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FARMERS' SHARE, MARGIN, AND EFFICIENCY OF ONLINE AND OFFLINE MARKETING OF CABBAGE IN SEMARANG REGENCY

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ABSTRACT

This research aims to (1) identify the online and offline marketing channels of cabbage in Semarang Regency (2) calculate the farmer's share and marketing margins in each online and offline marketing channel in Semarang Regency, (3) analyze the factors that affect the online and offline marketing margins of cabbage in Semarang Regency, (4) know the efficiency level of online and offline marketing channels of cabbage in Semarang Regency. The location and farmer's group of this research was determined by purposive sampling method. Farmers 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 cabbage 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, while factors that affect marketing margin are analyzed 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 in Semarang Regency 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 large enough role in economic development. Based on BPS data (2017), the five seasonal vegetable commodities with the largest production are shallots, cabbage, large chilies, potatoes and bird's eye chilies. One of the factors that play an important role in the agribusiness system is marketing activities, the marketing process becomes an intermediary between producers and consumers.

Online and offline marketing are ways to deliver goods to consumers. Online marketing utilizes internet network technology so that consumers and producers do not need to meet in person to carry out trading activities. Online marketing has the same objectives as conventional or offline marketing, namely as an intermediary between producers and consumers so that buying and selling activities can occur.

The unique characteristics of horticulture demand a special treatment in the form of careful transportation, standard and good packaging, storage at a certain temperature so that it can last a long time. The manufacturer wants to have a good share of profits and a low cost. Consumers want commodities to be available close to their place, readily available at all times and can be consumed fresh. Two different desires can be fulfilled by having a good marketing system.

The production of cabbage in Semarang Regency in 2017 was 300,127 quintals. A large amount of production must be supported by the ability to produce and market. Good production and marketing activities will strengthen the competitiveness of agribusiness in Semarang Regency. Empirically, the ability to compete in an agribusiness system is basically shown by the ability to produce and market products according to the needs and preferences of consumers (Saragih, 1994).

The existence of an online marketing platform creates a variety of cabbage marketing channels in Getasan District. Marketing efficiency is the key in choosing marketing channels and meeting consumer and producer desires appropriately. It is very important to conduct research on online and non-online marketing of cabbage in Getasan District, Semarang Regency.The objectives of this study were (1) to know the online and offline marketing channels of cabbage, (2) to know the

farmer's share and marketing margin in each of the online and offline marketing channels in Semarang Regency, (3) to determine the influencing factors. online and offline marketing margins of cabbage in Semarang Regency, (4) knowing the level of efficiency of online and offline cabbage marketing channels in Semarang Regency.

METHODS

The basic method used in this research is descriptive analysis method and quantitative analysis. The sampling method of cabbage farmers in Semarang Regency was simple random (simple random sampling) with a total of 30 farmers as respondents from Desa Batur, Kecamatan Getasan, Kabupaten Semarang. The data taken in February **2019.** Information about marketing or traders, can be retrieved who are directly involved in the marketing of cabbage by using marketing flow-following techniques or by snowball sampling.
The data analysis methods used in this research are:

1. Marketing Chanel Analysis

The method used to determine the marketing channel is descriptive analysis method. The marketing channel for cabbage is observed through several marketing agencies that contribute to the distribution or transformation of the harvest from producers to end consumers.

2. Farmer's Share Analysis

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

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

In which :
Fs = Farmer`s share (in percentage)
Pf = Cabbage price at farmers level (Rp)
Pk = Final price at the cabbage last institution (Rp)

3. Marketing Margin Analysis

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

$$M = Pr - Pf$$

The margin obtained by the intermediary trader from a number of marketing costs incurred and the profits received is formulated as follows:

$$M = Bp + Kp$$

In which :
Pr = Price at consumer level
Pf = Price at producer level
M = Margin of marketing
Kp = Marketing advantage

4. Factors Affecting Marketing Margins Analysis

The factors that affect the cabbage marketing margin are known by data analysis using multiple linear models (Mauludi, 1994):

$\text{Log MM} = a_i + b_i \text{ Log } X_1 + c_i \text{ Log } X2 + d_i \text{Log } X3 + u$

In which :
MM = Marketing margin
a_i = Intercept from the i trader
b_i, c_i, d_i = Slope or coefficient of regression direction of i traders
X_1 = Distance between producers and the last institution (Km)
X_2 = Number of marketing intitutions (unit)
X_3 = Cabbage sales volume (Kg)
u = *Error*

5. Marketing Efficiency Level Analysis

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

$$ME = \frac{TC}{TPV}$$

Keterangan :
ME = Marketing Efficiency
TC = Total Marketing Cost (Rp/Kg)
TPV = Total Product Value (Rp/Kg)

RESULT AND DISCUSSION

1. Marketing Channel

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 1.

