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Comparative Assessment of Robusta Coffee Marketing Channels in Solok City, West Sumatra

Saluran Pemasaran Kopi Robusta di Kota Solok, Sumatera Barat

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Abstract

Coffee stands as a cornerstone of agricultural economies and it has significant roles in the global beverage industry in Indonesia. However, robusta coffee marketing channels issue impacts the prices received by farmers. The price that consumers pay and the price that farmers receive differ significantly. This research offers a comparative analysis robusta coffee marketing channels in Solok City of West Sumatra. This study used a purposive sampling by a survey approach. The survey method involves interviewing and giving questionnaires to 35 farmers, 5 collectors in the village, and 3 wholesalers. The findings indicated the existence of three marketing channels. The first marketing channel shows that farmers received a price of 25,722.22 IDR/kg, with a farmer share of 86.70% and an efficiency of 4.30%. The second marketing channel shows that farmers received a price of 27,812.50 IDR/kg with a marketing efficiency of 3.92% and a farmer share of 94.82%. The third marketing channel shows that farmers received a price of 25,722.22 IDR/kg and a farmer share of 100%, while the marketing efficiency of 1.77%. These findings demonstrate that marketing channel three is the most efficient. To enhance productivity, it is suggested that farmers should consider rejuvenating coffee plants and prioritize the post-harvest process to ensure hygiene and produce high-quality coffee. By increasing coffee productivity and improving coffee quality, it is expected that farmers could gain higher prices and achieve greater profitability.

Keywords: marketing channels, marketing efficiency, robusta coffee

Abstrak

Industri kopi mempunyai peran yang penting dalam pembangunan ekonomi Indonesia. Salah satu permasalahan yang ada pada industri kopi robusta saat ini yaitu pada saluran pemasaran. Permasalahan pada saluran pemasaran berdampak pada harga yang diterima petani kopi Robusta di Kota Solok, Sumatera Barat. Terdapat perbedaan harga yang signifikan antara yang dibayarkan oleh konsumen dan yang diterima oleh petani. Penelitian ini menganalisis secara komparatif saluran pemasaran kopi Robusta di Kota Solok. Penelitian ini menggunakan *purposive sampling* dengan pendekatan survei. Metode survei dilakukan dengan melakukan wawancara terstruktur kepada 35 orang petani, 5 pedagang pengumpul, serta 3 pedagang besar. Dari hasil penelitian didapatkan tiga saluran pemasaran kopi robusta di Kota Solok. Pada saluran pemasaran I, petani memperoleh harga sebesar Rp 25.722,22 per kg dengan *farmer share* sebesar 86,70% dan efisiensi pemasaran sebesar 4,30%. Pada saluran pemasaran II, petani memperoleh harga sebesar Rp 27.812,50 per kg dengan efisiensi pemasaran sebesar 3,92% dan *farmer share* sebesar 94,82%. Pada saluran pemasaran III, petani memperoleh harga sebesar Rp 25.722,22 per kg dengan *farmer share* sebesar 100% dan efisiensi pemasaran yaitu 1,77%. Dari hasil penelitian menunjukkan bahwa saluran pemasaran ketiga merupakan saluran yang paling efisien. Untuk meningkatkan produktivitas, disarankan agar petani mempertimbangkan peremajaan tanaman kopi dan memprioritaskan proses pasca panen agar dapat menghasilkan kopi berkualitas tinggi. Dengan meningkatkan produktivitas dan kualitas kopi, diharapkan petani mempunyai *bargaining positions* untuk mendapatkan harga yang lebih tinggi.

