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MARKETING EFFICIENCY OF CABBAGE IN SEMARANG REGENCY USING ONLINE AND OFFLINE PLATFORM

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ABSTRACT

This research aims to identify (1)the online and offline marketing channels of cabbage (2) thefarmer's share and marketing margins in each online and offline marketing channel in Semarang Regency, (3)the factors that affect the online and offline marketing margins of cabbage in Semarang Regency, (4)the efficiency level of online and offline marketing channelsof cabbage in Semarang Regency. The location and farmer's group of this research is determined by purposive sampling method. Farmer sampling is carried out using a simple random sampling technique involving 30 farmers from Batur Village. Sampling of traders chosen by the snowball sampling method involves 11 traders from Semarang Regency and DIYProvinces. The marketing channel is identified by using descriptive analysis. Marketing margins, farmer's share, and marketing efficiency are determined by quantitative analysis andfactors that affect marketing margin are analized by multiple linear regression analysis. The results show that there are 3 marketing channels of Semarang Regency's cabbage. The value of online and offline marketing farmer's share are 28,67% and 22,72%. The value of online and offline marketing margin are Rp 9.950,00 and Rp 1.932,00. The number of marketing institutions and the distance between farmers and the least marketing institution are factors that increase marketing margin. The value of online and offline marketing efficiency is 14,76%and 23,29%.

Key words**:** *marketing channels, marketing margins, farmer's share, marketing efficiency.*

INTRODUCTION

The potential of the Indonesian horticulture sub-sector has a significant role in economic development. Based on BPS data (2017), the five seasonal vegetable commodities with the most influential production in sequence are shallots, cabbage, large chilies, potatoes, and cayenne peppers. One of the factors that plays an essential role in the agribusiness system is marketing activities, the marketing process being an intermediary between producers and consumers.

Online and non-online marketing is a way to convey goods to consumers. Online marketing utilizes Internet network technology so that consumers and producers do not need to meet in person to buy and sell. Online marketing has the same goal as conventional or non-online marketing, namely as an intermediary between producers and consumers, so buying and selling activities can occur.

The unique characteristics of horticulture require special treatment in the form of careful transportation, standard and suitable packaging, and storage at a specific temperature to last for an extended period. Manufacturers want to have a good share of profits and low costs. Consumers wish for commodities to be available close to their location, open constantly, and consumed fresh. Two different desires can be fulfilled with a sound marketing system.

Semarang Regency cabbage production in 2017 was 300,127 quintals. Large production quantities must be supported by production and marketing capabilities. Good production and marketing activities will strengthen agribusiness competitiveness in Semarang Regency.

Empirically, the competitive ability of an agribusiness system is basically demonstrated by the ability to produce and market products that suit consumer needs and preferences (Saragih, 1994).

The objectives of this research are (1) to find out online and non-online marketing channels for cabbage, (2) to know farmer's share and marketing margin in each online and non-online marketing channel in Semarang Regency,(2) determine the factors that influence online and non-online marketing margins for cabbage in Semarang Regency, (4) determine the efficiency of online and non-online marketing channels for cabbage in Semarang Regency.

RESEARCH METHODOLOGY

The primary method used in this research is descriptive analysis and quantitative analysis. The sampling of cabbage farmers in Semarang Regency was carried out as a simple random sample with 30 farmers as respondents. Information about marketing or traders directly involved in marketing cabbage by using marketing flow following techniques or by snowball sampling.

The data analysis method used in the research is:

1. Marketing Channel Analysis

The method used to determine marketing channels is the descriptive analysis method. The marketing channel for cabbage commodities is observed through several marketing institutions which contribute to the distribution or transformation of the harvest from producers to final consumers.

