



Study on Marketing of Chrysanthemum Cut Flower With Structure, Conduct, and Market Performance Approach in Cianjur Regency

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ABSTRACT

This study aims at collecting information and analyzing it with respect to the structure, conduct, and market performance of chrysanthemum cut flowers in Cianjur Regency. The research design is descriptively and explanatively quantitative, with multivariate analysis method using 10 reviews. The samples of the research were 72 respondents. Data collection was carried out by interviews, recording and observations. The results of the research indicate that: (1) the market structure belongs to the oligopoly market with CR4 with 85 percent control; (2) each marketing agency performs the same marketing functions but with different behavior; (3) channel one has the highest total margin of 56.52 percent, while channel three has the most efficient margin of 50 percent; (4) in the short term the market at the farmer level and the market at the consumer level are not integrated, but it is integrated in the long term; and (5) the existence of capital cooperation between village collectors encourages an inefficient market and farmers do not have a bargaining position

INTRODUCTION

Horticulture is called *hortus* in latin. *Hortus* is one part of the agricultural sector supporting Indonesia's economic growth. Horticulture includes medicinal plants, ornamental plants (floriculture), vegetables and fruits. Floriculture consists of cut flowers, potted flowers, and ornamental leaf plants. Cut flowers as one of the floricultural commodities have good market opportunities to be developed, so they are a profitable trend in the external environment that companies can use to gain profits (Kotler and Armstrong, 1998).

Types of cut flowers include orchids, anthurium flowers, carnations, gerberas/herbras, gladiolus, heliconia, roses, tuberose, chrysanthemums, and others. These various types of cut flowers have high economic value for farmers, one of which is chrysanthemum with the latin name *Chrysanthemum*, so that it is economically feasible to develop in Indonesia. In the 2015– 2017 period, the development of chrysanthemum production in Indonesia had a dominant production level compared to all floricultural plants, viz. 56.38 percent; 55.09 percent; and 58.67 percent respectively. The dominance of chrysanthemum production is supported by the use of the latest technology and other external aspects. It is supported by the large variety of types and more numerous and economical colors, making it easier for consumers to use it for various needs such as weddings, births, religious events, hotel decorations, catering, offices, supermarkets, and domestic consumers.

West Java Province, with a favorable geographic location, is the largest production center in Indonesia, which in 2017 produced 187,322,207 chrysanthemum flowers with stalks. The natural condition of West Java is suitable for empowerment, thus encouraging many people to open chrysanthemum cut flower businesses. Other factors needed by chrysanthemum cut flower plants are good climate and fertile land. The harvested area (m²) and total production of chrysanthemum plants (flowers with stalks) are spread over eleven regencies/cities.

Cianjur Regency shows strong dominance with harvested area of 54.16 percent of 2,664,342 harvested areas and total chrysanthemum plant products of 62.16 percent of 187,322,207 flowers with stalks. The land area (m²) spread across Cugenang sub-district is 70,000 m² (4.26%); Pacet 302,000 m² (18.41%); and Sukaresmi subdistrict 1,269,730 (77.33%). While the productions of chrysanthemum cut flowers in Cugenang subdistrict is 3,850,000 flowers with stalks (3.69%); in Pacet is 20,355,000 flowers with stalks (15.49%); and in Sukaresmi subdistrict is 80,201,578 flowers with stalks (80.82%).

The diversity of farmers in Cianjur and the high production of chrysanthemum cut flowers have led to price differences among farmers and fluctuations in market prices, increasing market prices, especially on religious holidays, increasing by up to one hundred percent. Some of the efforts to overcome the demand are the market structure, market conduct, and market performance approach, abbreviated as SCP (Bosena et al., 2011; Funke et al., 2012). The advantage of this approach is being able to explain the complexity of the problems in the existing marketing system (Amalia, 2013).

The market structure shows that market conditions affect the market price formation process for chrysanthemum cut flowers faced by the farmers and

traders as the players in the market. Market conduct explains how the farmers and flower traders behave in business activities so that it will affect costs. The high or low costs incurred by chrysanthemum flower traders will affect the amount of margin.

