MARKETING EFFICIENCY ANALYSIS OF ROBUSTA COFFEE COMMODITY IN DAMPIT DISTRICT, MALANG REGENCY

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Abstract

Dampit District, Malang Regency, is known as the largest producer of robusta coffee, with a production of 5,464 tons in 2022. Dampit's robusta coffee is globally recognized for its quality, with nearly 90% of the production exported. Farmers in this region have added value to their coffee by processing it from coffee cherries into green beans (coffee ose), which increases their income. However, tight market competition and limited farmer knowledge about marketing margins pose challenges. This study aims to analyze the product flow and marketing efficiency of Dampit's robusta coffee through marketing margin and farmers' share analyses. The research employed a qualitative descriptive method, using interviews to map the product flow into a supply chain scheme. Marketing margin and farmers' share analyses were used to evaluate efficiency. The findings identified three product flow patterns involving farmers, collectors, small traders, and large traders. Pattern II proved to be the most efficient, with a total margin of IDR 20,000 and the highest farmer's share at 76.4%. This pattern allows farmers to receive the largest share of income compared to other patterns. These results offer recommendations to enhance the welfare of robusta coffee farmers in Dampit District by optimizing efficient marketing patterns.

Keywords: Robusta Coffee, Product Flow, Marketing Efficiency

INTRODUCTION

In Indonesia, the plantation sector is famous for several commodities, including coffee, rubber, cocoa, palm oil, and others. Among these plantation commodities, coffee is still Indonesia's leading export commodity. This can be seen from Indonesia's position as the third-largest coffee exporting country with a market share of 7%. In Indonesia, there are several famous coffees, such as robusta coffee (Coffea canephora). This type of coffee is the coffee most often planted by farmers because the maintenance of robusta coffee is considered easier and simpler, or not too complicated, compared to other types of coffee (Kurnia, 2023).

From year to year, the amount of coffee production itself has started to increase, which can occur due to high demand for both export and domestic. In 2022, 21 districts/cities in East Java Province produced robusta coffee. Of the 21 districts, there are 10 districts with the highest production, namely Malang, Banyuwangi, Jember, Bondowoso, Lumajang, Probolinggo, Pasuruan, Blitar, Pacitan, and Jombang.

Malang Regency is a regency in East Java with the highest robusta coffee production, with a total land area of 16,183 Ha and a net production of 11,198 tons. (Directorate General of Plantations, 2022). The Robusta coffee production results were obtained from several sub-districts in Malang Regency as presented in Table 1 below.

Table 1.
Amount of Robusta Coffee Production in Malang Regency

Subdistrict	Production (tons)
Dampit	5,464
Tirtoyudo	3,538
Wonosari	2,665
Sumbermanjing Wetan	2,512
Ampelgading	2,029
Donomulyo	1,935
Gedangan	1,407
Bantur	1,350
Ngantang	1.208
Kalipare	1.172

Source: BPS Malang Regency, 2023

Based on data taken from the BPS of Malang Regency (2023), in 2022, Dampit District was the district that contributed the highest robusta coffee production in Malang Regency of 5,464 tons. Dampit District is one of the best robusta coffee-producing areas in Indonesia. This coffee comes from people's coffee plantations located in 11 villages, namely

Amadanom, Baturetno, Bumirejo, Jambangan, Majangtengah, Pamotan, Pojok, Rembun, Srimulyo, Sukodono, and Sumbersuko. The coffee produced by plantations in Dampit District is not only marketed domestically, but almost 90% is exported abroad. In fact, one of the coffees whose quality and taste are recognized by the world is Dampit Robusta Coffee (Winarta, 2023).

Farmers not only sell coffee beans in raw form, but they also try to increase the value of their products by processing coffee beans into roasted coffee. Where the wet and dry processing process until coffee beans become ose coffee helps farmers generate more income.

