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Analysis Of The Organic Vegetable Supply Chain (case study of the modern market behind soybeans in Ambon City)

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Abstract

This research aims to determine the supply chain of organic vegetables in the Fris Behind Soya modern market, Ambon City and determine the marketing margin and marketing efficiency in the supply chain. The data collected in this research is primary data and secondary data. The results of this research show that kale and spinach vegetables in Passo village are harvested and then entrepreneurs carry out the process of washing, packing, labeling and continuing to the Fris supermarket distributor and consumers as end users. The supply chain for hydroponic vegetables in Fris supermarkets is through a supply chain, namely: organic entrepreneurs → Fris supermarkets → consumers. Marketing kale and spinach vegetables provides a profit of IDR 5,236, but does not meet the demand from Fris supermarkets. Entrepreneurs choose to sell to Fris supermarkets because the continuity of vegetable supply is more guaranteed. Two types of organic vegetables that are widely cultivated by organic entrepreneurs are kale and spinach. The number of kale vegetables is 30 packages and 40 packages of spinach for one delivery. Organic vegetable entrepreneurs maintain good relations with Fris supermarkets.

Keywords: supply chain, organic vegetables, margin, efficiency.

INTRODUCTION

The agricultural industry has the potential to be developed in Indonesia, not only because of Indonesia's natural conditions which have a tropical climate with rainfall and

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sunlight which really support plant growth but also because of the characteristics of the Indonesian nation itself as an agricultural country which has molded the soul of every child of the nation. The development of the agricultural sector and agricultural supporting industries will be able to become a strong foundation for the nation's economy. With its advantages, Indonesia has become a very fertile place for the development of the agricultural sector, and strengthens Indonesia's position as the world's food basket. The agricultural sector is a sector that makes a significant contribution to increasing national income and its exports are dominated by the agricultural sector.

The agricultural sector in Indonesia has been recognized as having an important role in the national economy. This can be seen from the ability of the agricultural sector to contribute to Gross Domestic Product (GDP), in absorbing labor and creating job/business opportunities, in increasing people's income, and as a source of foreign exchange earnings. Agriculture for national development is also seen as a sector that has special capabilities in producing quality growth (growth with equity). The agricultural sector should be made an economic sector that is equal to other sectors, the agricultural sector no longer only plays a role as a supporting actor, let alone a figurehead for national development, but must become a main actor on a par with the industrial or other sectors (Daryanto, 2011). Horticultural commodities are one source of growth in the agricultural sector, because they have high potential and can contribute to the economy of a region.

The organic vegetable market in the city of Ambon itself is still relatively small because it is mostly marketed to modern markets (supermarkets). Not all supermarket centers provide organic vegetables because organic products themselves cannot be marketed directly like other vegetables generally marketed in traditional markets. Nor is it marketed in open stalls. This is because before being marketed and waiting for the distribution process, organic vegetables are stored at room temperature first. The organic marketing channel starts from organic farmers, then sold to retailers such as supermarkets and finally purchased by consumers. These retailers have cooperation contracts with organic vegetable entrepreneurs. One of the modern markets that has a collaborative relationship with organic vegetable entrepreneurs in the city of Ambon is Fris Supermarket. Limited vegetable production results in high uncertainty in the supply chain. The limited supply of organic vegetables is one of the problems experienced by Fris Supermarket. Problem Formulation

1. What is the organic vegetable supply chain at the Fris Behind Soya Modern Market, Ambon City?

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2. What are the mark
eting margins and marketing efficiency in the supply chain?
Research Objective
1. Understand the organic vegetable supply chain at the Fris Behind Soya Modern Market, Ambon City
2. Analyze marketing margins and marketing efficiency in the supply chain
Research Outputs
1. A thesis that has been approved
2. Scientific articles to be published in scientific journals

RESEARCH METHODS

Research Location

This research was carried out in a modern market (Friss Supermarket). The location selection was based on consideration of a modern market (Friss Supermarket) which sells a large number of organic vegetables which plays a role in providing vegetable needs to consumers (the community).

Data Colldction Methods

Research Sample.