2. Farmer's Share Analysis

Farmer's share analysis is formulated as follows (Kohl and Uhl, 2002):

$$\frac{Fs}{Pk} = {}^{Pf} \times 100\% \qquad —$$

The explanation:
Fs = Farmer's share (in percentage)
Pf = Farmer's price of cabbage (Rp)
Pk = Price paid by the last institution of cabbage (Rp)

3. **Marketing Margin Analysis**

Marketing margin is the difference between prices at the producer level and the final consumer level (Handayani, 2011).

$$M = Pr – Pf$$

The margin obtained by intermediary traders from the marketing costs incurred and profits received is formulated as follows:

$$M = Bp + Kp$$

The explanation:
Pr: Prices at the consumer level
Pf: Price at producer level
M: Marketing margin
Kp: Marketing profits

4. Analysis of Factors Affecting Marketing Margins

The factors that influence cabbage marketing margins are known by analyzing data using multiple linear models (Mauludi, 1994):
MP = Marketing margin
ai = intercept of trader level i
bi, ci, di = slope or coefficient of regression direction from trader level i
X1 = Distance between producer and last institution (Km)
X2 = Number of marketing institutions
X3= Cabbage sales volume (Kg)
U = Error (error)

5. Analysis of Marketing Efficiency Levels

Marketing efficiency is calculated using the following formula Soekartawi (1989):

$$EP = TB / TNP$$

Information :
EP = Marketing efficiency
TB = Total marketing costs (Rp/Kg) TNP = Total Product Value (Rp/Kg)

ANALYSIS AND DISCUSSION RESULTS

Marketing Channels

Based on the results of research conducted, there are three types of marketing channels and two types of cabbage marketing systems in Semarang Regency. Three types of channels can be seen in Figure 3.1. Based on Figure 3.1. It can be seen that there are three types of cabbage marketing channels in Semarang Regency. Three tracks were formed from a sample of 30 farmers in the Getasan District and 11 traders in Semarang Regency. Hypothesis 1 states that in cabbage marketing in the Getasan District, there is more than one appropriate or acceptable channel. Of the three types of marketing channels formed, it shows that the longer the channel, the more marketing agencies are involved. Based on the research results, channel 1 is the most extended channel with the most significant number of marketing institutions: collectors, wholesalers, intermediary traders, and retailers; channel 2 consists of collectors and retailers, and channel 3 consists of farmer groups and retailers

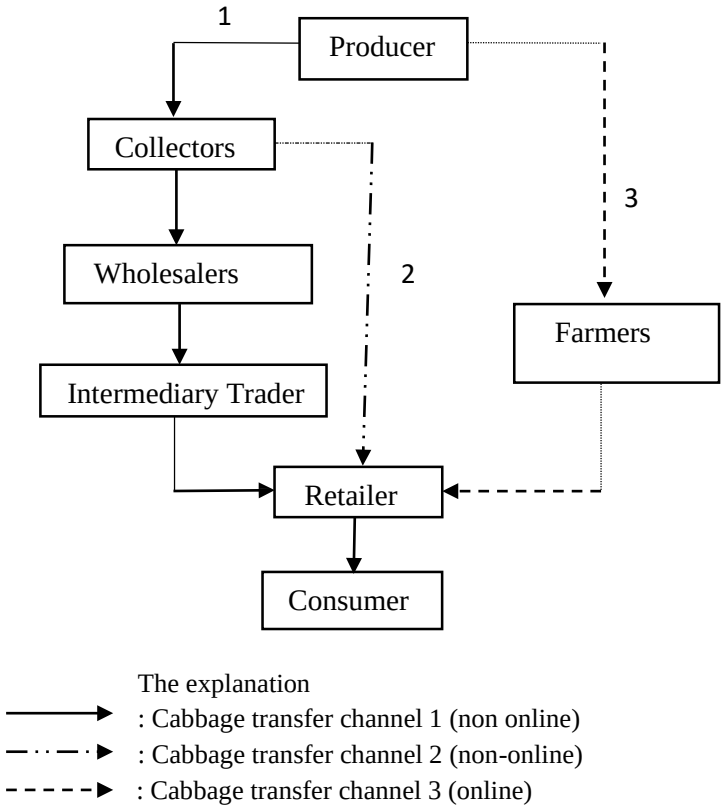

Figure 3. 1. Online and Non-online Marketing Channels for Semarang Regency Cabbage in 2019

Table 3. 1. Percentage of Farmers Based on Cabbage Marketing Channel Type in Semarang Regency in 2019

Channel Type	Farmers (People)	Percentage (%)
Channel I (Non-online)	23	76,67
Channel II (Non-online)	2	6,67
Channel III (Online)	5	16,67
Total	30	100,00

Source: 2019 Primary Data Analysis

Based on table 3.1 23 samples of farmers or 76.67% chose channel 1, channel 2 was chosen by 2 farmers or 6.67%, and channel 3 was chosen by 3 farmers or 16.67%. These results explain that channel 1 is the channel most chosen by farmers to sell cabbage commodities because channel 1 collecting traders are able to absorb all of the farmers' harvest due to February-March there is a big cabbage harvest.