The large number of farmers who plant robusta coffee creates tight marketing competition for robusta coffee commodities in the Dampit District. This can be a question of whether the marketing of robusta coffee has been efficient or not. In addition, the sales are made in the form of ose or green beans, so that there is a high possibility of farmers' ignorance about the marketing margin in the product flow, and farmers often continue to sell their products cheaply. Therefore, this study was conducted to analyze the most efficient marketing through product flow analysis, as well as marketing margin analysis and farmers' share.

REVIEW OF LITERATURE

Robusta Coffee Agribusiness

Robusta coffee agribusiness is an economic activity that includes the entire series of production, distribution, and marketing processes of robusta coffee. Robusta coffee (Coffea canephora) is one of the most widely consumed types of coffee in the world after Arabica coffee. Robusta coffee agribusiness involves a series of activities that include production, handling, promotion, distribution, and processing of coffee beans from farmers to end consumers. The production process includes planting and caring for robusta coffee plants, involving the selection of good seeds, proper fertilization, pest and disease control, and optimal soil maintenance. Robusta coffee beans are generally ready to be harvested after 7-9 months. Harvesting is usually done manually by picking ripe coffee beans. After being harvested, the coffee beans undergo a processing process that involves separating the coffee beans from the fruit (Narulita et al., 2019).

At the marketing or post-harvest stage, ose or green bean coffee will be collected by local collectors. After that, the coffee beans undergo a processing process by collectors involving sorting and grading to obtain high-quality beans. Coffee products are then marketed to small traders, wholesalers, exporters, or agro-industries through a marketing system. Promotion, branding, and product diversification are also important parts of marketing. At the processing stage, coffee beans undergo further processing stages, such as roasting, to achieve the desired taste. Coffee products are then packaged well to maintain quality during distribution and storage. Distribution and sales involve various patterns such as supermarkets, cafes, or coffee retailers, and can be done through distribution agents or directly by producers. Robusta coffee agribusiness processing can also include product innovation, certification, quality standards, waste management, and other aspects that can increase the competitiveness and sustainability of production (Noviana et al., 2022).

Product Flow

According to Chopra, S (2016), product flow refers to the physical journey of a product from the beginning of the production process until it reaches the end consumer. This flow usually involves several stages and actors in the supply chain, such as raw material suppliers, manufacturers, distributors, retailers, and end consumers. Raw materials are obtained from suppliers and sent to production facilities. In the production process, these raw materials undergo transformation through assembly, packaging, and quality control to ensure that the product meets the expected standards. Once the product is finished, the goods are distributed to distribution centers or directly to retailers via transportation modes such as trucks, trains, ships, or planes. This distribution process involves careful inventory management, optimization of shipping routes, and the use of tracking technology to ensure that goods arrive on time. In the final stage, the product is prepared by the retailer for sale to consumers, either through physical stores or online platforms.

A well-managed product flow helps improve operational efficiency, reduce logistics costs, and increase customer satisfaction. In addition, efficient product flow allows for savings in costs, time, and labor, thereby increasing customer satisfaction. Disruptions at any stage can cause delays and losses for all parties involved in the supply chain (Christoper, 2016).

Marketing Efficiency

Marketing efficiency is the ability of an organization or business to manage marketing resources and processes optimally to achieve desired goals. This involves a series of actions designed to minimize waste, increase productivity, and achieve optimal results in marketing efforts. Identifying the right market segments for a particular product or service allows organizations to direct their marketing efforts more effectively. Focusing on target groups that are most likely to generate maximum profits ensures efficient allocation of resources. Analyzing customer behavior, preferences, and purchasing trends allows companies to develop marketing strategies that are more in line with consumer needs. Utilizing data analysis to track the performance of marketing campaigns and determine more effective marketing strategies in the future. Utilizing digital platforms such as social media, search engines, and websites to increase visibility and reach a wider audience. Using focused email and content marketing campaigns can provide better results in achieving marketing goals (Ilmiyati and Munawaroh, 2016).

