipment in the production process, a workforce that helps and the existence of communication materials in serving consumers. The Green House Bajeng Hydroponic Farm produces fresh and quality organic vegetables, because they do not use chemicals that harm the health of the human body and the packaging process also pays great attention to cleanliness.

Revenue, costs and income of the Hydroponic Bajeng Business

Net income or profit is generally defined as the difference between gross income and total costs [31]. Farming revenue is assessed by multiplying production by selling prices, but farmers pay various costs such as fixed costs and variable costs. Total cost equals the sum of fixed and variable costs. Therefore, the income of agricultural companies is the difference between revenue and actual costs or all costs that must be paid by producers. The selling price and the amount of production have an impact on the level of acceptance . The receipts, costs and income of the Bajeng Hydroponic Green House Business can be seen in table 1 below.

Table 1. Revenue from the business costs and income of the Bajeng Hydroponic Farm Green House for one year, 2023.

No	Description	Production (Kg)	Price	Mark
1	Reception			
	Lettuce	540	40,000	21,600,000
	Mustard	312	30,000	9,360,000
	Packcoy	312	30,000	9,360,000
	Total Revenue (TR)			40,320,000
2	Fixed cost			
	Employee salary			6,84,000
	Equipment Depreciation			671,000
	Total Fixed Costs			7,511,000
3	Variable Cost			
	Vegetable Seeds			1,500,000
	AB Mix Nutrition			4,800,000
	Rockwoll			1,080,000
	Packaging Plastic			1,200,000
	Stickers			600,000
	Plaster			18,000
	Electricity			3,600,000
	Total Variable Cost			12,960,000
4	Total Cost			20,471,000
5	Income (TR – TC)			19,849,000
6	R/C			1,97

Source: Data processed, 2023

The volume of use of the elements of production will no doubt be associated with the amount of sacrifice required to obtain the various factors of production. The more use of production factors, the greater the sacrifice costs that must be incurred by entrepreneurs [32] . Production costs are calculated as the total of fixed and variable costs. The farmer's fixed costs include employee wages and equipment depreciation. The average amount of fixed costs incurred is IDR 7,511,000,-. Meanwhile, the variable costs incurred by the Bajeng hydroponic farm business are IDR 12,960,000,- so that the total costs incurred for one year amounted to IDR 20,471,000,-.

The results of the analysis in table 1 show that the revenue obtained from the production of lettuce, mustard greens and packcoy is Rp. 40,320,000.-

The total costs incurred amounted to IDR 20,471,000.-. Thus, the income earned by the Green House Bajeng Hydroponic Farm business for one year is IDR 19,849,000.-. To find out whether the business is feasible or not, the balance obtained between revenues and costs is 1.97 which is greater than 1, meaning that spending one rupiah will earn 1.97 revenues. so the Green House Bajeng Hydroponic Farm business is worth pursuing.

IV. CONCLUSION

Based on the results of the research that has been carried out, it can be concluded that the 7P marketing mix has been carried out properly according to what was implemented by the Green House Bajeng Hydroponic Farm and has been able to increase the number of consumers. It is proven that every month the number of consumers increases and the products that have been harvested are sold out in the market, shops, and consumers who come directly to the business location and have been able to maintain consumer loyalty so that this business can be maintained and developed. Meanwhile, the results of the research in terms of income show that the revenue obtained from the production of lettuce, mustard greens and packcoy is IDR 40,320,000,- with a profit of IDR 19,849,000,-. The R/C ratio is 1.97 greater than 1, which means that the Green House Bajeng Hydroponic Farm business is feasible from a financial perspective.

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