Kata Kunci : efisiensi pemasaran, kopi robusta, saluran pemasaran

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Introduction

Coffee stands as a cornerstone of agricultural economies, playing a pivotal role of the global beverage industry. To fulfill the world's coffee demand, many countries are involved and export coffee from their own countries. There were 74.2 million bags of robusta coffee had been produced in the world in the year of 2021/2022. The largest coffee exporter was Brazil with shipping of 3.89 million sacks (International Coffee Organization, 2023). The second largest coffee exporter was India with shipping of 2.22 million sacks. While Indonesia as the third largest coffee exporter with 1.66 million sacks of coffee exported. Coffee as an important commodity to the Indonesia economy, not only as a source of foreign exchange earnings, but laso as a labor provider and income source for farmers. According to Directorat General of Estate, Indonesia has exported of 382.93 thousand tons of coffee in 2021 which contributes to 12.35T of foreign exchange. This is the fifth largest foreign exchange earned from plantation sector after oil palm, rubber, cocoa and coconut (Directorate General of Estates Indonesia, 2022)

In terms of coffee agribusiness, subsystems interconnection is vital for a thriving coffee agribusiness. The downstream subsystem, responsible for processing and marketing agricultural products domestically and internationally. Low selling prices have dampened farmers' enthusiasm, impacting their motivation for coffee cultivation (Murtiningrum & Gabrienda, 2019), (Budihardjo & Fahmi, 2020). (Rahmadianto et al., 2019) found that farmers are not only focus on coffee production but also other commodities which resulted in less of farmers' motivation for coffee cultivation. To bolster farmer enthusiasm and productivity, it is imperative to establish a fair farmer share within the marketing process.

Aneffective agricultural marketing can serve as a powerful motivator for enhanced production. Enhancing farmers' motivation necessitates the establishment of a favorable farmer share within the marketing process, which should adequately compensate for farmers' expenses and efforts during agriculture production (Sayaka, 2015). An effective marketing of agriculture commodities can serve as a potent catalyst, encouraging farmers to increase their productivity (Mutiara & Arai, 2017).

Marketing channels plays the most important roles of any value chain especially when manufacture output are depend on the marketing channel. Stakeholders including distributors, wholesalers and retailers carry out distribution functions, including transportation function, selling function, inventory function and financing function (Krafft et al., 2015). (Watson et al., 2015) considered that exploration of marketing channels is indispensable, given that marketing plays a pivotal role in determining the success of agricultural enterprises. Marketing channels encompass a network of interconnected entities or intermediaries, serving as critical conduits for delivering products to end consumers. These channels are integral components of value chains, facilitating the substantial flow of economic good. The marketing dimension focuses on distributing products to consumers at an equitable price, ensuring the interests of various stakeholders are met.

(Kotler & Keller, 2015) stated that a marketing channel organization is a series of organizations that show all of the functions in order to distribute products and their ownership status from suppliers to consumers. The marketing expenses will occurred as a result of a length marketing channel which is called high marketing margins. Therfore, the share is become profit for trader. Furthermore, marketing channels have the potential to augment producers' profits and alleviate marketing expenses. Effective marketing channels enable producers to curtail distribution and promotional costs, thereby presenting consumers with more affordable products. Additionally, these channels can facilitate producers' access to a broader market, fostering business expansion.

Research on coffee marketing channels in Indonesia has gained significant attention due to the persistent challenges faced in the agricultural sector (Pardani et al., 2023); (Wasti et al., 2023); (Uengpaiboonkit, 2021); (Rosiana, 2020); (Murtiningrum & Gabrienda, 2019). In West Sumatra, (Paloma et al., 2023) conducted research on coffee farmers characteristics in Solok Regency, but not spesifically on coffee marketing channel. Therefore, it is important to conduct a reseach on marketing channel in Solok City, West Sumatra where there is a lack of awareness among the coffee farmers regarding the pivotal role of coffee marketing channels. Marketing expenses will rise as long as there is an institution acting as a marketing channel. To raise the marketing expense, every marketing organization strives to carry out a marketing task that increases the product's use value, or utility. Typically, marketing expenses are passed on to consumers and producers in the form of higher consumer prices or lower producer prices. The difference considerably reduces the farmers' share.

This is a result of the farmers' ongoing expenses to maintain coffee distribution throughout the distribution process. This knowledge gap leads to inefficiencies within their distribution networks, hindering coffee farmers from producing beyond their anticipated requirements. Consequently, conducting comprehensive research becomes imperative to unearth novel insights that can enhance the understanding of flow process of robusta coffee from farmers towards consumers. Therefore, this paper aims to study a comparative analysis of robusta coffee marketing channels in order to identify the most efficient marketing channel in Solok City, West Sumatra.