According to RK Putri et al., (2018), the size of marketing efficiency factors can be known through: (1) low marketing costs, so profits become greater, (2) prices at the consumer level, (3) healthy market competition, and (4) availability of physical marketing facilities. Marketing efficiency is maximizing the use of input and output to produce satisfaction in the form of goods or services, but with minimal use of costs. Marketing efficiency is the division of results between the cost of each unit of product marketed divided by the price of the product offered. In knowing marketing efficiency, it is necessary to conduct an analysis of marketing margins, farmers' share, and marketing efficiency values. Marketing margin is the difference in price at the farmer level (producer), collector or collector traders (distributor), and small and large traders, and even end consumers (consumers). The farmer's share is the portion received by farmers as a percentage.

RESEARCH METHOD

Sample

In this case, the researcher decided to use the purposive sampling method with a focus on the research objectives and specific characteristics to be investigated, and also carried out

a snowball sampling approach to find respondents or key informants in the product flow that occurred.

In this study, the samples used were members of four farmer groups, collectors, small traders, and large traders. The four farmer groups include the farmer groups Tani Harapan, Tani Maju, Suka Tani I, and Suka Tani II. A total of 150 respondents consisting of 142 farmers, 4 collectors, 3 small traders, and 1 large trader.

Method of Collecting Data

Data were collected through two methods: (a) Field observations to determine actual field conditions and confirm respondents' statements (b) In-depth interviews with key informants or parties involved in the flow of robusta coffee products in Dampit District (c) Document studies to fulfill secondary data that can be obtained from the Central Statistics Agency, the Malang Regency Plantation Service, and organizational documents provided.

Data Analysis Methods

Qualitative descriptive analysis method conducted by interviewing respondents so that the flow of robusta coffee products can be described in a scheme. According to Indriani (2019), the flow of products in the supply chain analyzes the distribution of products in the form of whole/raw, semi-finished, and even finished products from upstream to downstream or between links. While the marketing efficiency analysis uses marketing margin analysis and the farmer's share in each product flow pattern.

1. Marketing Margin

To determine the price difference at the farmer, collector, and retailer levels obtained from the sale of coffee plants, the following marketing margin formula is used:

$$\text{MP} = \text{Pr} - Pf$$

Where:

MP = Marketing margin (Rp)
Pr = Price at retail level (Rp)
Pf = Price at producer level (Rp)

2. Farmer's Share

To calculate the farmer's share (the portion received by farmers), the formula used is:

$$\text{FS}=\frac{Pf}{Pr}\ x\ 100\%$$

Where:

Fs = Share (portion of price received by farmers)
Pf = Price at farmer level (Rp)
Pr = Price at consumer level (Rp)

The farmer's share criteria, according to Downey and Erickson in Roessali et al. (2014) are: FS > 40% = Efficient and FS < 40% = Inefficient.

3. Marketing Efficiency

To determine the level of efficiency of soybean marketing in each marketing institution (Soekartawi, 2007), the criteria used are that the higher the farmer's share value, the more efficient it is.

RESULTS AND DISCUSSION

In conducting qualitative research, a large amount of data is needed from the results of interviews with respondents. One of the data points needed is information about the product flow, so that key informants are needed, so that the product chain flow is valid. The search for key informants requires that the respondents needed to be narrowed, or when reaching the final respondent, there will be fewer respondents. From this, data was obtained from 150 respondents with the following respondent data.

Table 2.
Respondent Data

Profession	Origin of Farmer Group	Number of Respondents	Amount
Farmer	Tani Harapan	46	142
	Tani Maju	49	
	Suka Tani I	24	
	Suka Tani II	23	
Collector	Tani Harapan	1	4
	Tani Maju	1	
	Suka Tani I	1	
	Suka Tani II	1	
Small Trader	-	3	3
Wholesaler	PT. Asal Jaya	1	1
Total Respondents			150

