



Analysis of Function and Efficiency of Corn Marketing Channels in Jatirejo District, Mojokerto Regency, East Java Province

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ABSTRACT

This study aims to determine the function and efficiency of corn marketing channels in Jatirejo District, Mojokerto Regency, East Java. The method used in sampling research purposive sampling by determining a sample of 25 farmers. This study also uses the method snow ball sampling to trace the marketing institutions and marketing channels formed based on information from farmer producers who were met randomly in the research area. The results of the study showed that there was 1 (one) dominant marketing channel in corn marketing in Jatirejo District, Mojokerto Regency. The marketing institutions involved include farmers, collectors, wholesalers and retailers. The marketing functions carried out by the marketing institution include the functions of selling, buying, transportation, processing, storage, provision of dryer machines, warehouses, price information, funds and handling marketing risks. The corn marketing channel in Jatirejo District has a marketing margin of Rp. 2.700/kg or equivalent to 34.52% and a farmer's share of Rp. 5.100/kg or equivalent to 65.38%. While the Marketing Efficiency level reaches 15.90% so that the corn marketing channel in Jatirejo District can be categorized as efficient.

Keywords: Corn, marketing channels, marketing margin, farmer share

INTRODUCTION

Indonesia is an agricultural country with most of its population working in agriculture. In this country, the agricultural sector plays a very important role in meeting food needs and has the potential to contribute to economic development. This sector plays a major role in increasing national economic growth. The agricultural sector in 2022 contributed 12.4% to the Indonesian national economy (Hayati et al., 2017). Corn is one of the most vital agricultural products after wheat and rice to support food security. As a source of food and feed, corn is rich in carbohydrates, which are the main elements providing calories, vitamin A, and iron. In addition to functioning as a source of calories, corn also supplies important nutrients to maintain the nutritional balance of the community. Corn consumption is carried out in various ways of serving it. Young corn, especially sweet corn, is very popular and is usually served in the form of boiled corn or grilled corn. In addition, products such as corn flour, cornstarch, and cooking oil are also often used.

Corn Commodity Corn (*Zea mays* L.) is one of the potential staple foods and is one of the important commodities in agribusiness. Corn crop yields are important in efforts to improve the world's agricultural economy and agribusiness. Corn crop production is quite high, but it is not balanced with the increasing need for corn, related to its wide level of utilization in various industries. This is exacerbated by the conservation of agricultural land into residential areas, so that the area of production land is getting narrower (Sutaryono, 2016, in Ferdi Rifanda Hambali F.R., 2021). The most important climate factors are the amount and distribution of sunlight, rainfall, temperature, humidity, wind (Parawansa, 2024).

Whereas organic matter is important in supporting plant productivity and at the same time maintaining

productive land conditions (Hidayat, 2018). One of the causes of low corn yields is the presence of weeds in the corn plants. The effect of weeds on the corn plants. The effect of weeds on plants can occur directly, competing for nutrients, water, light and growing space. Weeds left uncontrolled in corn can reduce yields by 20-80% (Lumbantoruan. J.E, et al., 2015).

The prospects for corn farming show good potential if managed intensively and following agribusiness patterns. Demand in the domestic market and opportunities for corn exports continue to increase every year, both for food and non-food needs. According to Pearu et al., 2017 in Saijo, 2022, almost all parts of the corn plant have economic value. In addition to being food, corn is also used as a mixture of animal feed, non-oil and gas export materials, and as raw materials for industry.

The harvest area of corn kernels in 2024 is estimated at 2.58 million hectares, an increase of 0.11 million hectares or 4.34 percent compared to the harvest area in 2023 of 2.48 million hectares. The production of dry corn kernels with a water content of 14 percent in 2024 is estimated at 15.21 million tons, an increase of 0.43 million tons or 2.93 percent compared to 2023 which was 14.77 million tons (BPS, 2024). East Java makes the largest contribution to national corn production. Based on records from the Central Statistics Agency (2024), the area of corn planting in East Java in 2024 was 735,054 hectares with a production volume of 6.08 million tons. Mojokerto Regency makes a fairly large contribution to corn production

with a quantum of 148.85 tons in 2018 with details in sub round I (January-April) corn production was recorded at 31,668 tons. In sub round II (May-August) corn production increased to 35,629 tons, and in sub round III (September-December) it more than doubled to 81,518 tons. The fairly large production in sub round III is related to the start of the rainy season around October where many farmers cultivate corn. One of the sub-districts that contributes quite a large amount of corn production is Jatirejo Sub-district with an annual production quantum of 12.06 thousand tons from a planting area of 1,828 hectares.