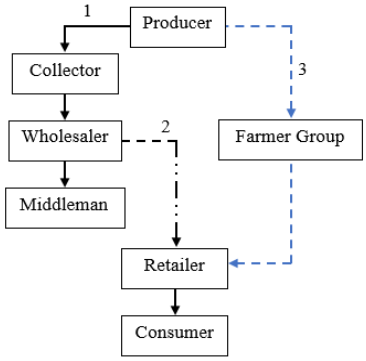

Figure 1. Online and Offline Marketing Channels for Cabbage Semarang Regency in 2019

In which :
: Cabbage movement channel 1 (offline)

: Cabbage movement channel 2 (offline)
: Cabbage movement channel 3 (online)

Based on Figure 1, it can be seen that there are three types of cabbage marketing channels in Semarang Regency. Three types of channels were formed from 30 samples of farmers in Getasan District and 11 traders in Semarang Regency. The first hypothesis states that in cabbage marketing in Getasan District, there is more than one channel according to or received. Of the 3 types of marketing channels that are formed, it shows that the longer the channel, the more marketing agencies are involved. Based on the results of the research channel 1 is the longest channel with the largest number of marketing institutions, namely collectors, wholesalers, middlemen and retailers, channel 2 consists of collectors and retailers, and channel 3 consists of farmer groups and retailer

Tabel 1. Percentage of Farmers by Type of Cabbage Marketing Channels in Semarang Regency in 2019

Channel Type	Farmers (People)	Percentage (%)
Channel I (Offline)	23	76,67
Channel II (Offline)	2	6,67
Channel III (Online)	5	16,67
Jumlah	30	100,00

Source : Primary Data Analysis 2019

Based on table 1, 23 farmer samples or 76.67% chose channel 1, channel 2 was selected by 2 farmers or 6.67%, and channel 3 was selected by 5 farmers or 16.67%. These results explain that channel 1 is the largest channel chosen by farmers to sell cabbage commodities because channel 1 traders are able to absorb all the farmers' crops because in February-March there is a big cabbage harvest.

2. Farmer's Share

Farmer's share value is used to determine the share of the price received by farmers from the price at the consumer level expressed as a percentage (%). Farmer's share of cabbage marketing in Semarang Regency can be seen in table 2.

Tabel 2 Cabbage Farmer's Share Semarang Regency

	Channel Type			Marketing System	
	Channel 1 (Offline)	Channel 2 (Offline)	Channel 3 (Online)	Online	Offline
Farmer Price (Rp/Kg)	588,00	650,00	4.000,00	4.000,00	568,00
Consumer Price (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 : Primary Data Analysis 2019

Table 2. states that there are three marketing channels for cabbage in Semarang Regency with different farmer's share values. The farmer's share value for each channel, namely channel 1 is 22.43%, channel 2 is 26.00%, and channel 3 is 28.67%. This difference indicates that farmers selling from one channel to another get a different selling value, so that the share of the price received by farmers is also different. The largest farmer's share value is in the third marketing channel, namely 28.67%, the lowest farmer's share value is in the one marketing channel, namely 22.43%.

The farmer's share value of online and offline marketing systems was 28.67% and 22.72%. The farmer's share value for online marketing systems is greater than the farmer's share value for offline marketing systems. This value means that the share of prices received by farmers is greater in the online marketing system. The farmer's share value of the online marketing system is greater because the price obtained by the farmer is greater so that it is directly proportional to the farmer's share value obtained. The statistical test results obtained were asymp sig results of 0.007. The asymp sig 0.007 <0.05 means that the farmer's share value for online and offline marketing is significantly different.

3. Marketing Margin

In the marketing channels of agricultural products, when marketing agencies distribute agricultural products, there will be transactions that lead to differences in purchase and sale prices. This difference is caused by the formation of costs and

profits obtained from each marketing agency that executes the transaction. The longer the marketing channel, the more marketing agencies will participate in the channel, resulting in more transactions. The execution of transactions within the marketing agency also performs marketing functions, including exchange functions, physical functions, and promotion functions. The price difference that occurs during a transaction in the form of a purchase or sale is called a marketing margin.. Marketing margin of cabbage marketing in Semarang Regency can be seen in tabel 3.