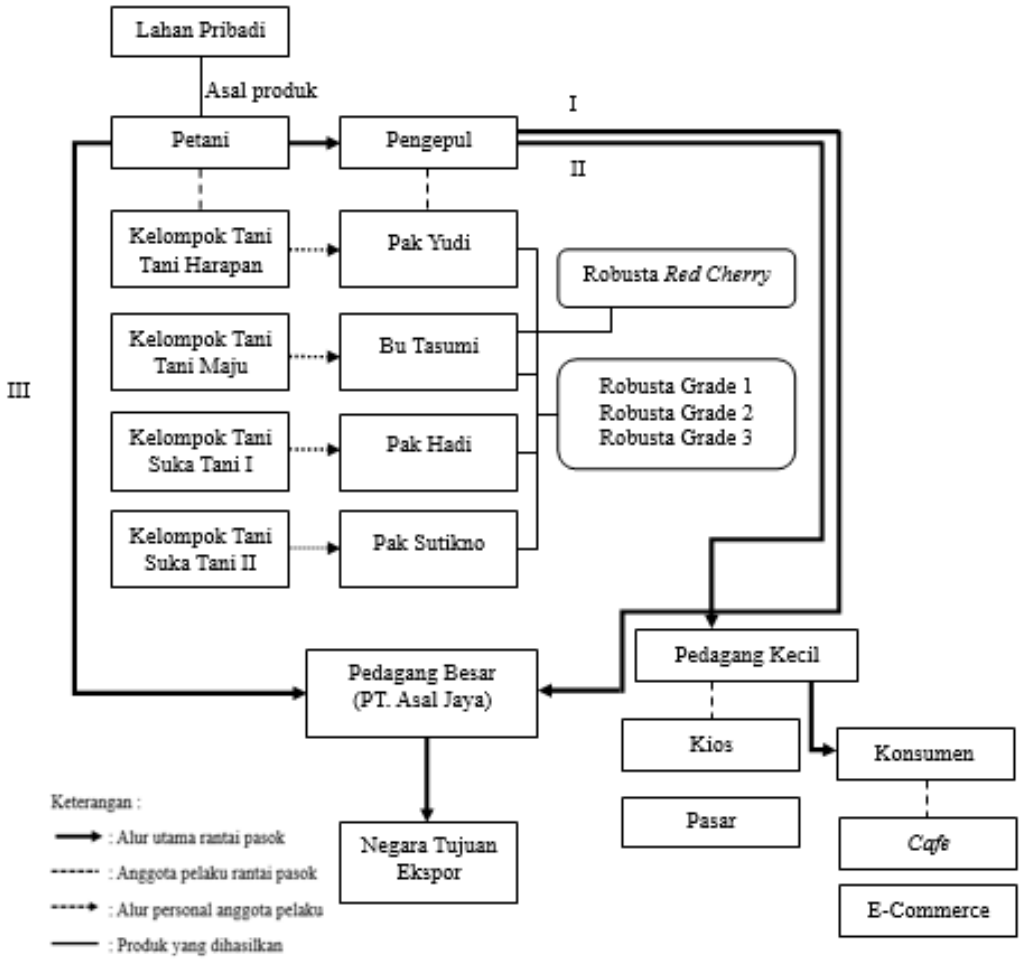
Source: Primary Data processed, 2024

From table 2, we can seeIt is known that there are 150 respondents involved in the research of robusta coffee marketing efficiency analysis in Dampit District. Respondents consist of farmers as the first key informant, collectors as the second key informant, small traders as the third key informant, and large traders as the fourth key informant. From the

results of interviews conducted with 150 respondents, the results obtained are in the form of an analysis of product flow patterns that occur in robusta coffee commodities in Dampit District.

The product flow pattern in the robusta coffee supply chain in Dampit District involves all marketing institutions with a one-way pattern. The following is a product flow scheme that occurs in the robusta coffee commodity supply chain in the Dampit District.

Figure 1
Flow of Robusta Coffee Commodity Products in Dampit District



In Figure 1, it can be seen that in the flow of robusta coffee products in Dampit District there are 3 patterns. Pattern I is the pattern of product distribution from farmers as producers then to collectors and to large traders (exporters). Pattern II is the pattern of supplying raw material products from farmers to collectors then some sorting occurs and is supplied to small traders and marketed to consumers in the form of other processing or semi-finished materials. Pattern III is the pattern of product distribution directly from farmers to

large traders (exporters). All products marketed by farmers are the result of their own land and are supplied in the form of green beans of original quality.