Marketing of corn commodities has unique characteristics related to its function as an important source of food and feed. An effective and efficient marketing process will be able to provide more benefits for farmers as producers. The marketing process can be said to be efficient if producer farmers can deliver their production results to consumers through marketing channels at the lowest possible cost (Rosilawati R., 2019). Marketing channels refer to a series of activities carried out by marketing institutions involved in the product distribution process from producers to end consumers. The problem that arises in the marketing system is the lack of efficiency in marketing activities. Efficiency can be achieved if all costs are minimized starting from collection, processing, packaging, transportation, to distribution (Anggraini N. et al., 2020).

According to Sudana I.W., 2019, an efficient marketing system can help reduce margins, so that the prices received by producers are higher, and the prices for consumers are more affordable. This allows marketing institutions to get decent profits. However, farmers often face challenges, such as low income due to the natural characteristics of agriculture that are easily damaged. In addition, marketing channels that are too long also have a negative impact on the income obtained by actors in marketing institutions. Based on the background that the author has explained above, the author is interested in conducting research on the analysis of marketing channels, functions and efficiency in corn marketing in Jatirejo District, Mojokerto Regency, East Java Province.

RESEARCH METHODS

Research Sites

The research location was taken by purposive sampling, which is in Jatirejo District, Mojokerto Regency, East Java. The selection of this location is based on the potential in the production of corn commodity marketing. The population of the study included corn farmers in the Jatirejo District, Mojokerto Regency. Meanwhile, marketing institutions include collectors, wholesalers and retailers. The farmer samples were taken using the calculation method (saturated sampling). According to Sugiyono (2017), the numerical method (saturated sampling) is a sampling technique in which all members of the population are sampled. The appropriate sample size in sampling is when the population is small, less than 30 people, or wants to make generalizations with a low margin of error. The sample taken in this study was 25 people. Meanwhile, the sampling of marketing institutions was determined using the Snowball sampling method. According to Sugiyono (2017), snowball sampling is a method of determining a sample that is initially small and then increases. Sampling

The institutional framework for this research was carried out by monitoring the marketing channels of corn farmers in Jatirejo District, Mojokerto Regency.

Data Analysis Techniques

In agricultural commodity marketing research, marketing efficiency is often measured using a comparison between marketing costs and prices paid by end consumers. One of the indicators used is the marketing efficiency ratio (EP), with the formula: $EP = \frac{BP}{HE} \times 100\%$

Where: EP = Marketing Efficiency (%)

BP = Marketing Costs (Rp/kg)

HE = Price paid by end consumers (Rp/kg)

Efficiency Threshold: According to Khaswarina et al. (2018), marketing efficiency can be categorized as follows:

✓ EP < 50% → Efficient, meaning that marketing costs are relatively small compared to the prices paid by consumers, so that the marketing channel is considered efficient.

✓ EP ≥ 50% → Inefficient, meaning that marketing costs are too high, causing high consumer prices but farmers still receive low prices. In other words, the smaller the percentage of marketing costs to consumer prices, the more efficient the marketing system is. The 50% threshold is considered logical because marketing costs should ideally not exceed half of the selling price at the consumer level so that farmers and other actors can still obtain a decent margin without burdening consumers.

