

## Supply Chain Analysis and Marketing Efficiency of Robusta Coffee at CV. Kopi Citarasa Persada Tutur District, Pasuruan Regency

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### ABSTRACT

The coffee industry plays an important role in Pasuruan Regency, a region in Indonesia known for producing high-quality coffee. The coffee industry in Pasuruan Regency faces several problems affecting its business prospects. One of the main problems faced by coffee farmers is limited market access affecting the sustainability of local economic stability. This study investigates the coffee supply chain flow at CV Kopi Citarasa Persada, a leading coffee company in Pasuruan Regency, Indonesia. The main focus of this study is to identify and analyze the main challenges affecting the efficiency of the robusta coffee supply chain at CV Kopi Citarasa Persada. The research was conducted in 2024 and involved 10 respondents, including company management and farmer group leaders. The variables analyzed included product, information, and financial flows. The analysis method is marketing margin and farmer's share, calculated through consumer and producer prices. This calculation can help increase transparency in the supply chain and allow all stakeholders to make better decisions. Preliminary analysis shows challenges to raw material inventory that can lead to unavailability and disruptions in the production process with complex supply chain structures and significant efficiency potential. In addition, this research also provides a basis for recommendations for improvements in inventory management to address the uncertainty of demand and supply. With the positive goal of making this research a reference for improving the operational efficiency of coffee companies, this study will be used to improve the operational efficiency of coffee companies in Indonesia.

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## 1. Introduction

Indonesia, one of the countries with abundant natural resources, has long been known as one of the largest coffee producers in the world (A.M *et al.*, 2022). Coffee is not only a popular beverage worldwide, but it is also one of the leading export commodities that contributes significantly to the country's economy. Among other plantation commodities, coffee is among the most financially profitable (Noer & Handayani, 2023). According to the Central Statistics Agency (2023), Indonesia's coffee production in 2022 reached 794,800 tons, an increase of 1.1% compared to the previous year, making it the fourth largest coffee exporting country in the world after Brazil, Vietnam, and Colombia (Indrasari *et al.*, 2019). Arabica coffee and robusta coffee dominate most of the global coffee trade. Most coffee

production in Indonesia comes from robusta coffee, which accounts for 87.1% of the total coffee production (Directorate General of Plantations & Ministry of Agriculture, 2021). In this context, Pasuruan Regency, especially Tutar District, plays an important role as one of Indonesia's largest robusta coffee-producing areas. The type of robusta coffee is in demand in Indonesia for several reasons, such as its strong taste, which is why it is used as a base ingredient for espresso (Rizkiawan *et al.*, 2023). Coffee is sold in various forms, such as coffee beans, roasted coffee, ground coffee, instant coffee, and also as part of various other food products (Yulian *et al.*, 2019).

Previous studies have explored coffee supply chains in Indonesia but have focused less on specific operational challenges faced by robusta coffee producers such as CV. Persada Flavored Coffee. This study fills this gap by analyzing aspects of the supply chain that have yet to be studied in depth regarding how Robusta coffee is obtained, processed, and distributed in the supply chain in CV. Persada Flavored Coffee. CV. Kopi Citarasa Persada, a company engaged in agro-industry operations from upstream to downstream and based in Tutar, is one of the leading robusta coffee producers in Pasuruan. However, as in many agricultural industries, the coffee supply chain faces challenges affecting smooth operations and business sustainability (Sriwana *et al.*, 2021). As long as bottlenecks, imbalances and irregularities in the supply chain remain, progress in distribution in the plantation industry will be challenging to achieve (Goni *et al.*, 2022). One of the main challenges faced is the need for a written agreement between CVs. Kopi Citarasa Persada and farmer groups are suppliers of raw coffee materials. This uncertainty can disrupt the smooth supply chain, cause instability in raw material inventories, and affect the quality and quantity of coffee production. This research aims to respond to the problem of contract uncertainty and quality fluctuations that disrupt supply chain efficiency, with the potential to improve supply and income stability for local farmers.

