

Efficiency Marketing Analysis of Smallholder Beef Cattle Business in Angkola Sangkunur Subdistrict South Tapanuli Regency

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ABSTRACT

Cattle farming practices in South Tapanuli Regency are still carried out traditionally which cause less margin. This study aims to determine the characteristics of marketing institutions involved in marketing, marketing channels, and marketing efficiency. This study uses the snowball sampling method. The respondents in this study were 37 farmers, 14 retailers, and 9 collectors. This research was conducted in South Tapanuli Regency, North Sumatra Province, specifically in Angkola Sangkunur Subdistrict in 3 villages, namely Sangkunur, Malombu, and Batu Godang, and there were 3 marketing channels. The research method used was quantitative with a survey type of research, namely by conducting direct observations in the field using interviews and questionnaires. The results of the study show that the marketing margin in channel II is IDR. 650,600/head. The marketing margin in channel III is IDR. 389,436/head. Farmer share in channel II is 103%, and in channel III is 102%. The profit-to-marketing cost ratio for channel II is 2.05, and for channel III it is 7.62. Marketing efficiency for channel II is 0.022, and for channel III it is 0.004. Beef cattle marketing in Angkola Sangkunur Subdistrict is considered efficient.

Keyword: Marketing, Cattle, South Tapanuli Regency, Angkola Sangkunur Subdistrict



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1. Introduction

South Tapanuli Regency has the largest livestock population among the other Tapanuli regencies. Based on the Central Statistics Agency in 2024 South Tapanuli Regency has a beef cattle population of 3,500 head, which is larger than Central Tapanuli Regency with 2,803 head and North Tapanuli Regency with 734 head [1]. Cattle farming in South Tapanuli is still carried out traditionally. The cattle farming practices in South Tapanuli Regency are still carried out traditionally, which results in the marketing system implemented by farmers tending not to incorporate aspects of the marketing mix. Based on a survey conducted by researchers on beef cattle marketing in Angkola Sangkunur Subdistrict, most farmers sell their cattle to middlemen to make it easier for them to market their livestock. However, the involvement of these middlemen sometimes causes the marketing channel to be inefficient and relatively long, resulting in losses for both farmers and consumers.

The main challenge faced by beef cattle farmers is the use of traditional production systems. This is because most farmers feed their cattle based on the practices of their ancestors, which results in low average

daily profits. In addition, there are no adequate economic incentives for beef cattle farmers and suppliers due to low economies of scale, while the productivity and efficiency of the beef cattle industry is low[2]. Beef cattle marketed in Angkola Sangkunur Subdistrict also have problems in terms of determining the selling price due to the urgent need for farmers to sell their livestock, varying marketing patterns due to the contribution of various marketing institutions, thereby affecting the low bargaining position of farmers. Another problem is caused by the difference between the selling price received by farmers and the price paid by end consumers, which affects the marketing margin [3]

High marketing margins are an indicator of increased consumer satisfaction, allowing marketing activities to run efficiently. Conversely, scattered production points and fluctuating sales volumes will also affect the cost components in the marketing margin. Based on the above issues, in order to create an efficient and profitable marketing channel for both farmers and consumers, farmers must choose a relatively short marketing channel [4]. Therefore, the author is interested in conducting research and testing the efficiency of the beef cattle marketing system in South Tapanuli.

2. Materials and Method

This research was conducted from November 2023 to January 2024 in South Tapanuli Regency, North Sumatra Province, specifically in Angkola Sangkunur Subdistrict in three villages, namely Sangkunur, Malombu, and Batu Godang. The research method used was quantitative with a survey type of research, namely by conducting direct observations in the field using interviews and questionnaires.

2.1 Sampling Method

Sampling was carried out in stages, as follows :

1. The first stage was to stratify the villages in Angkola Sangkunur Subdistrict. Angkola Sangkunur Subdistrict was divided into three strata, namely Sangkunur, Malombu, and Batu Godang. This sampling method is called Stratified Random Sampling.
2. The second stage involved selecting villages from the Angkola Sangkunur subdistrict that had the largest, medium, and smallest cattle populations. Based on the results of the pre-survey, three strata were obtained, namely Sangkunur (largest population), Malombu (medium population), and Batu Godang (small population).
3. The third stage was to determine the sample size by quota, referring to sampling based on the assumption of a normally distributed population, according to Cooper and Emory (1996), the sample size ($n \geq 30$) would be distributed around the population mean. The criteria for selecting farmers were that they had a beef cattle business with a minimum of one head of cattle, had been engaged in this business for at least one year, and had sold or marketed beef cattle [5].
4. The method used to determine beef cattle marketing channels can be identified by tracing the beef cattle distribution system from farmers to consumers. This is called Snowball Sampling, a method for identifying, selecting, and taking samples in a continuous network or chain of relationships [6]

2.2 Data Collection Methods

The data in this study is divided into two types, namely primary and secondary data. Primary data was obtained from questionnaires filled out by a number of respondents considered eligible based on their business background in South Tapanuli Regency. Secondary data was obtained from the Central Statistics Agency and relevant government agencies as supporting data for the study.