Information:

Mp = Marketing Margin

SPf = Farmer's share of price

Pf = Price at farmer level

Pr = Price at the final retailer level

Spli = Price share on marketing board to i

Mij = Marketing margin of the i-th marketing institution and the j-th Marketing institution

Sbi = Marketing cost share of the i-th marketing institution

Bi = Marketing costs of the i-th marketing institution

Ski = Profit share of the i-th marketing agency

BP = Marketing Cost

HE = Retail Price

RESULTS AND DISCUSSION

Marketing Channels

Marketing channels are a flow or series of activities to flow a product or service from the producer to the end consumer. The main role of the marketing channel is to convert potential buyers into profitable customers, not only serving the market but also forming new markets (Sudana, I.W., 2019). In the marketing of corn commodities in Jatirejo District, Mojokerto Regency, one dominant marketing channel pattern was found, as illustrated in Figure 1 below. The macro perspective analyzes the post-farmer marketing system, namely marketing functions that aim to deliver products or services related to

In general, the marketing system includes a series of activities aimed at distributing goods and services from the production sector to the consumption sector, thereby increasing the utility of agricultural commodities. Each activity in this marketing system has its own function. These functions can increase the utility of the product if the marketing institutions that carry out these functions operate optimally. The marketing functions carried out by these institutions vary, but in general there are three main types, namely the exchange function, the physical function, and the support function or provision of facilities. This exchange function includes buying and selling activities. In carrying out sales activities, producers or institutions involved in the previous marketing chain need to consider the quality, form, time, and price desired by consumers or marketing institutions in the chain (Sitinjak W., et al. 2023)

Marketing is a key element that has a major impact and plays an important role in generating income for farmers (Fatmawati and Zulham, 2019). Marketing or distribution channels function to distribute goods or services from producers to consumers, so that consumers can easily meet their needs. An effective distribution channel must be supported by quality products so that consumers are satisfied with the goods or services they receive and the products must be right on target in their delivery (Wahyuningtyas and Sunrowiyati, 2018). According to Mubyarto (2002), marketing is considered efficient if 2 things are met, namely being able to deliver producer results to consumers at the lowest possible price and providing a fair distribution of the total price paid by the latter to all parties involved in the production process. According to Ismail (2008) an efficient marketing system will provide benefits for business actors involved in the production process until the final sales process.

Marketing margin analysis is carried out using a quantitative approach to measure the difference between the price received by producers and the price paid by consumers (Delia, S C. 2017). Kai Yusniawati, et al. (2016) defines marketing margin in the context of distribution channels as the difference between the price paid by consumers and the price received by farmers. Problems related to marketing margins can arise due to additional costs involved in distribution, such as transportation, storage, and promotion costs. This issue can be a major challenge for institutions involved in the supply chain, because institutions



Figure 1. Corn Marketing Channels in Jatirejo District, Mojokerto Regency

In the research location there are also other marketing channel patterns but their roles are not significant so they are discussed in this study. Based on the marketing channel patterns above, it is known that there are 4 marketing institutions involved, namely farmers, collectors, wholesalers and retailers. Each marketing institution has a different function in marketing activities.

Marketing Functions

The function of marketing institutions involved in corn marketing in Jatirejo District includes exchange functions, physical functions, and facility functions. The exchange function which includes the process of buying and selling by farmers, collectors, wholesalers and retailers is shown by the purchase of corn from farmers. Collectors, wholesalers, and retailers buy corn from farmers in providing corn to be sold to consumers.

Physical functions including transportation, storage, and processing are carried out by collectors, wholesalers, and retailers as shown by the transportation of corn. Collectors, wholesalers, and retailers of corn usually come directly to farmers, but some also involve labor from farmers to deliver corn to collectors, wholesalers, and retailers. The existence of a transportation function by marketing institutions has indirectly helped farmers. Corn is generally transported using pick-up trucks or trucks for large orders of corn.

The function of the facilities carried out by collectors and retailers is the sorting and grading activities on corn. Collectors and retailers carry out sorting and grading activities with the aim of facilitating the determination of selling prices that are in accordance with their quality. Retailers have a higher risk compared to the risk of wholesalers and collectors, because corn stored by collectors is usually not too long and is distributed directly to wholesalers, then when the corn reaches the wholesalers of the main market, the corn can be marketed directly to retailers.