1.Farmer's Share

The farmer's share value is used to determine the share of the price received by farmers from the price at consumer level expressed as a percentage (%). Farmer's share of cabbage marketing in Semarang Regency can be seen in table 3.2.

Table 3.2. stated that three marketing channels for marketing cabbage in Semarang Regency have different farmer's share values. The farmer's share value for each channel, namely Channel 1, is 22.43%,

Channel 2 was 26.00%, and Channel 3 was 28.67%. This difference indicates that farmers selling from one channel to another receive different sales values, so the share of the price received by farmers is also other. The most considerable farmer's share value is in marketing channel three, 28.67%, and the lowest farmer's share value is in marketing channel one, namely 22.43%.

The farmer's share value for online and non-online marketing systems is 28.67% and 22.72%. The farmer's share value of an online marketing system is greater than the value of a farmer's share of a non-online marketing system. This value means that the price share farmers receive is more significant in the online marketing system. The value of the farmer's share of the online marketing system is more important because the price obtained by farmers is more excellent, so it will be directly proportional to the value of the farmer's share obtained. The statistical test results obtained asymp sig was 0.007. The amp sig result of 0.007<0.05 means that the farmer's share value for online and non-online marketing is significantly different.

Table 3.2 Farmer's Share of Cabbage in Semarang Regency

	Channel Type			**Marketing System**	
	Channel 1 (Non-online)	Channel 2 (Non-online)	Channel 3 (Online)	Online	Non-online
Farmer's Price (Rp/Kg)	588,00	650,00	4.000,00	4.000,00	568,00
Consumer's Proce (Rp/Kg)	2.500,00	2500,00	13.950,00	13.950,00	2.500,00
***Farmer's share*(%)**	23,52	26,00	28,67	28,67	22,72
Asymp. Sig. (2-tailed)	0,007				

Source: 2019 Primary Data Analysis

2. Marketing Margin

Table 3.3. Semarang Regency Cabbage Marketing Margin 2019

Channel Type	Channel I (Non-Online)	Channel II (Non-Online)	Channel III (Online)
Producer			
Selling Price (Rp/Kg)	560,87	650,00	4.000,00
Farmer's			
Purchase Price (Rp/Kg)			4.000,00
Marketing Margin			3.000,00
Cost (Rp/Kg)			2.059,17
Benefit (Rp/Kg)			940,83
Selling Price (Rp/Kg)			7.000,00
Collectors			
Purchase Price (Rp/Kg)	560,87	650,00	
Marketing Margin	499,13	250,00	
Cost (Rp/Kg)	209,14	160,63	
Benefit (Rp/Kg)	289,99	89,37	
Selling Price (Rp/Kg)	1.060,00	900,00	
Wholesalers			
Purchase Price (Rp/Kg)	1.060,00		
Marketing Margin	540,00		
Cost (Rp/Kg)	142,40		
Benefit (Rp/Kg)	397,60		
Selling Price (Rp/Kg)	1.600,00		
Intermediary Trader			
Purchase Price (Rp/Kg)	1.600,00		
Marketing Margin	400,00		
Cost (Rp/Kg)	128,50		
Benefit (Rp/Kg)	271,50		
Selling Price (Rp/Kg)	2.000,00		
Retailer			
Purchase Price (Rp/Kg)	2.000,00	900,00	7.000,00
Marketing Margin	500,00	1.600,00	6.950,00
Cost (Rp/Kg)	106,25	196,00	0,00
Benefit (Rp/Kg)	393,75	1.404,00	6.950,00
Selling Price (Rp/Kg)	2.500,00	2.500,00	13.950,00
Consumer			
Purchase Price (Rp/Kg)	2.500,00	2.500,00	13.950,00
Margin Total	1.939,13	1.850,00	9.950,00

Source: 2019 Primary Data Analysis

Based on Table 3.3, there are three marketing channels for cabbage with different marketing margin values. The marketing margin value for each channel, namely channel 1, is IDR 1,939.13, channel 2 is IDR 1,850.00, and channel 3 is IDR 9,950.00.