This research aims to develop a more stable and efficient coffee supply chain model in CV. Kopi Citarasa Persada, which has never been studied before, uses a marketing margin approach with farmer's share. First of all, the flow of products in the coffee supply chain will be explored in detail. It covers all stages, from coffee production by farmers to finished products presented to the final consumer. This includes an understanding of how coffee is obtained, processed, and distributed by CV. Persada Flavored Coffee. Factors such as quality, sustainability, and innovation in production will also be evaluated to provide a comprehensive picture of how coffee products flow within the chain (Aji *et al.*, 2016). Second, the flow of information in the coffee supply chain will also be analyzed in depth. This includes data exchange and communication between various parties in the supply chain, from farmers and producers to distributors and consumers. Accurate, timely, and practical information is essential in managing the supply chain, identifying potential problems, and responding quickly and efficiently to market changes. Finally, the following analysis will focus on financial flows in the coffee supply chain. This includes all financial transactions in the supply chain, including payments to farmers as suppliers of raw materials, production costs, distribution, and income from the sale of coffee to consumers. The stability and efficiency of these financial flows directly impact the smooth operation and well-being of all parties involved in the supply chain (Dany Fadhlullah & Ekowati, 2018). Through a deep understanding of these three aspects, it is hoped that better insights can be gained on the efficiency and challenges in the coffee supply chain at CV. Kopi Citarasa Persada. The results of this analysis will provide a solid basis for future improvement and development recommendations, which can improve the

performance and sustainability of the coffee supply chain. In addition, this research will also focus on Robusta coffee, one of the dominant coffee varieties in Indonesian production. Robusta coffee has an important role in Indonesia's agricultural economy and affects the welfare of coffee farmers and the coffee industry. Therefore, a deep understanding of the Robusta coffee supply chain in CV. Kopi Citarasa Persada will make a significant contribution to the development of the coffee industry in Indonesia.

Thus, it is expected to produce valuable information for relevant stakeholders, including coffee farmers, marketing agencies, and consumers. This research contributes to the theoretical understanding of supply chain efficiency. It proposes innovative strategies that have never been researched before, promising improvements in production efficiency and sustainability, which the coffee industry throughout Indonesia can adapt to. Despite numerous studies on the coffee supply chain, there still needs to be more understanding of the effective integration between robusta coffee production and global market needs, especially in regions such as Pasuruan with unique market dynamics. Through this approach, we hope to make a meaningful contribution to the development of the coffee industry and provide relevant policy recommendations to improve the efficiency and well-being of all stakeholders in the coffee chain. Thus, this research will not only enrich the academic literature but will also have a tangible impact on the practices and policies of the coffee industry in Indonesia.

## **2. Methodology**

This research was carried out from January to February 2024, which is the period with the highest average production rate in CV. Kopi Citarasa Persada, located on Sumber Nyonya Street, Gunung Sari Hamlet, RT. 01, RW. 04, Tutar District, Pasuruan Regency. The research location is chosen intentionally or purposively, taking into account the characteristics and operational activities of CV. Persada Flavored Coffee. CV. Kopi Citarasa Persada. CV. Kopi Citarasa Persada is one of the certified coffee production centres in the Ujar District and is involved in the production and marketing of robusta coffee with an average capacity of 1,000 kilograms per month, making it the right choice to study the coffee supply chain in the area.

The sample determination was carried out using the snowball sampling method. This technique was chosen because it allows researchers to expand the sample range by identifying new informants through existing informants. The population in this study includes all parties involved in the supply chain at CV. Kopi Citarasa Persada, with the initial criteria to consider in the sample selection process, is to have credibility and a good reputation in their field. We started by selecting initial informants, such as Mr. Winarso, who is directly responsible for coffee supply chain activities. After the interview, Mr. Winarso is asked to recommend additional informants with relevant knowledge or experience. Additional informants are selected using the same criteria as the initial informants: relevance of experience, accessibility, and position in the industry.