Determining the data source for the people to be interviewed in this research was carried out using a purpose sampling technique, namely a data source sampling technique with certain considerations. The research that was taken deliberately was the Fris supermarket, while the organic vegetable entrepreneurs were based on searches from Fris.

Data Collection Techniques

This research uses two types of data sources, namely primary and secondary data sources. Primary data was obtained through:

1) Interviews, which were conducted by asking questions directly with respondents and guided by the questionnaire that had been prepared;
2) Observation, which was carried out by direct observation at the Friss supermarket and at the location of the organic vegetable entrepreneur at the Balai Passo office. Secondary data in this research was obtained through literature from

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libraries, written information both from related agencies and from the internet and Central Statistics Agency (BPS) data related to this research.

Data Analysis Techniques

The analytical method used in this research is qualitative and quantitative descriptive analysis. Qualitative descriptive analysis according to Bogdan et al (1975) in the book qualitative research methods is a research procedure that produces descriptive data in the form of written or spoken words from people and observable behavior. Qualitative descriptive analysis is used for analyzing the organic vegetable supply chain, a case study of the modern market in Friss Behind Soya, Ambon City. Quantitative descriptive analysis is used to analyze marketing margins and marketing efficiency. According to marketing margin, it can be interpreted as an analysis of the difference between prices at the producer level (purchasing price) and prices at the final consumer level (selling price) for organic vegetables. Marketing margin can be calculated by:

To determine the marketing margin at the farmer level (hydroponic entrepreneurs) the following formula is used:

M = Pr – Pf

Information:

M: Margins

Pr: Price at consumer level (Rp)

Pf: Price at producer level (Rp)

The profit received by intermediary traders is formulated as follows:

M = Bp + Kp

Information:

M: Margin (Rp/kg)

Bp: Marketing costs (Rp/kg)

Kp: Marketing Profit (Rp/kg)

The share received by farmers (farmer share)

Fs=Hp/He x 100%

Information:

Fs: Percentage share of the price received by farmers (organic entrepreneurs)

Hp: Prices of vegetables at farm level

He: Prices of vegetables at the consumer level

Marketing Efficiency Analysis

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Seokartawi (2002:2) states that marketing effectiveness concerns marketing efficiency. Marketing efficiency (Ep) is measured by the formula:

Ep=B/Hb x 100%

Where:
Ep: Marketing Efficiency
B : Marketing Costs (Rp)
Hb: Purchase price (Rp)
Criteria:
Ep < 50% Efficient
Ep > 50% Inefficiency.

RESULTS AND DISCUSSION

General Conditions of "FRIS" Supermarket Locations

Fris Supermarket is a trading company that operates in the retail sector, namely in the distribution of daily necessities, especially food, drinks, household equipment and supplies, baby equipment, medicines, vegetables, fruit, cosmetics, accessories and others. . Fris Behind Soya Supermarket officially opened on December 12 2012, which at that time was led by Mr. Alfred Sianahan as the main character. Now the Fris supermarket is still led by Mr Alfred Sianahan. Fris Supermarket is located on Jln Rijali No 26 Behind Soya, Karang Panjang Village, Sirimau District, Ambon City.

The beginning of the establishment of Fris Supermarket was motivated by the large number of consumers from various groups including students to upper middle class people who tended to switch to modern markets. The company has the alternative of setting up an office in Behind Soya, because the location is considered quite strategic and able to attract customers' interest in shopping and make it easier for people to reach the market, that's where the Fris Behind Soya supermarket started to exist until now.

Fris Supermarket has several types of goods including the following:

1. Food

Consists of several types such as bread, flour, sugar, rice, instant noodles, snacks, chocolate, candy, cooking oil, biscuits, cooking spices, sardines, and others.

2. Drinks

Consists of several types such as mineral water, soft drinks, milk, syrup, tea, coffee, ice cream, and others.

3. Household furniture

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Consists of several types such as plates, glasses, cups, bowls, spoons, forks, knives, baskets, basins, cauldrons, flower vases, napkins, jars, mats, and others.