The first pattern begins with farmers as producers who harvest their own coffee from their gardens, either picked randomly or picked red (red cherry). However, red picking is rarely done by farmers because it takes a long time. After being picked, farmers will dry and dry it after that carry out a peeling process to remove the remaining skin. The coffee will be packaged and then supplied to collectors in the form of asalan or ungraded. Each farmer group has its own collectors and is also a member of the farmer group. In this pattern, after receiving the product, the collector will grade it into 2 grades, namely grade 2 and grade 3 (asalan). In this pattern, the collector will supply to large traders, namely exporters PT. Asal Jaya. Of course, this supply will be used as the main export commodity. Exports are made to foreign countries such as Egypt, Malaysia, Saudi Arabia and Taiwan. If there is any remaining product, the coffee will be stored as stock because the collector will send the product according to the number of orders only.

In the second pattern, the initial product supply pattern is not much different from the first pattern, namely that farmers will supply their garden produce in the form of beans to collectors in their farmer groups. After the collector receives the product, the collector will grade it into 3 grades or sort it out, take the red cherry part and make it into a grade 1 mixed product as done by Mrs. Tasumi. The graded product will be supplied to small traders according to the request of the small traders. In this pattern, the small traders in question are kiosks or retail traders in the market that sell coffee. Small traders will sell their products in the form of coffee beans (ose) or reprocess them by grinding them into powdered products and packaging them and then marketing them to consumers. Usually, traders market their products to cafes and through e-commerce.

In the third pattern, there is a shortening of the flow, namely where farmers directly sell their products, of course in raw quality, to large traders or exporters (PT. Asal Jaya). The raw quality supplied by farmers is in accordance with mutual agreement because on average farmers are reluctant to do grading and do not know the quality provisions set by PT. Asal Jaya.

From the product flow, marketing efficiency can be analyzed. In robusta coffee marketing activities, there are price differences at each level of marketing institutions. This

price difference is caused by marketing activities carried out in each chain that are not the same and different chain flows or patterns. Therefore, it is necessary to conduct a marketing efficiency analysis because, from this analysis, it will be known which target group is most likely to generate maximum profits and ensure efficient resource allocation. In analyzing marketing efficiency, calculations are made on marketing margins and farmers' share, after which the marketing efficiency value is calculated. In this study, the prices taken are the most frequently appearing nominals or can be said to be the mode of the research results of the Tani Harapan, Tani Maju, Suka Tani I, and Suka Tani II farmer groups.

The supply chain structure of pattern I consists of 3 actors, namely farmers, collectors, and wholesalers (exporters). In this analysis, there is limited information on export consumers. Each supply chain actor has a marketing margin and a farmer's share. The following is a calculation of the marketing efficiency analysis.

Table 3.
Marketing Efficiency Analysis on Product Flow Pattern I

No	Cost breakdown	Value (Rp/Kg)	Margin (Rp)	Farmer's Share (%)
Farmer				72.2
1	Dive	1,000		
2	Post-harvest labor	7,000		
	Selling price (original)	65,000		
Collector			10,000	13.2
	Purchase price (original)	65,000		
1	Labor	2,000		
2	Sorting	1,000		
3	Packaging	1,000		
4	Transportation	300		
	Selling price (grade 2)	75,000		
Wholesaler			15,000	16.6
1	Purchase price (grade 2)	75,000		
2	Selling price	90,000		
	Total		**25,000**	**100**

Source: Processed primary data, 2024

From table 3, we can see it is known that members of product flow I are farmers, collectors, and wholesalers. Farmers sell raw robusta coffee at Rp 65,000/kg, while collectors sell grade 2 coffee at Rp 75,000/kg because they do grading or sorting. Wholesalers who get a supply of robusta coffee sell the product at Rp 90,000/kg. In pattern I, the marketing margin from farmers to collectors is Rp 10,000, while the margin from collectors to wholesalers is

Rp 15,000. The percentage of farmers' share value received by end consumers in chain structure 1 is 72.2 percent. Farmer's share at the collector level is 13.2 percent while farmer's share at the trader level is 16.6%.