Tabel 3. Cabbage Marketing Margin in Semarang Regency 2019

Channel Type	Channel 1 (Offline)	Channel 2 (Offline)	Channel 3 (Online)
Producer			
Selling Price (Rp/Kg)	560,87	650,00	4.000,00
Farmers			
Purchase Price (Rp/Kg)			4.000,00
Marketing Margin			3.000,00
Cost (Rp/Kg)			2.059,17
Profit (Rp/Kg)			940,83
Selling Price (Rp/Kg)			7.000,00
Collector			
Purchase Price (Rp/Kg)	560,87	650,00	
Marketing Margin	499,13	250,00	
Cost (Rp/Kg)	209,14	160,63	
Profit (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		
Profit (Rp/Kg)	397,60		
Selling Price (Rp/Kg)	1.600,00		
Middleman			
Purchase Price (Rp/Kg)	1.600,00		
Marketing Margin	400,00		
Cost (Rp/Kg)	128,50		
Profit (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
Profit (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
Total Marjin	1.939,13	1.850,00	9.950,00

Source : Primary Data Analysis 2019

Based on table 3, it can be seen that there are 3 marketing channels for cabbage with different marketing margin values. The marketing margin for each channel is channel 1 of Rp. 1,939.13, channel 2 of Rp. 1,850.00, and channel 3 of Rp. 9,950.00. The difference in the value of the marketing margin is caused by the number of marketing agencies involved, so that the various marketing functions carried out by each agency result in different marketing costs.

The highest marketing margin is owned by channel three which is the shortest channel. This anomaly occurs due to the marketing function carried out by farmer groups more than other

marketing agencies. More marketing functions will lead to greater additional costs, thus forcing marketing agencies to sell more expensive which results in a larger marketing difference or margin.

Tabel 4. Comparison of Marketing Margins for Online and Offline Marketing Systems

Marketing System	Marketing Margin (Rp/Kg)
Online marketing	9.950,00
Offline marketing	1.932,00
Asymp. Sig. (2-tailed)	0,000

Source : Primary Data Analysis 2019

Based on table 4, the marketing margin for online and offline marketing systems is Rp 1,932.00 and Rp 9,950.00. This result means that the online marketing margin value is greater than the offline marketing margin. The margins of online marketing are greater than the margins of offline marketing due to the marketing costs and large profits of marketing agencies. Based on table 4, the statistical test results of asymp sig are 0,000. The result of asymp sig 0.000 <0.05 means that the margin value of online and offline marketing is significantly different.

4. Factors Affecting Marketing Margins

The factors that affect the marketing margin of cabbage production in Getasan District, Semarang Regency, were analyzed using multiple linear regression models.

Tabel 5. Multiple Linear Regression Analysis Factors Affecting Marketing Margins

Variable	Expected Sign	Coefficient Regresi	t-value	Sig
Constant	+/-	-3,098	-2,877	0,008
Log Distance Between Producers and The Last Institution	+	3,161***	14,983	0,000
Log Number of Marketing Institutions	+	-0,499**	-2,232	0,035
Log Cabbages Sales Volume	-	-0,007ns	-0,322	0,749
Adj R^2	0,958			
F-value	220,006			
F-table (α = 0,05)	2,975			
t-table (α = 0,01)	2,779			
t-table (α = 0,05)	2,056			

In which : *** = Significant at confidence level 99% (α = 0,01), ** = Significant at confidence level 95% (α = 0,05)

Source : Primary Data Analysis 2019

Based on table 5. obtained the F-value of 220.006> F-table 5% (2,975). The value of F-value is greater than F-table, so H_0 is rejected and H_1 is accepted, so that the independent variables (distance of farmers from the last marketing agency, number of marketing agencies, and sales volume) simultaneously or simultaneously have a significant effect on cabbage marketing margins.