Then, 9 new selected respondents were added to gain representation from different levels of operations. After the interview, Mr. Winarso is asked to recommend additional informants with relevant knowledge or experience. Additional informants are selected using the same criteria as the initial informants: relevance of experience, accessibility, and position in the industry. Then, 9 new selected respondents were added to gain representation from different levels of operations. After the interview, Mr. Winarso is asked to recommend additional informants with relevant knowledge or experience. Additional informants are

selected using the same criteria as the initial informants: relevance of experience, accessibility, and position in the industry. Then, 9 new selected respondents were added to gain representation from different levels of operations. The data collection technique used in this study is an in-depth interview with the help of a questionnaire containing 16 questions addressed to parties who play a role in the supply chain flow. Then, the interpretation results are described objectively and processed so that data descriptions and conclusions are obtained. Moreover, it is supported by direct observation of supply chain flows and information recorded during the implementation of research at CV. Kopi Citarasa Persada so that it can provide additional insights that are not revealed only through interviews.

The variables selected include product, information, and financial flow to assess operational efficiency, as stated in the research objectives. The data analysis used is a descriptive analysis method, marketing margin analysis, and farmer's share analysis. This method is used to measure how efficient the supply chain is in driving farmers' profits and identify potential areas for operational improvement, as targeted in this study. The following is the marketing margin equation (1):

$$M_{ji} = Pr - Pf \dots \dots \dots (1)$$

Based on (Amin *et al.*, 2016), to calculate the margin percentage, the following equation is used:

$$MT = \frac{Pr - Pf}{Pr} \times 100\% \dots \dots \dots (2)$$

The criteria used to determine the level of marketing efficiency can be said to be efficient if the total margin percentage is 0-33% and is said to be less efficient if the percentage is 33-67%, and efficiency said to be inefficient if the percentage value is 68-100%. While the Farmer's Share equation is as follows:

$$Fs = \frac{Pf}{Pr} \times 100\% \dots \dots \dots (3)$$

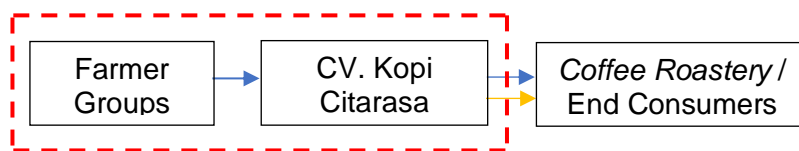
Information:

- $M_{ji}$  = Margin at the  $i^{th}$  level marketing institution (IDR/Kg),
- $Pr$  = Prices at the consumer level (IDR/Kg),
- $Pf$  = Prices at the producer level (IDR/Kg),
- $i$  = 1,2,3,....., n,
- MT = Total marketing margin (%),
- Fs = Percentage of price received by farmers (%)

Operational variables are defined and measured according to the characteristics and activities in the coffee supply chain. The operational variables observed are as follows: robusta coffee operations, namely the speed of the production or distribution process, the supply chain, how stock management affects product flow, including overstock and stockout, the timing and accuracy of payments from customers and payments to suppliers, how often information is updated and disseminated, marketing margins, and farmer's share. Variable measurement was done through price and percentage comparisons to analyze marketing efficiency and farmers' participation in the coffee supply chain.

### 3. Results and Discussion

Supply Chain Flow in CV. Kopi Citarasa Persada can be described as a relationship that involves the flow of materials or services, financial flows, and information flows from upstream to downstream. It includes interactions between suppliers, manufacturers, distributors, warehouses, retailers, and consumers. This supply chain functions as a cooperation network between companies to create and deliver products with optimal quality and on time to the end consumer (Romdhon *et al.*, 2021). From the supplier of raw materials (raw materials) to the end consumer, every member of the supply chain has an important role in ensuring the success of the entire chain, for example, in CV. Kopi Citarasa Persada, the role of each supply chain member, such as farmer groups, coffee roasteries, and retailers, is very decisive in creating and delivering robusta coffee products to the final consumer.