The number of marketing institutions involved causes the difference in marketing margin values, so the various marketing functions carried out by each institution produce different marketing cost values.

The highest marketing margin value is owned by marketing channel three, the shortest channel. This anomaly occurs because farmer groups perform more marketing functions than other marketing institutions. More marketing functions will result in more significant additional costs, thus forcing marketing institutions to sell more expensively, resulting in more significant marketing differences or margins. The highest marketing margin value is owned by marketing channel three, the shortest channel. This anomaly occurs because farmer groups perform more marketing functions than other marketing institutions. More marketing functions will result in more significant additional costs, thus forcing marketing institutions to sell more expensively, resulting in more substantial marketing differences or margins.

Table 3.4. Comparison of Marketing Margins for Online and Non-Online Marketing Systems

Marketing Type	Marketing Margin (Rp/Kg)
Online Marketing	9.950,00
Non-online Marketing	1.932,00
Asymp. Sig. (2-tailed)	0,000

Source: 2019 Primary Data Analysis

Based on Table 3.4, the marketing margin value for online and non-online marketing systems is IDR 1,932.00 and IDR 9,950.00. These results mean that the online marketing margin value is greater than the non-online marketing margin. Due to marketing costs and large marketing agency profits, online marketing margins are more significant than non-online marketing margins. ased on Table 3.4, the statistical test results show that the asymp sig is 0.000The result of asymp sig 0.000<0.05 means that the online and non-online marketing margin values are significantly different.

3. Factors that Affecting Marketing Margins

Factors influencing the marketing margin for cabbage produced in Getasan District, Semarang Regency were analyzed using a multiple linear regression.

Table 3.5. Multiple Linear Regression Analysis of Factors Affecting Marketing Margin

Variable	Hoping Sign	Regression Coefficient	t-count	Sig
Constanta	+/-	-3,098	-2,877	0,008
Log of Farmer's Distance with Institutions Final Marketing	+	3,161***	14,983	0,000
Log of Number of Marketing Institution	+	-0,499**	-2,232	0,035
Log of Sales Volume	-	-0,007ns	-0,322	0,749
Adj R^2	0,958			
F-count	220,006			
F-table (α = 0,05) t-table	2,975			
(α = 0,01) t-table (α = 0,05)	2,779			
	2,056			

Source: 2019 Primary Data Analysis

*** : Significant at 99% confidence level (α = 0,01)

** : Significant at 95% confidence level (α = 0,05)

Based on table 3.5. The F-count value was 220.006 > F-table 5% (2.975). The calculated F-value is greater than the F-table, so H0 is rejected, and H1 is accepted so that the independent variables (distance between farmer and last marketing institution, number of marketing institutions, and sales volume) simultaneously significantly affect cabbage marketing margin.

T-test results table 3.5. shows constants and two variables that significantly affect cabbage marketing margins, namely the distance between farmers and the last marketing institution and the number of institutions. A constant value of -3.098 means that when the independent variable has a constant value, the marketing margin will decrease by 3.098%.

a. Distance between Farmers and Last Marketing Institution

Based on the results of the t-test analysis, the t-count value was obtained (14.983) > t-table 1% (2.779). The t-count value is greater than the t-table, so H0 is rejected, and H1 is accepted, which means that the independent variable or the distance between farmers and the last marketing institution significantly affects the dependent variable or cabbage marketing margin. his happens because the length between farmers and the final marketing institution varies. The regression coefficient value of the farmer's distance factor from the last marketing institution is 3.161, which means that if the distance increases by 1%, the margin value will increase by 3.161%. In this study, cabbage was transported using vehicles that required fuel oil, so there were marketing costs in the form of fuel oil incurred. The longer the distance traveled, the more costs incurred. Greater distance will increase the marketing margin value.

b. Sales Volume

The results of the t-test analysis obtained a calculated t-value (-0.007) < t-table 1% (2.779). Following decision-making rules, if the t-count is smaller than the t-table, then H0 is accepted, and H1 is rejected, meaning that the independent variable or sales volume has no natural effect on the cabbage marketing margin. Sales volume has no genuine impact on cabbage marketing margins because the price received by farmers will remain the same regardless of the sales volume of cabbage commodities circulating in each marketing institution..

c. Number of Marketing Institutions Passed Through

The results of the t-test analysis obtained a calculated t-value (-2.232) > t-table 5% (2.056). Following decision-making rules, if the t-count is smaller than the t-table, H0 is rejected, and H1 is accepted. This means that the independent variable or the number of marketing institutions passed through significantly affects the dependent variable or cabbage marketing margin. An additional marketing agency of 1% will reduce the marketing margin value by 0.499%. This happens when adding one institution will create additional marketing costs, reducing the marketing margin at the institution.