Costs, prices and margins will be reflected in the market performance of chrysanthemum cut flowers. Therefore, the structure, conduct and performance analysis of the marketing of chrysanthemum cut flowers is very important to find out what kind of market structure is faced by farmers and traders, how market behavior affects the price formation of chrysanthemum cut flowers, and how much margin can be obtained.

This study aims at collecting information and analyzing and concluding it with respect to the structure, conduct, and market performance of chrysanthemum cut flowers, so that it can be used as the basis for making decision with respect to flower farmer empowerment.

LITERATURE REVIEW

An Overview of Chrysanthemums

Coming from mainland China, Chrysanthemum is known as *Chrysanthemum indicum* (yellow), *Chrysanthemum morifolium* (purple and pink) and *Chrysanthemum* (round, ponpon). Chrysanthemum is an ornamental flower plant in the form of a shrub, also called *seruni* (in Indonesian) or golden flower. In Indonesia, chrysanthemum flowers have existed since 1808 and were commercialized in 1940 (Soekartawi, 1996). Chrysanthemum cultivation has been carried out since the Dutch era, including cultivation in Cipanas-Cianjur. Zulfi (2013) classifies Chrysanthemum into: (1) Kingdom: Plantae; (2) Divisio: Spermatophyta; (3) Subdivisio: Angiospermae; (4) Ordo: Asterales; (5) Suku/Famili: Asteraceae; (6) Genus: Chrysanthemum; dan (7) Species: Chrysanthemum sp 6.

Based on the number of flowers maintained on one stalk, chrysanthemum flowers are divided into two types, namely the standard type and the spray type (Rukmana, 1997). The standard type has one flower on one stalk in a larger size, while the spray type has 10- 20 flowers on each stalk in small size. Standard chrysanthemums consist of some varieties including White Fiji, Yellow Fiji, Holiday, Allouis and Astro. Spray chrysanthemum flowers include the varieties Puma, Yellow Fiji, White Regent, Town Walk, Hiedy Yellow, Heidy White, and Zroland.

Requirements for the life needs of chrysanthemum plants include: temperature, sunlight, water, where to grow and appropriate care. In tropical areas, such as Indonesia, the best temperature for the growth of chrysanthemum plants during the day is between 20–26°C. Tolerance to temperature factor to keep growing well is between 17–30°C. The ideal temperature for blossoming is between 16–18°C. At high temperatures (higher than 18°C) the chrysanthemum flowers tend to be dull in color, while low temperatures (lower than 16°C) have a good effect on the color of the flowers, because they tend to be brighter (Rukmana, 1997). So locations suitable for the cultivation of this plant are areas with an altitude between 700– 1200 m above sea level.

For good quality flowers, chrysanthemum plants need light that is longer than the normal day length. Day length can be increased by artificial lighting, after sunset. The irradiation was carried out for one month to stimulate plant height growth and delay the generative period. The most commonly used artificial light sources are essential lamps with 13- 16 watts. The results of study carried out by Kurniawan (2008) showed that essential lamps accelerated the generative growth of chrysanthemum plants more than incandescent lamps. The best time for giving additional lighting is midnight between 22.00–02.00. The distance between the lights is 2.35 meters and 7 lights are installed 2.5 meters high above the plants. The use of lamps is up to a certain limit of period during the vegetative phase (\pm 4 weeks).

According to Rukmana (1997) chrysanthemum plants require high humidity (RH). In the early phase of growth, such as seed germination or root formation of cuttings, air humidity must be between 90-95%. Young to mature plants grow well in humid condition between 70-80%. High air humidity needs to be balanced with smooth air circulation around the garden. If the air humidity is high, while air circulation is poor, it potentially results in disease-causing organisms such as fungi developing easily. Rain or high rainfall conditions that directly hit the chrysanthemum plants will also make plants to collapse, damage, and have low quality flower buds. Therefore, chrysanthemum cultivation in areas with high rainfall can be carried out in green houses or plastic house buildings and glasshouses.

Chrysanthemum can grow in any type of soil depending on the handling. The ideal soil for chrysanthemum plants is sandy loam in texture, having good drainage and aeration and containing high organic substances with a slightly acidic pH. Good soil acidity for the growth of chrysanthemum plants is around 5.5 to 6.5.