The product flow structure of pattern II consists of 3 actors, namely farmers, collectors, and small traders. In this analysis, consumers cannot be identified due to limited information. However, each actor has a marketing margin and farmer's share according to the established formula. The following is a calculation of the marketing efficiency analysis of product flow pattern II.

Table 4.
Marketing Efficiency Analysis on Product Flow Pattern II

No	Cost breakdown	Value (Rp/Kg)	Margin (Rp)	Farmer's Share (%)
Farmer				76.4
1	Dive	1,000		
2	Post-harvest labor	7,000		
	Selling price (original)	65,000		
Collector			10,000	13.3
	Purchase price (original)	65,000		
1	Labor	2,000		
2	Sorting	1,000		
3	Packaging	1,000		
4	Transportation	300		
	Selling price (grade 2)	75,000		
Small Trader			10,000	11.7
1	Purchase price (grade 2)	75,000		
2	Selling price (grade 2)	85,000		
	Total		**20,000**	**100**

Source: Processed primary data, 2024

Based on the table above, it can be seen that the members involved in pattern II are farmers, collectors, and small traders. Farmers sell raw robusta coffee at Rp 65,000/kg, while collectors sell grade 2 coffee at Rp 75,000/kg because they do grading or sorting. Small traders who get a supply of robusta coffee sell the product at Rp 85,000/kg. In pattern II, the marketing margin from farmers to collectors is Rp 10,000, while the margin from collectors to large traders is Rp 10,000. The percentage of farmers' share value received by end consumers in the structure of pattern I is 76.4%. Farmer's share at the collector level is 13.3% while farmer's share at the trader level is 11.7.

In pattern III, the actors consist of only 2 actors, namely farmers and wholesalers (exporters). In this analysis, export consumers cannot be identified due to limited information. Each actor has a marketing margin and a farmer's share. The following is a calculation of the marketing efficiency analysis.

Table 5.
Marketing Efficiency Analysis on Product Flow Pattern III

No	Cost breakdown	Value (Rp/Kg)	Margin (Rp)	Farmer's Share (%)
Farmer				73.3
1	Dive	1,000		
2	Post-harvest labor	7,000		
	Selling price (original)	66,000		
Wholesaler			24,000	26.7
1	Purchase price	66,000		
2	Selling price	90,000		
	Total		**24,000**	**100**

Source: Processed primary data, 2024

Based on the table above, it can be seen that the members involved in pattern III are farmers and wholesalers. The selling price from farmers with poor quality is IDR 66,000/kg. While wholesalers or exporters sell at IDR 90,000/kg. The marketing margin value is IDR 24,000 from farmers to wholesalers. The high marketing margin is caused by the fact that before marketing the coffee, the exporting company first sorts and grades it. The farmer's share value received by end consumers in pattern 1 is 73.3%, while the farmer's share at the wholesale level is 26.7%.

Table 6.
Recapitulation of Marketing Efficiency Values in 3 Supply Chain Patterns

Chain Structure	Price at the Farmer Level (Rp/kg)	Price at the Final Marketing Institution Level (Rp/kg)	Total Margin (Rp)	Farmer's Share (%)
Pattern I	65,000	90,000	25,000	72.2
Pattern II	65,000	85,000	20,000	76.4
Pattern III	66,000	90,000	24,000	73.3

Source: Primary Data processed, 2024

Based on Table 6 regarding the recapitulation of marketing efficiency values in the three supply chain patterns, it can be seen that they are different. This is due to the number of parties involved and the difference in price or margin. In pattern I, the total margin is IDR 25,000. Then, in pattern II, the total margin is IDR 20,000, and in pattern III is IDR 24,000.