Table 1. Functions of the Corn Commodity Marketing Institution in Jatirejo District

No.	Marketing Functions		Farmer	Trader Collector	Trader Big	Trader Retailer
1	Exchange	Buy it	-	√	√	√
		Sell	√	√	√	√
2	Physique	Transportation	√	√	√	√
		Processing	√	√	√	-
		Save	√	-	√	√
3	Facility	Mesin Dryer	-	-	√	-
		Warehouse	-	√	√	-
		Price Information	√	√	√	√
		Dana	√	√	√	√
		Risk	√	-	√	√

Information:

√ : There is

- : There isn't any

Farmer

Farmers act as the first actors in corn farming because they are producers of corn commodities. In the corn marketing channel, farmers function as sellers to collectors. Farmers carry out post-harvest activities in the form of transporting the harvest, drying, and husking so that the corn is ready to be sold. In addition, farmers also store corn products before being sent to collectors. Farmers have collaborated with collectors to distribute corn harvests and make transactions with a cash payment system (Lestari T. 2017).

Collector Trader

Collectors act as parties who buy corn with a cash system. Corn received from farmers will be reprocessed such as drying and cleaning if the condition of the corn received from farmers is still not good. Collectors will also carry out temporary storage in the warehouse before the corn product is sent to large traders. The function of this collector is very important as a buyer of farmers' corn harvests.

Wholesaler

Wholesalers act as a liaison between collectors and retailers or animal feed factories. Wholesalers usually have warehouse facilities and drying machines so that they are able to process corn harvests if the water content is still too high. Wholesalers will distribute corn to retailers or animal feed factories, so that their corn products must meet the requirements required by the factory. Wholesalers are also the center of information on corn price developments because they have access to information from various production center areas. If the corn supply coming from the production center area is large, then the wholesaler will lower the price because there is a risk of not being sold.

Retail Trader

Retailers are actors who sell goods that are sold directly to the hands of end consumers in units or retail quantities. Usually, retailers are in a market in the area or the nearest agent. Retailers for corn sales are spread across Mojokerto, Surabaya and surrounding areas.

Marketing Margin

Marketing margin analysis is used to see the level of efficiency of corn prices sold from farmers to end consumers. This marketing margin is distributed to each marketing institution, where its value is calculated from the difference in selling price minus the purchase price at each marketing institution which affects various factors such as transportation, storage and other factors. Based on research by Latumahina Y. et al (2021), it is known that the longer the marketing chain, the smaller the profit received by each institution. Based on the data presented in table 2, the marketing margin value of corn commodities in Jatirejo District is IDR 2,700/kg or equivalent to 34.62%. Profit is the goal sought by every company as an effort to ensure the company's survival and adaptation in the economy. (Kasmir, 2016) explains that profit is the difference between total income and costs, with income exceeding costs. In addition, (Ardhianto, 2019) explains that profit is a surplus of total income compared to total expenses, which is compensation for the company's efforts in producing goods or services.

Table 2. Calculation of Marketing Channels for Corn Commodities in Jatirejo District

Marketing Institutions & Margin Components	Rp/Kg	Distribution Margin (%)	Farmer's Share (%)	Ski (%)	Sbi (%)
Farmer Selling price	5.100		65,38		
Collector TraderPurchase Price	5.100 150	5,56 2,96		16,30	5,56 2,96
Transportation costs	80	0,74			0,74
Sorting Fee	20	0,37			0,37
Weighing Fee	10	16,30			
Packaging Cost	440				
Profit	5.800				
Selling price					
Wholesaler Purchase Price	5.800 150	5,56 7,41		17,41	5,56 7,41
Transportation costs	200	0,74			0,74
Processing Fee	20	0,37			0,37
Biaa Weight	10	7,41			7,41
Packaging Cost	200	17,41			
Depreciation	470				
Profit	6.950				
Selling price					
Retail Trader Purchase Price	6.950 150	5,56 9,26		16,67	5,56 9,26
Transportation costs	250	16,67			
Depreciation Expense	450				
Profit	7.800				
Selling price					
Marketing Margin	2.700		34,62		
Total			100	50,38	49,62

Source: Processed Primary Data, 2024

The marketing margin is distributed at all levels of the Marketing Institution. For collectors, the marketing margin is Rp. 700/kg or equivalent to 8.97%. The marketing margin for wholesalers is Rp. 1.150/kg or equivalent to 14.74%. While the marketing margin for retailers is Rp. 850/kg or equivalent to 10.90%.