The cut flower agribusiness system consists of subsystems that are interrelated, interdependent and mutually influencing one another. According to Bunasor (1998), the Indonesian cut flower agribusiness system consists of or can be characterized as follows: (1) Sub-system of inputs procurement and distribution of production facilities; which includes seeds (generally imported), fertilizers, substances and others; (2) Farming or cultivation subsystem, generally cut flower farmers have low education, risk aversion, traditional, limited land and capital; (3) Marketing sub-system, including quality standardization, processing (packaging), storage and distribution; and (4) Supporting sub in the form of oxygen converter for the development of agribusiness systems.

Structure, Conduct and Market Performance Concept

Structure, conduct and market performance is an approach that analyzes the entire macro aspect of the system which includes functions, institutions, processing/manufacturing, and organizations involved in the marketing system. The SCP approach is used to find out why the marketing system is inefficient (Anindita and Baladina, 2017). This means how the market can operate properly and efficiently in a marketing system. The SCP approach was first introduced by J.S. Bain (1964) in his book entitled *Industrial Organization*. The SCP approach is based on three interrelated things, namely how market structure affects

companies, how companies behave in the market, and how company behavior affects the market performance of an industry.

The SCP concept shows a two-way feedback correlation between SCP variables by taking into account time (Kotler in Asmarantaka, 2012). Meaning, this concept is a dynamic system developing a company's adaptive response to market conditions. The market structure created in the industrial market determines how the behavior of the industry acts, giving rise to an assessment of market performance. If the market structure is a perfect competition, the market behavior that occurs is a reflection of the prevailing market structure. Meaning, the prevailing price setting is based on market mechanisms. The price difference at the producer and consumer level will determine how big the marketing margin, farmer share, and market integration are, which are indicators of market performance (Asmaaranda and Juniar, 2017).

In the industrial market, there are two powers-demand and supply. Demand is related to price elasticity, substitute goods, market growth, product types, and payment methods. While supply is related to technology, raw materials, labor unions, product durability, and location (Waldman and Jensen, 2007). All of these indicators influence market structure in which there are a number of buyers and sellers, product differentiation, market entry and exit barriers and others, which ultimately affect market behavior. Market behavior is identified through pricing and product strategies, collusion, advertising and more. While market performance describes the results of company behavior that is made possible by the market structure formed and can be seen from product prices and costs reflecting allocation and production efficiency.

There are some indicators of marketing efficiency using the SCP approach (Rosiana, 2012). Indicators in market structure such as the number of traders, barriers to entry, whether or not there is market collusion and consumers. While the indicators in the analysis of market behavior are the determination and formation of prices. Producer share, margin distribution, and market integration are indicators in marketing analysis.

Market Structure

Market structure is defined based on the number and size of product buyers and sellers, product types, level of resource mobility, prices, costs, as well as demand and supply conditions owned by economic actors. and the importance of advertising (Mubarok, 2015; 2019).

Market structure analysis emphasizes of market competition and attempt to relate the variables of market performance to types of market structure and conduct (Ekunwe and Alufohai, 2009). Market structure refers to the scale and number of distribution of buyers and sellers, entry barriers, product differentiation, and scale economies. These factors are general considered to affect the level of competition in a market (Teece, 2016 in Pujiharto and Wahyuni, 2020).

In a perfectly-competitive market, prices are formed based on market mechanisms. The perfect competition market is built on two assumptions, namely regarding the behavior of individual firms and the nature of production in which firms operate (Lipsey et al., 1985). The behavior of the company is

assumed to be a price taker, while the industry is assumed to have freedom of entry and exit from the market. This competitive condition is said to be efficient, thus providing normal profits for each company. Maximum profit is achieved when the price level equals to marginal cost. Although it is said to be efficient, actually in the real world it does not really exist, but only as a reference model.

Monopolistically-competitive markets are similar to perfectly competitive markets in terms of price. What distinguishes between a large number of producers or sellers is the differentiation of the products offered (Pappas and Hirschey, 1995). With product differentiation, companies or individuals have many alternatives to influence the market in capturing market share compared to perfectly-competitive markets (Teguh, 2010).

In a monopoly market there is only one firm of a product and has no close substitutes. The firm's supply reflects market demand. Prices formed in the market do not reflect the production costs of a product. Monopoly is a market situation in which competition within an industry is ignored by assuming the company itself is an industry (Breit et al., 1986).