**Figure 1.** Coffee Supply Chain Network Structure

- a. Channel I: CV. Kopi Citarasa Persada – *Coffee Roastery* / End Consumer  
CV. Kopi Citarasa Persada is a producer of robusta coffee fruits as well as robusta coffee products. Robusta coffee production is carried out through the honey process method. Kopi Citarasa Persada markets its products with a target of all regions of Indonesia with a price of green bean products of IDR70,000/kg, roasted bean IDR200,000/kg, and ground coffee IDR200,000/kg.
- b. Channel II: Farmer Groups – CV. Kopi Citarasa Persada – *Coffee Roastery* / End Consumer  
Farmer groups sell robusta coffee fruits that they have harvested to CV. Kopi Citarasa Persada, which then carries out the robusta coffee production process. After that, CV. Kopi Citarasa Persada sells its coffee products to the third chain, namely coffee roasteries and end consumers, at a price per kilogram for green beans IDR70,000, roasted beans IDR200,000, and ground coffee IDR200,000.

The supply chain is the nexus between the flow of materials, finances, and information from suppliers to the end consumer (Sinta *et al.*, 2022). CV. Kopi Citarasa Persada, a coffee agro-industry company, is an exciting example of implementation in the supply chain. Founded in 2017 by Mrs. Ida Irawati, CV. Kopi Citarasa Persada operates comprehensively from nursery to final product. They have a 17.7-hectare robusta coffee plantation that is organically managed, producing 240 kilograms of coffee in one harvest season. As an integral part of the supply chain, CV. Persada Citarasa Coffee functions as a processing industry that processes raw materials and produces raw materials for robusta coffee products.

The company also focuses on improving product quality with innovations in processing processes, including coffee processing methods with honey process. In addition, they provide various additional services such as workshops, homestays, and educational tours to support their productivity. Kallwa Coffee leaf and fruit products are also part of its product portfolio, in addition to producing its brand, CV. Kopi Citarasa Persada also receives production services

for various processed coffee variants. Cooperation with farmer groups is an important aspect of the CV. Kopi Citarasa Persada supply chain. Several farmer groups have cooperated with this company, providing raw materials for robusta coffee production. In the coffee supply chain, the coffee roastery entity acts as a processor of raw coffee beans into coffee beans ready to be brewed. Some coffee roasteries are consumers of robusta coffee products CV. Kopi Citarasa Persada. Finally, the end consumer holds a central role in the supply chain. They are the end users of coffee products and determine the market demand. CV. Kopi Citarasa Persada targets all regions in Indonesia as its market.

From this analysis, it can be seen that CV. Kopi Citarasa Persada's supply chain has a complex structure but is well integrated, ensuring quality coffee products reach the end consumer. Strong cooperation between various entities in the supply chain is the key to achieving common goals in the coffee industry

### 3.1 Flow of Goods in the Supply Chain CV. Kopi Citarasa Persada

The flow of goods in the robusta coffee supply chain displays a comprehensive linkage from the leading resource (Anselina & Simamora, 2023), namely farmer groups as the leading suppliers, to coffee producers, CV. Persada Flavored Coffee, and finally reached the end consumer. In this robusta coffee supply chain, two channels flow from upstream to downstream, directly and without the involvement of intermediaries. The first channel started with farmer groups such as the Manunggaling Karso Farmers Group, Arabusta 4 Farmers Group, Rukun Maju 8 Farmers Group, and Kutjur Coffee, which acted as the leading suppliers of red coffee and green beans for robusta coffee production. Coffee fruits are harvested when they are perfectly ripe, marking the optimal quality of the yield. CV. Kopi Citarasa Persada maintains a close relationship with farmer groups without a written contract, which has lasted for about 10 years with a high level of trust. This enables efficiency in the supply chain and ensures the quality of raw materials by established quality standards. If the quality of raw materials does not meet the standards, CV. Kopi Citarasa Persada returns these raw materials to farmer groups, emphasizing the importance of quality in every production stage.