4. Marketing Efficiency

Marketing efficiency is an indicator of whether marketing activities in marketing channels are efficient or not.The marketing efficiency of Semarang Regency Cabbage can be seen in table 4.9. following

Table 3.6. Semarang Regency Cabbage Marketing Efficiency in 2019

	Channel Type			Marketing System	
	Channel 1 (Online)	Channel 2 (Online)	Channel 3 (Non-online)	Online	Non online
Total Marketing Costs (Rp/Kg)	586,29	356,63	2.059,17	2.059,17	582,28
Product Value (Rp/Kg)	2.500,00	2.500,00	13.950,00	13.950,00	2.500,00
Marketing Efficiency	23,45	14,27	14,76	14,76	23,29
Asymp. Sig. (2-tailed)	0,000				

Source: 2019 Primary Data Analysis

Based on Table 3.6, values Semarang Regency cabbage marketing efficiency varies in each channel. The difference in marketing efficiency values is due to differences in total marketing costs and total product value in each channel. The marketing efficiency value of channel 1 is 23.45%, the marketing efficiency value of 2 is 14.27%, and the marketing efficiency value of channel 3 is 14.76%. Connected with Rosmawati's (2011) marketing efficiency decision rules, the three cabbage marketing efficiency values in Semarang Regency are efficient. The online marketing efficiency value was 14.76%, and the non-online marketing efficiency value was 23.29%. Based on this value, the online marketing efficiency value is smaller than the non- online marketing efficiency value, which means that online marketing is more efficient than non-online marketing systems. This occurs because more marketing activities are carried out by non-online channels than online channels due to the tendency for marketing institutions to be more involved than online channels, resulting in additional marketing costs. Statistical test results asymp sig is 0.000. The result of asymp sig 0.000<0.05 means that online and non-online marketing efficiency values are significantly different.

Table 3.7. Summary of Total Marketing Margin, Farmer's Share, and Cabbage Marketing Efficiency

Keterangan	Saluran		
	1 (Non-daring)	2 (Non-daring)	3 (Daring)
Farmer's Share (%)	22,43	26,00	28,67
Marketing Margin (Rp/Kg)	1.939,13	1.850,00	9.950,00
Marketing Efficiency (%)	23,45	14,27	14,76
Order of Marketing Channels from Most Channels Efficient	3	1	2

Source: 2019 Primary Data Analysis

Based on Table 3.7, the sequence the marketing channels of the most efficient channels are channel 2, channel 3, and channel 1. Channel 2 is the most efficient because it has the smallest marketing margin and marketing efficiency compared to channels 2 and 3. The following ranking of the most efficient channel is channel three because it has a value farmer's share is the largest and the marketing efficiency value is smaller than channel 1.

CONCLUSION

1. There are three marketing channels for cabbage in Semarang Regency to consumers, these three channels are:
   a. There are 2 non-online marketing channels, namely:
      • Channel 1 Farmers → Collectors → Wholesalers
      → Intermediary Trader → Retailer → Consumer
      • Channel 2 Farmers → Collectors → Retailers → Consumers
2. There are 1 online marketing channels, namely:
   • Channel 3 Farmers → Farmer groups → Retailers (Supermarkets) → Consumers
3. The farmer's share value of online marketing is 28.67% and non-online marketing is 22.72%. Based on marketing margin, online marketing has a marketing margin value of IDR 9,950.00 and non-online marketing of IDR 1,932.00.
4. Factors that influence marketing margins are the distance between farmers and the last marketing institution and the number of marketing institutions.
5. The efficiency value of online marketing is 14.76% and non-online marketing is 23.29%.

SUGGESTION

It would be better for farmer groups to expand their marketing scope so that they can absorb more of the cabbage farmers' harvest.

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