4. Baby equipment

Consisting of several types such as milk bottles, baby pacifiers, baby clothes, diapers, and others.

5. Medicines

Consists of several types such as various medicines, vitamins, and others.

6. Cosmetics

Consists of several types such as powder, lipstick, make-up, perfume, handbody, shampoo, soap, toothpaste, toothbrush, tissue, cotton, comb, and others.

7. Household equipment

Consisting of several types such as detergent, anti-mosquito medicine, air freshener, clothes freshener, sanitary napkins and others.

The vegetables and fruit the Fris supermarket sells to consumers consist of:

Hydroponic vegetables consist of several types of vegetables such as mustard greens, lettuce, bok choy, spinach, kale from (Emerald Hydroponics) Mr. Anes, (Fitrah Hydroponics) Mr. Fattah, (Naya Farm House) Mrs. Halyanti, (Alifakafifarm) Mr. Zulkifli, (JJ Hidrofarm) Mr Pit, (Mandiri Hydroponics) Mr Yan, (Fitrah Hydroponics) Mr La Fatah and (Rafa Garden) Mr Deni.

8. Organic vegetables consist of several types of vegetables such as green mustard greens, spoon mustard greens, white spinach, green spinach, red spinach, batik spinach, and kale from Passo Village assisted by BPPMDDTT Ambon.

9. Cut vegetables (vegetable packages) consist of several types of vegetables such as soup packages, clear vegetable packages, lodeh packages, tofu tempeh packages, sour vegetable packages, green bean packages, red bean packages, bakwan packages, carrot potato packages, and macaroni packages . All of these vegetable packages are designed by Fris Supermarket.

10. Imported fruit consists of several types of fruit such as apples, pears, longans, grapes, kiwi, oranges and Sunkist. All imported fruit comes from suppliers Laris Manis and Sekar Kumala Indonesia (SKI)

11. Local fruit consists of several types of fruit such as mango, melon, watermelon, salak, dragon fruit, duku, banana, avocado and papaya. All of this local fruit is supplied by Mrs. Grace, Mr. Boby and Mr. Vakim.

Characteristics of Respondents' Businesses

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Organic vegetable business in Passo Village assisted by BPPMDDTT Ambon

An organic vegetable entrepreneur assisted by the Center for Training and Empowerment of Village Communities for Disadvantaged Regions and Transmigration Ambon (BPPMDDTT) Ambon in Passo Village is an organic entrepreneur who supplies kale and spinach vegetables at the Fris supermarket. This organic entrepreneur started doing business in 2018, owned by BPPMDDTT Ambon, led by the Head of the Center, Mr. Josoa Salmon Marlissa, SIP.MT. and is now led by the Head of the Center, Mr. Ronny Presly Hutapea.

These organic vegetables were then labeled with the name Fresh Organic Vegetables under the guidance of BPPMDDTT Ambon. This experience in the organic vegetable business was gained autodidactically by 3 workers who came from Central Java. They started organizing to work on the land since the establishment of the Training and Empowerment Center for Disadvantaged Regions and Transmigration Ambon in 2018 until now. When they first started working, the first person to work was Mr. Supri Mulyono, 34 years old, a high school graduate, then as time went by, the BPPMDDTT Ambon office looked for 2 more workers, namely Mr. Supri Saronto, 31 years old and Mr. Yunus Tukiyanto, 51 years old. and they are demonstration plot employees who manage the Balai Office land and are paid a salary every month by the Balai. The land owned by the hall office for cultivating organic vegetables is 1 hectare with a length of 100 m2.

Organic Fresh Vegetables produces several types of organic leaf vegetables such as kale, white spinach, red spinach, green spinach, batik spinach, green mustard greens and spoon mustard greens. For fruit vegetables such as cucumber, bitter melon, gambas/oyong, eggplant, tomatoes and long beans.