Result of t-test table 5. shows the constant and two variables that have a significant effect on cabbage marketing margins, namely the distance of farmers from the last marketing agency 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 as much as 3.098%.

a. Distance Between Producers and The Last Institution

Based on the results of t-test analysis, the t-value (14,983)> t-table 1% (2,779) was obtained. The t-value is greater than the t-table, so H_0 is rejected and H_1 is accepted, which means that the independent variable or the distance between the farmer and the last marketing agency has a significant effect on the dependent variable or cabbage marketing margin. This occurs because the distance between the farmers and the last marketing agency varies. The regression coefficient value of the distance factor between farmers and 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 is transported using a vehicle that requires fuel oil so that there is a marketing cost in the form of fuel that is spent. The farther the distance traveled will add to the costs incurred. It can be said that the further

distance will increase the value of the marketing margin.

b. Cabbage Sales Volume (Kg)

The results of t-test analysis obtained t-value (-0.007) <t-table 1% (2.779). In accordance with the decision making rules, if the t-count is smaller than the t-table, then H_0 is accepted and H_1 is rejected, meaning that the independent variable or sales volume has no significant effect on cabbage marketing margin. Sales volume has no significant effect on cabbage marketing margins because the price received by farmers will remain the same regardless of the volume of cabbage sales circulating in each marketing agency.

c. Number of Marketing Institutions

The results of t-test analysis obtained t-value (-2.232)> t-table 5% (2.056). In accordance with the rule of decision making, if the t-count is smaller than the t-table, then H_0 is rejected and H_1 is accepted, which means that the independent variable or the number of marketing agencies passed has a significant effect on the dependent variable or cabbage marketing margin. The addition of 1% marketing agency will reduce the marketing margin value by 0.499%. This occurs when the addition of one agency will create additional marketing costs, which will reduce the marketing margin of the marketing agency.

5. Maketing Efficiency

Marketing efficiency is one indicator in knowing whether marketing activities in the marketing channel are efficient or not. Cabbage marketing efficiency in Semarang Regency can be seen in table 6. following.

Tabel 6. Semarang Regency Cabbage Marketing Efficiency in 2019

Components	Channel Type			Marketing System	
	Channel 1 (Offline)	Channel 2 (Offline)	Channel 3 (Online)	Online	Offline
Total Marketing Cost(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 : Primary Data Analysis 2019

Based on table 6, the value of the marketing efficiency of cabbage in Semarang Regency varies in each channel. The difference in the value of marketing efficiency is due to differences in the total marketing costs and the total value of the product in each channel. The marketing efficiency value for channel 1 was 23.45%, the marketing efficiency value for channel 2 was 14.27%, and the marketing efficiency value for channel 3 was 14.76%. Associated with the rule of marketing efficiency decision Rosmawati (2011), the three efficiency values of cabbage marketing in Semarang Regency are efficient.

The online marketing efficiency score was 14.76% and the offline marketing efficiency value was 23.29%. Based on this value, the online marketing efficiency value is smaller than the offline marketing efficiency value, which means that online marketing is a more efficient marketing system compared to offline marketing systems. This occurs because there are more marketing activities carried out by offline channels than online channels as a result of the tendency for more marketing agencies to be involved than online channels so that additional marketing costs are created. The statistical test result of asymp sig is 0,000. The result of asymp sig 0.000 <0.05 means that the value of online and offline marketing efficiency is significantly different.

Tabel 7. Summary Total Margin Marketing, Farmer's Share, and Efficiency Marketing Cabbage

Components	Channel Type		
	Channel 1 (Offline)	Channel 2 (Offline)	Channel 3 (Online)
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
Marketing Channels Order from the Most Efficient Channels	3	1	2

Source : Primary Data Analysis 2019

Based on table 7 the order of the marketing channels of the most efficient channels is channel 2, channel 3, and channel 1. Channel 2 is the most efficient channel because it has the smallest marketing margin and marketing efficiency compared to channels 2 and 3.The next most efficient channel ranking belongs to the channel. 3 because it has the largest farmer's share value and smaller marketing efficiency values than channel 1.

CONCLUSIONS

1. There are three marketing channels for cabbage in Semarang Regency to consumers, the three channels are:

a. There are 2 offline marketing channels:
   - Channel 1 Producer → Collectors → Wholesaler → Middleman → Retailer → Consumer
   - Channel 2 Producer → Collectors → Retailer → Consumer

b. There is an online marketing channels:
   - Channel 3 Producer → Farmers Group → Retailer(*Supermarket*) → Consumer

2. The farmer's share of online marketing was 28.67% and offline marketing was 22.72%. Based on marketing margin, online marketing has a marketing margin of IDR 9,950.00 and offline marketing of Rp 1,932.00.
3. Factors affecting marketing margin are distance of farmers from the last marketing agency and the number of marketing agencies.
4. The offline marketing more efficient than online marketing.

SUGGESTION

It is better if farmer groups can expand their marketing coverage so that they can absorb more of the cabbage farmers' crops.

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