2.3 Data Analysis Methods

This study will present descriptive research data. Descriptive analysis is used to reveal events or facts, circumstances, phenomena, factors, and conditions that occurred during the study in the form of meaningful numbers, with the following parameters observed.

2.3.1 Marketing Channel

The marketing channels in several markets are described through an analysis of the distribution flow to consumers.

2.3.2 Marketing Margin Analysis

The formula of marketing margin is as follow:

$$MP = Pr - Pf$$

Note:

MP: Marketing margin (Rp/head)

Pr: Consumer price (Rp/head)

Pf: Farmer price (Rp/head)

2.3.3 Analysis of The Farmer's Share Received by Producers

The formula of farmer's share is as follow:

$$Spf = \frac{Pf}{Pr} \times 100\%$$

Note:

Spf: Farmer's Share (%)

Pr: Consumer price (Rp/kg)

Pf: Farmer price (Rp/kg) x100%

2.3.4 Profit and Cost Ratio Analysis

The formula of I profit to cost ratio is as follow:

$$\text{Profit to cost ratio} = \pi_i / C_i$$

Note:

π_i = Profit of beef cattle marketing agency level i (Rp/head)

C_i = Cost of beef cattle marketing agency level i (Rp/head).

2.3.5 Marketing Efficiency

The formula of marketing efficiency is as follow:

$$\text{Marketing Efficiency} = \frac{\text{total marketing cots}}{\text{total product price}} \times 100\%$$

3. Result and Discussions

3.1 Marketing Channel

Cattle marketing in South Tapanuli Regency has two marketing channels to deliver production results that connect producers and consumers. Scheme of marketing channel can be seen in Figure 1.

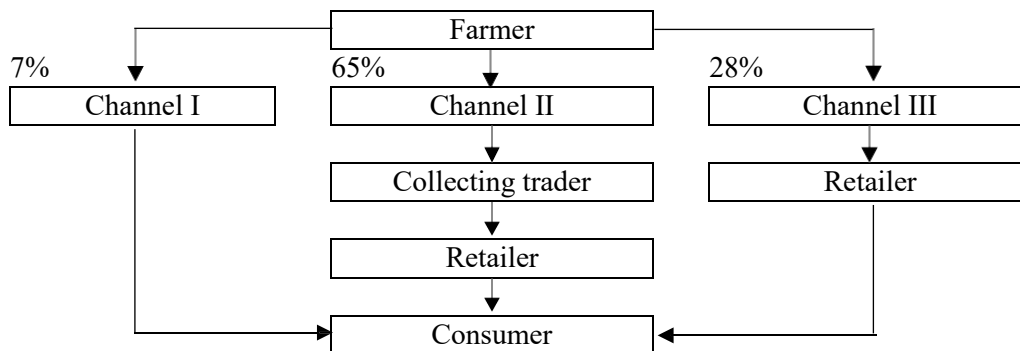


Figure 1. Marketing channel scheme in South Tapanuli Regency

Based on the channel scheme in Figure 1 above, there are three types of marketing channels for sacrificial cattle in South Tapanuli Regency. The marketing channels for cattle in South Tapanuli Regency are as follows.

1. Marketing Channel I

Channel I: Farmers sell their beef cattle directly to consumers. Channel I is the shortest and simplest type of channel, where consumers purchase beef cattle directly from farmers without any middlemen involved. Channel I occurs during the Eid al-Adha holiday and when there is a need for celebrations or traditional events in the communities around South Tapanuli Regency. Farmers sell cattle based on their body weight. Consumers in Channel I include farmers who purchase slaughter cattle for further breeding and consumers who purchase slaughter cattle for sacrificial purposes. Such sales occur when producer farmers visit end consumers and vice versa. Marketing costs incurred by farmers include transportation costs for delivering livestock.

2. Marketing Channel II

Channel II has the longest marketing chain. Marketing channel II involves farmers selling their livestock to collectors, who then sell the livestock to retailers, who in turn sell the livestock to end consumers. In the second channel, the collector traders gain ease in the marketing process of beef cattle because they receive marketing assistance through the retailer traders. The type of channel where marketing is conducted between producers, from producers to traders, wholesalers, then to retailers and finally consumers is a type of level 2 marketing [7]

3. Marketing Channel III

Marketing channel III involves the sale of cattle by farmers to retailers, who then market them to end consumers. Marketing channel III often occurs during the Eid al-Adha holiday. During Eid al-Adha, there is high demand for cattle, so retailers can make a profit simply by marketing cattle from farmers without providing pens and feed to be sold to consumers. The marketing channel III in South Tapanuli Regency is very different when compared to the cattle marketing channel in Medan City. The marketing chain in Medan City involves large traders bringing their livestock to the Slaughterhouse (RPH) in Medan City, where they are slaughtered daily [8].