The most dominant organic leaf vegetables offered specifically to Fris supermarkets are kale and spinach, the fruit vegetables sold to Fris are cucumber, bitter melon, eggplant and long beans which are sold per bunch at a price of Rp. 5,000 for 1 bunch. Meanwhile, for other leaf vegetables that are not sold out, entrepreneurs usually sell them directly to traditional markets. Organic vegetable entrepreneurs very rarely supply vegetables to the Dian Pertiwi Supermarket, they only supply them to the Fris Supermarket because the stock of vegetables on the land is very limited. However, it does not rule out the possibility that entrepreneurs can also supply vegetables to Diper if there is demand. The vegetables that have been supplied to Fris will be divided in half to the PER supermarket and this has become a mutual agreement between Fris and PER and the organic vegetable entrepreneurs. And if there are leftovers or excess stock of

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vegetables that have been harvested, then entrepreneurs can supply them to the Diper Supermarket. So, organic vegetable entrepreneurs will supply Diper Supermarket if there is a lot of vegetable stock.

Organic Vegetable Supply Chain in "Fris"

The organic vegetable supply chain involves marketing institutions which of course have a role in distributing vegetables to consumers. To facilitate the marketing of organic vegetables, namely kale and spinach, the role of marketing institutions is very necessary to distribute kale and spinach vegetables from organic vegetable entrepreneurs to consumers. In facilitating the supply of organic vegetables, kale and spinach, the role of the marketing institution involved is the retailer, namely the Fris Behind Soya supermarket, Ambon City The organic vegetables kale and spinach available in the Fris supermarket are supplied from organic entrepreneurs spread across Ambon City, namely organic fresh vegetables located in Passo Village under the guidance of BPPMDDTT Ambon. Fresh Organic Vegetable entrepreneurs in Passo Village supply vegetables to Fris supermarket retailers. Then, organic kale and spinach vegetables do not always meet demand, so entrepreneurs supply vegetables based on demand from Fris supermarkets. For organic vegetable entrepreneurs, kale and spinach produce one harvest of 150 packages per month and supply 30-40 packages of vegetables per supply to Fris supermarkets with 3 supplies per month. Then the remaining vegetables are sold at the entrepreneur's place, while the entrepreneur sells them to Diper, traditional markets, and work staff in the office.

The parties involved in this supply chain are organic entrepreneurs and retailers, in this case Fris supermarkets, and final consumers. The organic entrepreneurs who are more dominant in supplying organic vegetables such as kale and spinach are organic fresh vegetable entrepreneurs in Passo Village assisted by BPPMDDTT Ambon who supply them at the Fris Supermarket. Organic entrepreneurs carry out the process of cultivating organic vegetables starting from purchasing seeds from within the city of Ambon to sowing the seeds, transplanting the seeds, planting, maintaining, harvesting, washing, packaging, labeling and transporting them to the Fris Market supermarket location.

Marketing Margin Analysis

Marketing margin is the difference between the price paid by final consumers and the price received by producer farmers (Sudiyono, 2004). Marketing margin consists of

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profits obtained from marketing costs incurred. By assuming that during the marketing process there are several marketing institutions involved in this marketing activity, the distribution of marketing margins among the marketing institutions involved can be analyzed.

In this research, marketing costs incurred by each marketing institution in distributing vegetables to consumers were also calculated, such as production costs, packaging costs, labeling costs and other costs calculated in rupiah per kg. This is in accordance with the formula by Dahl and Hammod (1997) which states that to calculate marketing margin you can use the formula for costs added to profits. Meanwhile, marketing profit is the difference obtained by each marketing institution between marketing margin and marketing costs.

Table 1. Marketing Analysis of Organic Vegetables Kale and Spinach

No	Description	Cost (Rp/Kg)	Share%
1.	Farmer		
	Selling Price	10000	
	Transportation costs	625	6,25
	Packing costs	925	9,25
	Labeling costs	417	4,17
	Total marketing costs	1967	
	Profit	8033	80,33
2.	Fris supermarket		
	Purchase price	10000	62,5
	Selling price	16000	
	Price tag cost	50	0,31
	Plasticn bag fee	714	4,46
	Total marketing costs	764	
	Marketing margin	6000	
	Profit	5236	32,725
3.	Consumer		
	Purchase price	16000	