Farmer's Share

The level of efficiency of the marketing channel can be seen from the Farmer's Share value. The higher the farmer's share value, the more efficient the marketing channel is. The Farmer's Share received by farmers is a percentage of the comparison between the price received by farmers and the price received by consumers. In that marketing is considered economically efficient if the share received by farmers is more than 50%, and if the share received by farmers is less than 50% then marketing is considered inefficient. Farmer's share is the proportion of the price received by farmers from the amount paid by end consumers (Suminartika and Djuanalina, 2017). In addition, (Riyadh, 2018) explains that farmer's share analysis is a method for analyzing marketing channels by comparing the price received by farmers to the price paid by end consumers. This analysis shows a negative relationship with the trading margin in terms of value. In other words, the higher the trading margin of a product, the less the share received by farmers.

Marketing Costs

Expenditure for marketing corn kernels includes all costs incurred after the corn is harvested and stored in storage until it is sold. During this marketing process, several expenses that arise include transportation costs,

processing costs, weighing costs, packaging costs and depreciation. These marketing costs arise at all levels of marketing institutions from the corn marketing channel in Jatirejo District. According to the data presented in table 2 above, the marketing costs from collectors are Rp. 260/kg consisting of transportation costs, sorting costs, weighing costs and packaging costs. Marketing costs for wholesalers are Rp. 580/kg consisting of transportation costs, processing costs, weighing costs, packaging costs and depreciation. While marketing costs for retailers are Rp. 400/kg consisting of transportation costs and depreciation costs.

Marketing Benefits

Marketing profit is defined as the difference between the costs incurred and the price received by consumers. Every institution involved in marketing seeks to gain financial profit, therefore the price paid by each marketing institution can vary. The higher the understanding of producers, marketing entities, and consumers of market information, the more evenly distributed the marketing margin. According to table 2 above, the profit value of all marketing institutions involved in the corn marketing channel in Jatirejo District can be seen. For collectors, the profit value obtained is IDR 440/kg or equivalent to 16.30% of the retail price. Wholesalers obtain a profit value of IDR 479/kg or equivalent to 17.41% of the retail price. While retailers obtain a profit value of IDR 450/kg or equivalent to 16.67% of the retail price.

Marketing Efficiency

Efficiency in agricultural product distribution is influenced by the length of the distribution channel and the size of the profit margin at each stage (Kusuma, 2017). If the distribution channel is shorter and the margin is small, then the distribution will be more efficient. An efficient marketing channel is able to deliver producer results to consumers at the lowest possible price and provide a fair distribution of the total price paid by the latter to all parties involved in the marketing process. The efficiency of corn marketing in Jatirejo District studied in this study is:

$$EP = \frac{BP}{HE} \times 100\% = \frac{1.240}{7.800} \times 100\% = 15,90\%$$

From the calculation results above, it shows that the Marketing Efficiency value for corn marketing channels in Jatirejo District is 15.90%. This shows that the marketing channel is running very efficiently because the Marketing Efficiency value is far below 50%.

CONCLUSION

Corn marketing in Jatirejo District, Mojokerto Regency has 1 (one) dominant marketing channel involving farmers, collectors, wholesalers and retailers. The marketing functions carried out by marketing institutions include selling, buying, transportation, processing, storage, provision of dryer machines, warehouses, price information, funds and handling of marketing risks. The corn marketing channel in Jatirejo District has a marketing margin of Rp. 2700/kg or equivalent to 34.52% and a farmer's share of Rp. 5100/kg or equivalent to 65.38%. Meanwhile, the Marketing Efficiency level reaches 15.90% so that the corn marketing channel in Jatirejo District can be categorized as efficient.

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