The difference in margin is influenced by the actors involved and the price at each actor's level. In addition, collectors and export companies take high profits to cover previously incurred costs such as marketing costs, transportation, and so on. The high profits received by collectors and wholesalers cause the marketing margin between farmers and wholesalers to be quite large.

The percentage of farmers' share at the farmer level based on the calculation analysis above is in pattern I, the percentage of farmers' share reaches 72.2%, in pattern II, the percentage of farmers' share reaches 76.4%, and in pattern III reaches 73.3%. Farmer's share is part of the price paid by consumers that can be enjoyed by producers. The farmer's share criteria, according to Downey and Erickson in Roessali et al. (2014) are: FS> 40% = Efficient and FS <40% = Inefficient. So, it can be seen that all patterns are efficient because they are above 40%.

The indicator of an efficient pattern is that the higher the farmer receives, the more efficient it is. So, it can be seen that pattern II is the most efficient pattern with the highest farmer's share of 76.4%, with the lowest total marketing margin of Rp20,000. Pattern II consists of 3 actors, namely farmers, collectors, and small traders. While the least efficient supply chain structure is pattern I, with a farmer's share of 72.2% and a margin of Rp25,000. The actors in pattern I are farmers, collectors, and large traders (exporters).

CONCLUSION

In the product flow, it is known that in pattern I, there are 3 actors, namely farmers, collectors, and large traders (exporters) who will then go to export to consumers. In pattern II, there are 3 actors, namely farmers, collectors, and small traders, who then go to consumers. In pattern III, there are 2 actors, namely farmers and large traders (exporters), who then go to export to consumers. The results of the marketing efficiency analysis show that in pattern I, the total margin is known to be Rp. 25,000 farmers' share 72.2%, pattern II, the total margin is known to be Rp. 20,000 farmers' share 76.4%, and in pattern III, the total margin is Rp. 24,000 farmers' share 73.3%. So, it can be seen that pattern II is the most efficient pattern with the highest farmer's share of 76.4%, with the lowest total marketing margin of Rp. 20,000. So, there needs to be a policy to review and analyze again to improve marketing with marketing pattern II, and evaluate other patterns.

REFERENCES

Chopra, S., & Meindl, P. (2016*). Supply Chain Management: Strategy, Planning, and Operation*. Pearson.

Christopher, M. (2016). *Logistics & Supply Chain Management*. Pearson

Ilmiyati, A., & Munawaroh, M. (2022) Pengaruh Manajemen Rantai Pasokan Terhadap Keunggulan Kompetitif Dan Kinerja Operasional. *Jurnal Manajemen Bisnis*, 7(2), 226–251.

Indriani, R., Darman, R., & Mahyuddin.(2019). Rantai Pasok Aplikasi pada Komoditas Cabe Rawit di Provinsi Gorontalo. *Ideas Publishing*

Kurnia, S. (2023). Analisis Faktor-Faktor Yang Mempengaruhi Produksi Kopi Di Indonesia. *JISMA: Jurnal Ilmu Sosial, Manajemen, dan Akuntansi*, 1(6), 805-812.

Narulita, S., Winandi, R., & Jahroh, S. (2019) Analisis Dayasaing dan Strategi Pengembangan Agribisnis Kopi Indonesia. *Jurnal Agribisnis Indonesia*, 2(1), 63.

Noviana, A. S., Setiadi, A., & Budiraharjo, K. (2022) Analisis Kinerja Rantai Pasok (Supply Chain) Kopi Robusta Di Kecamatan Ulubelu, Kabupaten Tanggamus. *Mimbar Agribisnis: Jurnal Pemikiran Masyarakat Ilmiah Berwawasan Agribisnis*, 8(2), 1014. https://doi.org/10.25157/ma.v8i2.7579

Winarta, K. (2023, Juli 5). *Kopi Dampit Kini Makin Dikenal Pecinta Kopi Dunia*. https://www.liputan6.com/citizen6/read/3011789/kopi-dampit-kini-makin-dikenal-pencinta-kopi-dunia