3.2 Marketing Margin Analysis

Calculating the marketing margin requires information on the purchase price, selling price, and marketing costs at each level of the marketing organisation. Based on the marketing channels formed, the marketing costs, profits received, marketing margins, and selling prices at each level of the marketing organisation involved in the marketing channel can be seen in Table 1.

Table 1. Marketing margin for beef cattle (IDR/head)

Description	Channel II	Channel III
	Value (IDR/head)	Value (IDR/head)
Retailer		
Purchase price	14,113,251	15,596,386
Selling price	14,497,964	16,049,634
Profit	384,713	453,248
Marketing fee	109,625	59,500
Margin	275,088	393,748
Collecting trader		
Purchase price	13,217,370	
Selling price	14,113,251	
Profit	895,881	
Marketing fee	506,444	
Margin	389,436	
Total margin	664,525	

Marketing channel I has no marketing margin because farmers sell their livestock directly to consumers. The largest marketing margin is found in marketing channel II, with a value of IDR.664,525. This occurs because marketing channel II is the longest marketing channel among the other marketing channels. The marketing margin in marketing channel III is IDR. 393,748. Marketing channel III involves farmers selling livestock directly to retailers, and retailers selling to consumers. The marketing margin is the difference between the price paid by consumers and the price received by producers [9]

3.3 Analysis of The Farmer's Share Received by Producers

Farmer's share is the difference between the total price obtained by livestock farmers and the price paid by consumers. In general, it can be expressed as a percentage and has an inverse relationship with marketing margins because the higher the marketing margin, the lower the farmer's share. Farmer's share analysis can be seen in Table 2

Table 2. Farmer's Share Analysis (IDR/head)

Channel	Price at Farmer Level (IDR/head)	Price at the Consumer Level (IDR/head)	Farmer's Share (%)
II	14,11,250.5	14,479,726.9	103
III	15,596,385.5	16,049,634	102

The largest farmer's share in Serdang Bedagai Regency occurred in marketing channel II, amounting to 103%, which means that livestock entrepreneurs received 103% of the price paid by consumers. For marketing channel I, the farmer's share is 93.72%. The farmer's share is $\geq 50\%$, the marketing channel is considered efficient, and if it is $\leq 50\%$, the channel is considered inefficient [10]. Based on Table 6, the farmer's share values are 103% and 102%. This indicates that the marketing channel in South Tapanuli District is efficient. According to Wardana and Nugroho (2023), channel II model A, which involves the sale of live cattle from farmers directly to collectors and from collectors to consumers, has a farmer's share value in Soko Subdistrict, Tuban District, obtained by farmers of 96% [11]. The farmer share value is lower than in this study. This is due to the small price difference between the price at the farmer level and the price obtained by the final consumer, as well as low marketing costs. Meanwhile, when compared to other areas in North Sumatra, the farmer share value in South Tapanuli District is also higher.

3.4 Profit and Cost Ratio Analysis

The creation of an efficient and profitable marketing system for both farmers and consumers can be measured by the ratio of profits to marketing costs. The ratio of profits to marketing costs is defined as the amount of profit received over the marketing costs incurred.

Table 3. Profit to cost ratio (IDR/head)

Marketing Agency	Profit (IDR/head)	Marketing fee	π/C
Channel II			
Collecting trader	895,880.86	506,444.44	
Retailer	366,476.35	109,625	
Total	1,262,357.21	616,069.44	2.05
Channel III			
Retailer	453,248.43	59,500	
Total	453,248.43	59,500	7.62

Marketing channel I has a ratio of 2.05, and marketing channel II has a ratio of 7.62. The ratio of profit to cost in channel III has the largest ratio. This is due to minimal marketing costs and a minimal marketing chain. The profit-to-cost ratio generated in South Tapanuli Regency is lower than the ratio in the marketing analysis in Langkat Regency. The profits obtained by producers and marketing institutions vary. These profits are derived from the difference in marketing margins and also from marketing costs [12]

3.5 Marketing Efficiency

Marketing efficiency aims to assess the performance or achievements of the marketing process. An inefficient market is caused, among other things, by increasing marketing costs. The value of the products marketed is not very large and is not continuous, market competition is unhealthy, physical marketing facilities are lacking, and the percentage difference in price paid by consumers from producers is not very high. Marketing efficiency can be seen in Table 4.