**Table 1.** Quality Standards for Robusta Coffee Raw Materials

| Criterion                                |                                  |
|--|----------------------------------|
| Red Cherry                               | Green Bean                       |
| Perfect red color                        | Yellowish-green in color         |
| The outer layer (skin) is not perforated | Whole seed                       |
| No rotten parts                          | No parts are perforated or black |
| Dense texture                            | Dense texture                    |
| Neutrally scented                        | Neutrally scented                |

Source: Primary data (2024)

With direct involvement between CV. Kopi Citarasa Persada and farmer groups, long-term relationships are established, minimizing the cost of finding new partners and ensuring a stable supply. Strict quality standards are applied by CV. Kopi Citarasa Persada as a guideline for farmer groups to ensure product consistency and quality. For example, coffee berries must meet certain moisture, taste, and texture criteria to be considered viable as raw materials. This illustrates the importance of sustainable and mutually beneficial relationships between coffee producers and farmer groups in creating effective and quality supply chains.

Optimal product output quality results from selecting superior and quality raw materials. Quality standards for raw materials are crucial for manufacturing companies, especially in robusta coffee production (Prastyo *et al.*, 2022). The quality of the coffee taste resulted from the quality of raw materials and the coffee processing process. The demand for raw materials by CV. Kopi Citarasa Persada from farmer groups is highly dependent on market or consumer demand, creating uncertainty in the volume of raw materials ordered. In anticipation of this, CV. Kopi Citarasa Persada stores raw materials in their warehouse. The order process is carried out through WhatsApp messages stating the volume and delivery time, adjusted to the availability of raw materials in the farmer group.

Every receipt of raw materials through quality and freshness checks. Raw materials that do not meet quality standards are rejected. In red cherries, the selection process is carried out to separate perfectly ripe and underripe cherries. Then, the selected cherries are peeled and dried naturally. Green bean raw materials are also checked according to quality standards before being stored or further processed. Storage warehouse at CV. Kopi Citarasa Persada implements the SOPs of the FEFO (first expired, first out) method that maintains humidity and avoids aroma contamination. FEFO (first expired, first out) is a method of selling products with a short expiration period first to customers; this is applied to regulate the storage and distribution of products so that they remain fresh and by standards.

The flow of goods from CV. Kopi Citarasa Persada goes to a coffee roastery or ends up with consumers directly without intermediaries. Most coffee roasters buy green or roasted beans, while end consumers prefer ground coffee because of its ease of use. The flow of robusta coffee goods from CV. Kopi Citarasa Persada's approach towards the end consumer is considered efficient and high quality. The products have met consumer expectations, indicating the CV's good production quality. Kopi Citarasa Persada

### 3.2 Financial Flow in the Supply Chain CV. Persada Flavor Coffee

Financial flows in the robusta coffee supply chain exchange money as payment for products sold by each actor in the supply chain chain (Dewi & Suprapti, 2022). This means that funds are generated from the exchange of products purchased by buyers through the chain and then received by producers in exchange for the products produced. Finally, there is a financial exchange between producers and suppliers to obtain raw materials. This financial flow flows from downstream to upstream.

CV. Kopi Citarasa Persada purchases red cherries and green beans from farmer groups as raw materials for production. Transactions are carried out in total cash, where payment is made in full after the transaction value is agreed, and only then is the order processed. The price of raw materials, such as red cherries, is IDR9,000/kg, while for green beans, it ranges from IDR50,000 to IDR60,000/kg. The pricing of raw materials is carried out through negotiations, considering market trends and the quality of coffee beans as price-determining factors. Submissions are usually made by CV. Kopi Citarasa Persada saves shipping costs due to the location's proximity to farmer groups.

The coffee roastery or the end consumer orders robusta coffee products from CV. Kopi Citarasa Persada. The price offered depends on the volume of purchases, with prices differing for green bean robusta depending on the purchase amount. The payment system is carried out via transfer or cash in full after the transaction value is agreed upon, and the order is processed after full payment is received. The price set does not include shipping costs, which

will be charged to consumers depending on the shipping expedition and the distance of the consumer's location. Transactions are carried out using receipts as proof of receipt of goods, including information about the price and volume of the order.