Research Methods

This research was conducted in Solok City of West Sumatra from March to April 2023. Solok City is home to a total of 159 coffee farmers. The selection of the study sample was accomplished using the method of simple random sampling. Simple random sampling entails the random selection of samples from a population without considering any strata within that population. Respondents for this study encompasses 35 robusta coffee farmers, 5 villager collectors, and 3 wholesalers.

The research methodology employed in this study was survey method. Data were collected using a set of questionnaire and interview with key informants. This research encompassed an investigation and observation of coffee farmers and the institutions involved in the green beans coffee marketing channels to obtain insights and answers to the research inquiries. The study used both qualitative descriptive analysis and quantitative analysis. The robusta green beans coffee marketing channel in Solok City was investigated using the qualitative descriptive analysis. Simultaneously, a quantitative analysis was carried out to analyze marketing margin, farmer share and marketing efficiency of robusta green beans coffee in Solok City

(Beckman & Buzzell, 1955) stated that marketing margin is the differences between average price that consumers paid and payment received by farmers for amount of quantities of the product. It can be concluded that the margin of marketing is the difference price between price paid by consumers and price received by suppliers. The higher margin of marketing, the lower the farmers share (Sitinjak et al., 2023). It can be formulated as follows:

$$MM = Pc - Pf \quad (1)$$

Where : Price at cosumer level (IDR/kg); Pf = Price at farm level (IDR/kg)

The amount of share that farmer received from the price paid by the consumer. Marketing channel is efficient when the margin of marketing is low and farmer share is high (Sitinjak et al., 2023).

$$FS = Pf/Pc \times 100\% \quad (2)$$

Where : FS = Farmers share; Pf = Price at farm level (IDR/kg); Pc = Price at consumer level (IDR/kg)

The marketing channel efficiency is best indicated by the channel with the lowest marketing efficiency value, as a lower marketing efficiency value signifies a more efficient marketing channel. Efficiency in marketing is achieved through the adoption of shorter marketing channels with lower marketing efficiency percentages (Soekartawi, 2002). The formula for determining this is:

$$ME = TC/Pc \times 100\% \quad (3)$$

Where: ME = Marketing Efficiency (%); TC = Total Marketing Cost (IDR/kg)

Results and Discussion

Marketing Function

There are three institutions that associated with robusta coffee marketing channel in Solok City. These institutions include farmers, collectors in the village, and wholesalers. Each of these institutions has different functions from the other. Farmers have functions that involve sales activities, such as selling agricultural produce to collectors in the village, which then continue to wholesalers. The physical functions performed by farmers include processing, transportation, storage, and packaging, while facilitation functions performed by farmers include sorting, risk-taking, and capital provision.

In addition to physical tasks like transportation and storage, collectors in the village also carry out exchange functions like buying and selling. The final function is facilitation, which includes

market knowledge, capital provision, and taking risks. In marketing, wholesalers play a role in exchange activities like purchasing and selling, physical activities like shipping and storage, and facilitation activities like risk assessment, capital provision, and market intelligence.

From January to March 2023, 3,829 kg green beans of robusta coffee have been sold by farmers in Solok City. 50 % of the farmers are prefer selling the coffee to local village collectors due to distance and cost considerations, as well as the absence of standardized criteria for these transactions. This aligns with research by (Rosiana, 2020) that highlights cash transactions and convenience as primary motivations for farmers to sell the coffee to the collectors. It is only about 45% of them sell the robista coffee to wholesaler. The decision is influenced by higher prices offered by wholesalers, especially for farmers with larger production volumes. Distribution costs also play a role in this choice. Mutiara and Arai stated that challenges such as the absence of support for the distribution channels of organic products and the difficulty in meeting consumer satisfaction pose significant hurdles for farmers. A small percentage, around 5%, of farmers directly sell to consumers. These farmers meet specific industry standards, including post-harvest treatment, cherry selection, and proper drying methods (Mutiara & Arai, 2017).

Most farmers avoid selling directly to the coffee industry due to stringent industry standards. In Indonesia, despite the coffee productivity, there is a challenge of consistency of coffee quality (Sunarharum et al., 2018). The industry demands hygienic drying, non-wrinkled green beans, and proper drying processes, which are not met by most farmers. Consequently, they choose to sell to local collectors, who do not enforce such standards (Sunarharum et al., 2021).