Table 4. Marketing efficiency

Marketing Agency	Product Value (IDR)	Marketing fee (IDR)	Efficiency Value (%)
Channel II	28.592.977	616.069	0,022
Channel III	16.049.634	59.500	0,004

Channel III is the marketing channel with the lowest value. The marketing efficiency value in channel III is 0.004. The efficiency value for Channel II is 0.022. The marketing efficiency value of a marketing system is between 0-33%, the marketing system is considered efficient, 34-67% is considered less efficient, and 68-100% is considered inefficient [13]. The marketing system in South Tapanuli Regency is efficient. This is evidenced by an efficiency value within the 0-33% range. The marketing channel efficiency value in South Tapanuli Regency is lower than that of Langkat Regency. The lowest marketing efficiency is Pattern I at 1.5%, and the highest marketing efficiency is Pattern III at 3.72%. Based on this, it can be said that the most efficient marketing pattern is Pattern I [14].

4. Conclusion

1. Marketing analysis can be seen from several calculations, namely, margin share where in this analysis channel II (IDR. 650,600 per head,-) is greater than channel III (IDR. 389,436 per head,-). Farmer's Share channel II (103%) is greater than channel III (102%). In channel III (7.62) profit ratio is greater than channel II (2,05).
2. The most efficient marketing efficiency of the three marketing channel in South Tapanuli Regency is marketing channel III. Marketing efficiency in channel II is 0.022, and in channel III is 0.004. Marketing system in Angkola Sangkunur Regency is considered efficient.

References

- [1] BPS Badan Pusat Statistik. 2024. Populasi sapi potong Kabupaten Tapanuli Selatan Provinsi Sumatera Utara tahun 2024. Jakarta.
- [2] Purnomo, B. H., Kurnianto, M. F., Riskiawan, H. Y., & Utami, M. M. D. (2019). Development strategy of cattle beef community farming center (SPR) in jember regency. *The First Internasional Conference of Food and Agriculture*, 162–170.
- [3] Dewi, E. K., & Wulansari, A. (2021). Analisis Saluran Dan Efisiensi Pemasaran Tuna (*thunnus sp.*) di Polewali Mandar. Prosiding. *Seminar Nasional Agribisnis*, 113–120.
- [4] Firmansyah, M D, dan A Ksunyigono. 2020. Peran Kelembagaan Pada Usaha Sapi Madura Ditinjau Dari Aspek Kultural Dan Struktural. *Agriscience*, 1 (2): 530-47.
- [5] Cooper, Donald R., dan Emory, C. William. 1996. *Business Research Methods*. Jakarta: Erlangga
- [6] Nurdiani, Nina. 2014. Teknik Sampling Snowball dalam Penelitian Lapangan. *ComTech*, vol. 5, no. 2, pp. 1110-1118.
- [7] Daroini, A. 2013. Pola pemasaran sapi potong pada peternak skala kecil di Kabupaten Kediri. *Jurnal Manajemen Agribisnis*, 13(1), 55-62.
- [8] K. Daulay, Hasnudi, A. Sadeli, E. Mirwandhono, N. 2022. Ginting, Analysis of waste management in regional slaughterhouse companies in Medan City, *Jurnal Peternakan Integratif*, 9 (3): 31-43.
- [9] Azis, Y., & Husin, I. 2021. Efisiensi Pemasaran Sapi Potong di Kecamatan Takisung Kabupaten Tanah Laut Provinsi Kalimantan Selatan. *Journal of Agricultural Socio-Economics*, 2(1), 17.
- [10] Sudiyono, A. 2004. *Pemasaran Pertanian*. Malang, UMM Press.
- [11] Wardana, A. K., & Adi, D. (2023). Efisiensi Saluran Pemasaran Sapi Potong Peternakan Rakyat di Kecamatan Soko Kabupaten Tuban. *Jurnal Ilmiah Agribisnis*, 8(2), 123–134
- [12] Erzal, M. F., Taslim dan A. S. Masdar. 2015. Analisis Saluran, Margin, dan Efisiensi Pemasaran Itik Lokal Pedaging. Universitas Padjajaran, Bandung.
- [13] Rosmawati, H. 2011. Analisis Efisiensi Pemasaran Pisang Produksi Petani di Kecamatan Lengkiti Kabupaten organ komering Ulu. *Jurnal Agromobis*, 3 (5).
- [14] Syakur, M. A., Purnomo, S. H., & Hertanto, B. S. 2017. Analisis Rantai Pasokan (*Supply Chain*) Daging Sapi dari Rumah Pemotongan Hewan sampai Konsumen di Kota Surakarta. *Sains Peternakan*, 15(2), 52.