### 3.3 Information Flow in the Supply Chain CV. Kopi Citarasa Persada

The flow of information in the robusta coffee supply chain is a key element in the communication process between actors involved in the supply chain (Noviana *et al.*, 2022). Smooth distribution of information between actors in the supply chain allows for good and transparent relationships, which can increase trust and commitment in cooperation (Carolina Simorangkir & Rosiana, 2022). This flow of information has an important role in smoothing the flow of products and financial flows. The exchange of information occurs between each actor in the supply chain of robusta coffee products. Information flows reciprocally from upstream to downstream and vice versa. Farmer groups, as suppliers of raw materials, convey information about the availability and condition of raw materials to CV. Kopi Citarasa Persada, while CV. Kopi Citarasa Persada provides farmer groups with information about the price and status of raw materials. Negotiating prices and quantities of raw materials is carried out through communication platforms such as WhatsApp, considering the coffee fruit's ripeness and quality.

Meanwhile, the flow of information between CVs. Kopi Citarasa Persada and coffee roastery or end consumers also occur in both directions. Consumers confirm orders, payments, and complaints to CV. Kopi Citarasa Persada, while CV. Kopi Citarasa Persada provides consumers with price, availability, product quality, and delivery status information. This communication can be done in person or through platforms such as WhatsApp, allowing for efficient and minimal distortion of information exchange. The cooperation process can run smoothly and efficiently with a good and direct flow of information between actors in the robusta coffee supply chain. Good and direct communication between parties can improve supply chain performance (Syukriansyah *et al.*, 2022).

### 3.4 Marketing Margin Analysis

The calculation of marketing margins is carried out to identify the price difference between the producer and end consumer levels and evaluate the revenue received by the marketing agency (Fauziah *et al.*, 2021). According to research, the extensive marketing margin between producer prices and marketing agency prices shows inefficiencies in the marketing system. Each marketing agency desires to make a profit, so the price paid by each marketing agency varies. Prices at the producer level tend to be lower than prices at the wholesale level, and prices at the wholesale level are usually lower than prices at the retail level (Lailah *et al.*, 2023). In addition, this analysis aims to identify the costs incurred by marketing agencies.

Marketing costs refer to moving goods from producers to final consumers. Marketing costs vary between marketing agencies depending on their functions (Putri *et al.*, 2020). The distribution process of green bean robusta from farmer groups to final consumers requires certain costs, which will then affect the price of green bean robusta. Marketing margin analysis was explicitly conducted for green beans, the primary raw material in robusta coffee production by CV. Kopi Citarasa Persada. The marketing margins of each marketing agency in the robusta coffee supply chain can be seen in the table. After looking at the results from Table 2,



there is information on the prices and marketing costs of the two supply chain channels analyzed.

**Table 2.** Green Bean Marketing Margin Analysis on Marketing Funnels

| Marketing Channel I  |                           |        |           |
|----------------------|---------------------------|--------|-----------|
| No.                  | Description               | Unit   | Value     |
| 1.                   | CV. Kopi Citarasa Persada |        |           |
|                      | Total Cost                | IDR/Kg | 49,870.00 |
|                      | Selling Price             | IDR/Kg | 70,000.00 |
|                      | Marketing Margin          | IDR/Kg | 20,130.00 |
|                      | Margin Percentage         | %      | 28.70     |
| Marketing Channel II |                           |        |           |
| No.                  | Description               | Unit   | Value     |
| 1.                   | Farmer's Group            |        |           |
|                      | Total Cost                | IDR/Kg | 235.00    |
|                      | Selling Price             | IDR/Kg | 55,000.00 |
| 2.                   | CV. Kopi Citarasa Persada |        |           |
|                      | Total Cost                | IDR/Kg | 790.00    |
|                      | Selling Price             | IDR/Kg | 70,000.00 |
|                      | Marketing Margin          | IDR/Kg | 15,000.00 |
|                      | Margin Percentage         | %      | 21.40     |