Farmers' selling timelines vary based on their financial needs. Some sell immediately after dry processing from cherry beans coffee into green beans coffee, while others wait for favorable market prices. Robusta coffee is primarily sold as green beans coffee, with prices ranging from 25,000 IDR/kg to 28,000 IDR/kg.

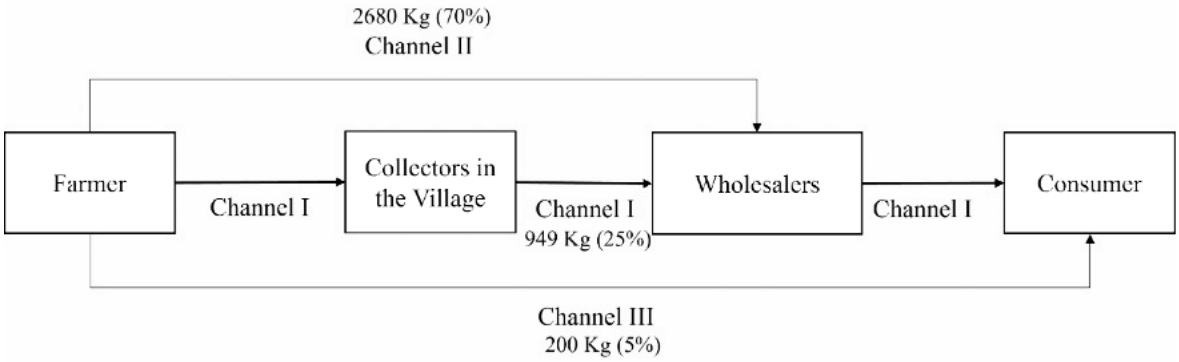

Figure 1. Robusta Coffee Marketing Channels in Solok City, West Sumatra

Marketing Channel of Pattern I

As can be seen from Figure 1 that marketing channel I which collectors in the village and wholesalers are engaged before the products reach the customers. Collectors in the village purchase 949 kg, or 25%, of the robusta coffee produced. The robusta coffee is transported by farmers to village collectors, either by foot or by motorcycle. Farmers and collectors do not have any appointment before. Farmers deliver robusta green beans coffee directly to the collectors' location. The village collectors set the prices in this channel because they already know information about coffee price in the market. Instead of selling the green beans coffee to wholesalers, farmers prefer to sell the green beans coffee to village colllectors because of the location is closer to their place. If they sell the green beans coffee to wholesalers it would cost them more in term of transportation cost, which result in a smaller farmers share. Farmers in this channel usually produce less coffee overall, which makes collecting in the village a more alluring option

The village collectors accept cash payments in channel I. This finding is consistent with (Zarliani et al., 2022) research, which shows that payments are made in cash, partially and through deferred payments. Because of the requirements for coffee quality, farmers prefer to sell the coffee to village collectors than sell it directly to coffee industry. All robusta coffee green beans are bought by collectors, regardless of their quality, and when coffee beans are sold to collectors, their quality has an impact on the selling price.

Village collectors then sell the robusta coffee they purchased from farmers to wholesalers who are located outside of the farmers' immediate area. The Solok City Bypass and the Solok City Market are home to wholesalers in this marketing channel. Robusta coffee is sold to wholesalers at the wholesaler's location by the village collectors, who get paid in cash for the sale. Village collectors deliver the coffee goods straight to the wholesaler's location without making any appointments beforehand. Wholesalers as a price taker, give price without any standardization.