Data Source: Primary Data 2024

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Based on the table above, analyze the marketing costs of organic vegetables, kale and spinach. Organic Vegetable Entrepreneur S sells organic vegetables such as kale and spinach for Rp. 10,000 per gram to Fris supermarket retailers. It can be seen that vegetable entrepreneurs have to incur transportation costs, packaging costs and labeling costs. The Fris supermarket only accepts clean organic vegetables, kale and spinach which are packaged in plastic. Transportation costs are IDR 625, packing costs are IDR 925, labeling costs are IDR 417. Retailers then directly sell organic kale and spinach vegetables to consumers at a price of IDR. 16,000. The profit received by organic vegetable entrepreneurs is IDR. 8033 and the marketing margin for the Fris supermarket is IDR. 1967.

Marketing efficiency is the ability to distribute production results from organic entrepreneurs to consumers by assessing the costs to achieve results from marketing activities. Marketing efficiency is important to know because if organic vegetable marketing runs well and efficiently, organic entrepreneurs, marketing institutions and consumers will benefit each other. To determine the marketing efficiency of marketing institutions, it is obtained from calculating marketing costs divided by the value of the product being marketed multiplied by 100%. If the Ep value is ≤ 50%, the more efficient the use of marketing vegetables in the research area, if the Ep value is ≥ 50% then the marketing of organic vegetables, kale and spinach has reached an efficient level. The level of marketing efficiency for kale and spinach vegetables can be seen in table 2.

Table 2. Marketing Efficiency of Organic Vegetables in Fris Behind Soya, Ambon City, 2024

No	Marketing Organic Vegetables	Total Marketing Costs (Rp/Kg)	Selling Price (Rp/Kg)	Eficiency (%)
1.	Marketing Of Kale and Spinach Vegetables	1967	16000	12,29

From calculations using efficiency analysis, it can be seen that the marketing of hydroponic vegetables, lettuce and bok choy, is efficient with a marketing efficiency value of <50 percent. This is in accordance with Soekartawi's (2002) statement, that the decision rule for marketing efficiency is that if EP < 50 percent it is efficient and EP > 50 percent it is inefficient.

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The greatest marketing efficiency value is found in the marketing of organic vegetables, namely %. Even though the farmer's expenses are quite large, the farmer's sales value is more profitable than the Fris Supermarket which is called a retailer. This is because marketing kale and spinach vegetables has a profit of Rp. 8033 with a percent value of 80.33%, while the profit obtained from Fris Supermarket is IDR. 5236 with a percent value of 32.275%.

CONCLUSIOS

Based on the results of the discussion, conclusions can be drawn.

1. The supply chain for organic vegetables in the modern market, Fris Rear Soya Supermarket, Ambon City has one supply chain: organic entrepreneurs → Fris Supermarket → consumers. It can be seen that entrepreneurs obtain low selling prices when marketing organic vegetables. There are no new entrepreneurs emerging to supply vegetables so that demand from the modern market, Fris Behind Soya supermart, Ambon City is not met. The number of organic vegetables supplied by entrepreneurs is between 30-40 per package. Organic vegetable entrepreneurs maintain good relations with Fris supermarkets.
2. Marketing costs for marketing organic vegetables, kale and spinach, mean that entrepreneurs incur transportation costs, parking costs, packing costs and labeling costs. Transportation costs are Rp. 625, packing costs Rp. 925, and labeling costs Rp. 417. Based on an analysis of the marketing of organic vegetables, kale and spinach with the Fris Supermarket, the most efficient marketing is the marketing of organic vegetables with an efficiency value of 12.29 percent.

SUGESSTION

Based on the results of the research conducted, suggestions that can be put forward are:

1. To organic entrepreneurs in Passo Village assisted by BPPMDDTT Ambon, they need to continue to actively develop knowledge independently in cultivating organic vegetables, kale and spinach as agricultural business products from organic vegetable products which have higher value.
2. Entrepreneurs need to establish good cooperation with Fris supermarkets and pay attention to the costs incurred in production and be able to meet the demand for vegetables continuously so that the costs incurred are more efficient.

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