Source: Primary data (2024)

First, in the supply chain channel I CV. Kopi Citarasa Persada sells green bean robusta to coffee roasteries or end consumers for IDR70,000/kg, and they spend IDR49,870/kg for marketing costs, which results in a marketing margin of IDR20,130/kg. The channel shows a high-efficiency level by obtaining a total margin percentage of 28.70%. Since this channel has two levels of sales, CV. Kopi Citarasa Persada sells directly to the end customer, so the price the customer pays is the producer's price. Then, in supply chain channel II, farmer groups sell green beans robusta to CV. Kopi Citarasa Persada has an average price of IDR55.000/kg. Marketing costs incurred by farmer groups are IDR235.00/kg. CV. Kopi Citarasa Persada then sells green bean robusta to coffee roasterys/consumers for IDR70,000/kg. Marketing margin earned by CV. Kopi Citarasa Persada is IDR15,000/kg, with marketing costs of IDR190/kg. The marketing margin percentage of this channel is 21.40%, indicating a good level of efficiency. This channel is a three-tier marketing channel involving farmer groups and CVs. Kopi Citarasa Persada and coffee roastery or end consume.

### 3.5 Farmer's Share Analysis

Farmer's share shows the share of value that farmers (producers) get from marketing activities. Farmers do not fully receive the value paid by consumers because of marketing margins that reduce the share of value received by farmers (Amelia *et al.*, 2019). The size of the farmer's share value is influenced by the selling price at the farmer level and the purchase price at the consumer level.

**Table 3.** Farmer's Share Green Bean Analysis

| Marketing Chain | Prices at the producer level (IDR/Kg) | Price at the consumer level (IDR/Kg) | Farmer's Share |
|-----------------|---------------------------------------|--------------------------------------|----------------|
| Channels I      | 49,870.00                             | 70,000.00                            | 71.20          |
| Channels II     | 55,000.00                             | 70,000.00                            | 78.50          |

Source: Primary data (2024)

Based on the results of the study, supply chain channel I has a farmer's share of 71.20 percent, which means that from every IDR100/kg paid by consumers, IDR71.20/kg will be distributed to CV. Kopi Citarasa Persada. Meanwhile, supply chain channel II has a farmer's share of 78.50 per cent, which means that out of every IDR100/kg paid by consumers, IDR78.50/kg will be distributed to farmer groups.

A farmer's share has a negative relationship with marketing margin; the more significant the farmer's share, the greater the share farmers receive (Rahayu *et al.*, 2019). The part received by the CV. Kopi Citarasa Persada on the channel I is positive, indicating that CV. Kopi Citarasa Persada benefits because it directly sells to coffee roasteries/consumers without going through marketing agencies. Likewise, with the share received by farmers, because they sell their products directly to CV. Kopi Citarasa Persada without going through intermediaries or wholesalers.

The analysis shows that both channels, both supply I and II, are at an efficient level. This is due to relatively low marketing margins and high farmer's share. This finding is consistent with research (Anggowa *et al.*, 2023), which states that marketing margins will increase along with the number of marketing agencies that go through. Hence, prices at the consumer level are also high, and vice versa. In addition, the number of marketing institutions involved also affects the farmer's share received by farmers (producers), where the more marketing institutions are passed, the farmer's share obtained by farmers will tend to decrease.

### 3.6 Recommendations for Improving Supply Chain Efficiency CV. Kopi Citarasa Persada

Supply chain flow mechanism on CV. Kopi Citarasa Persada is carried out through three main streams: the flow of goods, the flow of money, and the flow of information. Each of these streams has an important role in maintaining the company's smooth operation. However, as in many supply chains, problems can arise in each of these flows, as well as other influencing factors. Therefore, the right improvement strategy needs to be implemented to improve the efficiency of the company's supply chain.