Table 1. Margin Analysis of Robusta Green Beans Coffee Marketing Channel I in Solok City, West Sumatra

Description	Price (IDR/kg)	Cost (IDR/kg)	Percentage (%)
1. Farmer			
a. Cost of marketing channel			
i. Cost of sack purchase		34.46	0.12
ii. Cost of transportation		53.34	0.18
iii. Cost of rope purchase		41.41	0.14
iv. Cost of vehicle depreciation		102.11	0.34
Total Cost		**231.33**	**0.78**
b. Selling price	25,722.22		86.70
c. Net of farmer sales	25,490.90		85.92
2. Village collector			
a. Buying price		25,800.00	86.97
b. Cost of marketing channel			
i. Cost of transportation		39114	1.32
ii. Cost of sack purchase		70.05	0.24
iii. Cost of labor transportation		74.00	0.25
iv. Cost of rope purchase		22.09	0.07
v. Cost of weighing scale depreciation		63.86	0.22
vi. Cost of vehicle depreciation		249.49	0.84
vii. Cost of storage		15.81	0.05
Total Cost		**886.44**	**2.99**
c. Selling price for village collector	27,200.00		91.69
d. Margin for village collector	1,477.78		4.98
e. Profit for village collector	513.56		1.73
3. Wholesaler			
a. Buying price		27,666.67	93.26
b. Cost of marketing channel			
i. Cost of labor transportation		55.00	0.19
ii. Cost of sack purchase		48.31	0.16
iii. Cost of weighing scale depreciation		33.85	0.11
iv. Cost of rope purchase		12.90	0.04
v. Cost of storage		7.00	0.02
Total Cost		**157.05**	**0.53**
c. Selling proce for wholesaler	29,666.67		100.00
d. Margin for wholesaler	2,466.67		8.31
e. Profit for wholesaler	1,842.95		6.21
4. Total of marketing cost (IDR/kg)	1,274.81		4.30
5. Total Profit (IDR/kg)	2,356.51		7.94
6. Total Margin (IDR/kg)	3,944.44		13.30
7. Marketing Efficiency (%)			4.30

The wholesalers sell the robusta green beans coffee to the coffee industry. The wholesaler is located near Solok City's market. Customers will pick up the coffee from their car. There is a cash

payment system in place. In channel I, farmers typically agree to the prices that the village collectors set. There are numerous factors that lead to their inability to control market prices. Thus, farmers are essentially price takers in channel I, as noted by (Utama et al., 2018) which in a weak position.

Table 1 shows coffee farmers sell their products to traders with price of 25,000 IDR/kg to 26,000 IDR/kg, with price average of 25,722,22 IDR/kg. The price taken by the consumers at 29,666.67 IDR/kg. In pattern 1, the total cost incurred is 231.33 IDR/kg at the farmer level, 886.44 IDR/kg at the village collector level, and 157.05 IDR/kg at wholesaler level. It can be concluded that the village collectors incur higher total costs due to transportation and vehicle depreciation cost. Therefore, when the total marketing cost for Pattern 1 is calculated, it amounts to 1,274.81 IDR/kg. The marketing margin paid in pattern I consists of 1,477.78 IDR/kg at the collector level in the village. At the wholesaler level, the marketing margin is 2,466.67 IDR/kg, derived from the selling price by farmers of 25,72222 IDR/kg and selling price for village collectors of 27,200.00 IDR/kg.

Marketing Channel of Pattern II

Farmers sell their the robusta green beans coffee to wholesalers through marketing channel pattern II before the coffee are eventually purchased by consumers. This route accounts for about 70% or 2,680 kg of the total robusta coffee production. Farmers sell their robusta coffee to wholesalers primarily because they offer a higher price than village collectors. Coffee farmers who do direct transaction with wholesalers usually have larger harvest. It proves to be a more profitable approach to engage with these traders directly. When it comes to delivering their coffee to wholesalers, farmers in pattern II typically have their own private vehicles, like motorcycles which is less transportation costs. Table 2 shows a detailed cost of marketing channel pattern II.

Table 2. Margin Analysis of Robusta Green Beans Coffee Marketing Channel II in Solok City, West Sumatra

Description	Price (IDR/kg)	Cost (IDR/kg)	Percentage (%)
1. Farmer			
a. Marketing channel Cost			
1) Sack Purchase Cost		65.49	0.22
2) Transportation Cost		751.93	2.56
3) Rope Purchase Cost		16.82	0.06
4) Vehicle Depreciation Cost		169.26	0.58
Total Cost		**1,003.50**	**3.42**
b. Selling Price	27,812.50		94.82
c. Net Farmer Sales	26,809.00		91.39
2. Wholesaler			
a. Buying Price		27,000.00	92.05
b. Marketing Channel Cost			
1) Rope Purchase Cost		13.06	0.04
2) Storage Cost		7.00	0.46
3) Labor Cost of Transportation		55.00	0.19
4) Sack Purchase Cost		60.14	0.21
5) Cost of Weighing Scale Depreciation		11.31	0.04
Total Cost		**146.51**	**0.50**
c. Selling price for wholesaler	29,333.33		100.00
d. Margin for wholesaler	1,520.83		5.18
e. Profit for wholesaler	2,186.82		7.46
3. Total Marketing Cost (IDR/kg)	1,150.02		3.92
4. Total Profit (IDR/kg)	2,186.82		7.46
5. Total Marketing Margin (IDR/kg)	1,520.83		5.18
6. Marketing Efficiency (%)			3.92

In marketing channel pattern II, farmers incur total costs of 1.003,50 IDR/kg. When compared to wholesalers, who only have total costs of 146,51 IDR/kg, the disparity is quite significant. This discrepancy arises because farmers have to cover high transportation and vehicle depreciation expenses. Furthermore, examining the selling price for farmers and the price received by wholesalers, there is a margin of 1.520,83 IDR/kg. This margin is calculated from the price difference between farmers and wholesalers, which is 27.812,50 and 29.333,33 IDR/kg, respectively. In channel II, the margin received by wholesalers is lower than the margin in Pattern I, which is 2.186,82 IDR/kg. This disparity results from channel 1's longer distribution chain and higher distribution process expenses. Interestingly, in East Nusa Tenggara Province, it was found that the coffee marketing margin did not influenced by distance and coffee processing (Mau et al., 2018).

Marketing Channel of Pattern III

About 5% of the respondents' total production is sold directly to customers in Marketing Channel pattern III, where farmers sell robusta coffee to consumers. Because selling prices to consumers are higher than what village collectors or wholesalers are willing to pay, farmers choose to sell their coffee to consumers. The low percentage in this channel can be ascribed to farmers' lack of cooperation with the coffee industry and their incapacity to meet industry standards. Directly interacting with consumers (the coffee industry) usually results in high-quality coffee that meets industry standards.

The industry has established a number of standards for accepting coffee based on the research data. Having red-colored cherry coffee beans and making sure the drying process is done on sanitary mats are a couple of these requirements. The green beans should also be uniformly yellow in color and show no signs of wrinkling, which is an indication of an appropriate drying process. Coffee products that don't fit these requirements can't be supplied to the market. Due to a general lack of appropriate coffee-drying facilities, farmers frequently dry the cheery bean coffee in the yard or next to the road. Kopi Payo H. Zulkifli, a home-based coffee processing facility, represents a coffee industry in Solok City. They process a 100 percent of Solok robusta green beans coffee. No other coffee varieties are blended. This coffee industry, which is conveniently close to the farmers, assists in saving farmers' transportation expenses when delivering their goods. Locally grown green beans are transformed by Kopi Payo H. Zulkifli into roasted coffee, powdered coffee, and pre-packaged green beans.

Table 3. Margin Analysis of Robusta Green Beans Coffee Marketing Channel III in Solok City, West Sumatra

	Description	Price (IDR/kg)	Cost (IDR/kg)	Percentage (%)
1.	Farmer			
a.	Cost of marketing channel			
i.	Cost of vehicle depreciation		123.33	0.41
ii.	Cost of sack purchase		60.00	0.20
iii.	Cost of transporation		316,67	1.06
iv.	Cost of rope purchase		30.00	0.10
	Total Cost		**530.00**	**1.77**
b.	Selling price	30,000.00		100.00
c.	Net of farmer sales	29,470.00		98.23
2.	Total cost of marketing (IDR/kg)	530,00		1.77
3.	Total Profit (IDR/kg)	-		-
4.	Total margin (IDR/kg)	-		-
5.	Marketing efficiency (%)			1.77

Table 3 provides information regarding the overall marketing expenses within marketing channel pattern III, which amount to 530.00 IDR/kg. Farmers, in turn, receive 30,000.00 IDR/kg of a selling price, resulting in net sales for farmers of 29,470.00 IDR/kg after subtracting the incurred costs of 530.00 IDR/kg. The low volume of green bean purchases made by customers in marketing

channel III —typically between 2,000 and 4,000 kg annually—contributes to the low percentage of direct sales of green beans to consumers. When their demand is met, consumers stop buying from the farmers, which forces them to look into other marketing avenues.