#### 3.6.1 *Constraints and Strategies for Improving Supply Chain Efficiency on Goods Flow*

The channel of goods flow starts from suppliers, namely farmer groups, and then continues to CV. Kopi Citarasa Persada, and then to coffee roastery/consumer. The problem is the lack of availability of goods, especially green bean robusta, which causes dissatisfaction among coffee roastery/consumers. This is due to the lack of special consideration made by CV. Kopi Citarasa Persada produces or provides green bean robusta per market demand. The recommended improvement strategy is to review the inventory management process (Antoro *et al.*, 2022). Inventory management needs to be strengthened to overcome demand and supply uncertainty and minimize the risk of stock out and price fluctuations. Thus, the

company can provide the best service to consumers, expedite the production process, and anticipate inventory shortages.

### *3.6.2 Constraints and Strategies for Improving Supply Chain Efficiency on Financial Flows*

The flow of money goes inversely to the flow of goods, starting with consumers and ending in farmer groups. In the financial flow, there are no significant problems on the part of the farmer group, CV. Kopi Citarasa Persada, coffee roasteries, and end consumers. Payment is always made as agreed and well documented through receipts. Therefore, there is no need for specific improvement strategies to improve financial flows.

### *3.6.3 Constraints and Strategies for Improving Supply Chain Efficiency on Information Flow*

The flow of information goes in two directions, from farmer groups to CV. Kopi Citarasa Persada or vice versa, as well as from CV. Kopi Citarasa Persada to the coffee roastery and end consumers and vice versa. In the flow of information, there are no significant problems. All information related to harvest schedule and availability, quality of raw materials, and constraints in ordering and delivery is always well communicated between all relevant parties. Therefore, companies can maintain good practices in the flow of information without the need for specific improvement strategies.

By implementing the right improvement strategy in each stream, CV. Kopi Citarasa Persada can improve its overall supply chain performance and achieve better efficiency.

### *3.6.4 Constraints and Strategies for Improving Supply Chain Efficiency in External Mechanisms*

External factors such as market trends and economic conditions play a crucial role in influencing the supply chain dynamics and the company's strategy. Market trends, such as changing consumer preferences or technological innovations, can force companies to adapt their products and processes to meet changing demands and take advantage of the latest technologies. Companies need to adapt to strategies such as supplier diversification, contingency planning, and investment in technology to maintain efficiency and competitiveness in an ever-changing market. Effective adaptation to these external factors helps companies stay responsive to emerging challenges.

## **4 Conclusion**

Based on the analysis of the robusta coffee supply chain in CV. Kopi Citarasa Persada, it can be concluded that two supply chain channels play a role in the distribution of robusta coffee and are at a good level of efficiency, with a balanced marketing margin and farmer's share. Based on the results of the analysis, a written contract with farmer groups must be established. Written contracts with farmer groups can address various problems or challenges in agricultural management and coordination. One of the main challenges that can be overcome is uncertainty regarding the quality and quantity of crops. With written contracts, specifications on quality standards and the number of crops can be clearly defined, reducing the risk of disputes between farmers and buyers. Contracts also help set fair and consistent prices, protecting farmers from volatile market fluctuations. In addition, contracts can include terms related to cultivation methods, delivery schedules, and responsibilities in the event of delays or damage to raw materials, thus clarifying expectations and reducing the possibility of conflict so that the cooperative relationship becomes more structured and farmers have legal certainty and support in the management of their businesses. The next thing that needs to be

done is to measure the performance of the supply chain periodically for regular supply chain evaluation; one of the specific performance metrics that can be used is customer satisfaction, which is a key metric to measure the extent to which customer expectations are met, including delivery timeliness and product quality. For coffee companies, good supply chain efficiency can reduce operational costs, improve customer satisfaction, and provide a competitive advantage in a highly competitive market. Implications of the broader findings include an increased ability to adapt to fluctuations in raw material prices and changing consumer trends, which is particularly important in a global coffee industry influenced by international economic conditions. Adopting best practices in supply chain management can contribute to long-term sustainability and profitability and strengthen the market position and brand reputation in the coffee industry.

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