Marketing Efficiency

Analyzing the marketing efficiency value is one approach to assess a marketing channel's effectiveness. A smaller marketing efficiency value is more efficient the marketing channel, because it can distribute the product at a lower cost. The formula for marketing efficiency is the ratio of marketing expenses to the product's value (the final consumer's price). In other words, there is an inverse relationship between marketing costs and the product price at producer level. This means that when marketing costs increase, the product price at the producer level decreases. The marketing channel efficiency of robusta coffee in Solok City is shown in Table 4.

Table 4. Robusta Green Beans Coffee Marketing Channel Efficiency in Solok City, West Sumatra

No	Marketing channel	Total Cost of Marketing (IDR/kg)	Price at consumer level (IDR/kg)	Marketing efficiency (%)
1	Pattern I	1,274.81	29,666.67	4.30
2	Pattern II	1,150.02	29,333.33	3.92
3	Pattern III	530.00	30,000.00	1.77

Table 4 shows that in marketing channel pattern III, the total marketing cost is 530.00 IDR/kg with a selling price of 30,000.00 IDR/kg. This channel gain the lowest marketing efficiency value of 1.77%. Because marketing channel pattern III is shorter than other channels in this particular distribution path, its marketing costs are comparatively lower. Conversely, marketing channel pattern I exhibits the highest marketing efficiency value of 4.30%, with a total marketing cost of 1,274.81 IDR/kg and a selling price of 29,666.67 IDR/kg. While in marketing channel pattern II, the selling price of 29,333.33 IDR/kg and a total marketing cost of 1,150.02 IDR/kg, the marketing efficiency value computed at 3.92%.

Although marketing channel pattern III reached the shortest marketing channel, it can be concluded that this channel is indeed the most efficient one. Thus, when considering marketing efficiency, the shortest distribution channel tends to be the most effective. While marketing channel pattern III may have the highest efficiency percentage, it is essential to noted that it caters to a limited consumer demand, typically ranging from 200 to 500 kg/year. Once the coffee production supplied by farmers fulfills the consumer's needs, marketing channel pattern III will cease to receive coffee from farmers. Therefore, an alternative worth considering is marketing channel pattern II, despite its slightly lower marketing efficiency percentage.

Regarding the market efficiency, (Paloma et al., 2023) found that a coffee cooperative could become a platform for their members to gain better access to the market. Such a platform can encourage farmers to stay updated on prices and exchange information, thereby enhancing the agricultural marketing process. More over, an alternative perspective can be applied to examine marketing efficiency in this case. The use of online marketing channels is quite effective (Uengpaiboonkit, 2021). From the study on coffee marketing channel efficiency for Rajamangala University of Technology Isan, there is the effectiveness not only online marketing channel, including entertainment channels, but also offline marketing channel. (Dimitrova et al., 2019) asserted that it is important to use unique marketing channels because it is not only use the resource and capabilities to connect producers (farmers) and consumers efficiently but also engage stakeholders (collectors, wholesellers). Moreover, it is important to consider the long term of marketing channels interms of environmental, social and resilience benefits for stakeholders (Paredes-Rodríguez A.M et al., 2024). It is believed that technological changes of internet will affect how marketing channels changed over in the future (Vaishnav & Ray, 2023).

Conclusion

There are three marketing channels for robusta coffee in Solok City. Despite the advantages of marketing channel pattern III, such as a small margin, efficient marketing, and the highest share for farmers, it is important to note that coffee sales through this channel are restricted. Though, it is believed that among marketing channels that produces long term benefits for farmers, short marketing channels are the most economically viable alternative. However, it is recommended for robusta coffee farmers in Solok City to consider utilizing marketing channel pattern II, which has the capacity to handle any quantity of robusta green beans coffee.

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