There are oligopoly markets that are free and interdependent (Teguh, 2010). In a free oligopoly, every company in the market competes freely in its efforts to gain market share. While in an interdependence oligopoly, each competitor in the market cannot act freely to regulate the selling price and product.

There are three indicators that can be used in analyzing market structure, namely market share, market concentration, and barriers to entry. The size of the market share ranges from zero to one hundred percent of the total sales of the entire market. A large market share of a company indicates market dominance, while a small market share means that the company is unable to compete in a market. Market concentration is a combination of market share of oligopolistic companies that have dominant control and are interdependent. Indices that can be used to measure market concentration are the concentration ratio and the Herfindahl-Hirschman Index (Wildman and Jensen, 2007). Market concentration is used to measure power structure because it involves the absolute number of companies and distribution size (Baye, 2010).

Barriers to entry are all factors potentially preventing a company from entering the market. There are four elements of market structure that indicate barriers to market entry, viz. economic of scale, absolute cost advantages, capital cost requirements, and product differentiation benefits (Joe Bain in Wildman and Jensen, 2007).

Market Conduct

Market conduct is a pattern of behavior from marketing institutions in a particular market structure which includes sales activities, price formation and determination, cooperation with marketing agencies, and marketing function practices (Dahl and Hammond, 1977). Market conduct is the behaviour of buyers and sellers, strategy or reaction of buyers and sellers individually or in groups in competitive relations or negotiations with others buyers and sellers to achieve the marketing objectives of a market (Asmarantaka, 2012).

In SCP analysis, the correlation formed is the effect of structure on behavior in which a company with market power is likely to take advantage of its ability to increase prices above competitive prices. And in describing the market conduct, there are four things that must be considered (Kohl and Uhl, 2002), namely input-output, power system, communications system, and system for adapting to internal and external change.

Market Performance

Market performance is the result of decisions from the process of bargaining and competition which shows the influence of structure and market conduct in the marketing process of agricultural commodities (Sudiyono, 2002), where price plays an important role that distinguishes perfectly competitive market performance from industries that are relatively uncompetitive (Teguh, 2010). Prices formed in the market affect the amount of margin and farmer's share. These two factors are indicators in determining whether the market is in an efficient condition, and their relation to structure and market conduct.

Margin is the difference between what consumers pay and the price received by farmers, and is a set of remuneration received by marketing due to demand and supply (Tomek and Robinson, 1981). Farmer's share is the ratio between prices at the farm level and prices at the retail level (Hudson, 2007 in Asmarantaka, 2017). The size of the farmer's share is influenced by the level of processing, production costs, product durability, transportation costs, and the volume of products (Kohl and Uhl, 2002). The higher the farmer's share, the higher the share received by the farmers.

Market integration shows the price interdependence correlation between the two markets. An integrated market is indicated if price changes from one market are channeled to other markets. The faster the distribution rate, the more integrated the two markets. Market integration occurs when there is adequate market information and this information is quickly transformed from one market to another. Thus, fluctuations in price changes in one market can be immediately caught by other markets with the same size change (Hutasoit, 1998 in Wahyuningsih, 2013). Market integration is influenced by product characteristics which include perishability, bulkiness, transformability; production sites, uplands and lowlands; and transportation facilities (Munir et al., 1997 and Wahyuningsih, 2013). Market integration models can be used to measure price levels in consumer markets by considering past and current prices (Ravalion, 1986).

METHODOLOGY

Methodologies are the sciences/methods used to obtain the truth using searches with certain procedures to find the truth, depending on the reality being studied.

In English this word is written method and the Arabs translate it as tariqat and manhaj. In Indonesian, this word means: an orderly and well thought out way of achieving a goal (in science and so on); a systematic way of working to facilitate the implementation of an activity in order to achieve a specified goal.

This research used descriptive-quantitative and non-probability methods. This research was conducted in Sukaresmi Subdistrict, Cianjur Regency, West Java purposively. This location is the pioneer of chrysanthemum cultivation in Cianjur Regency. The research samples was taken deliberately by choosing some locations in Cikanyere and Pakuan Villages. The selection of respondents used the snowball sampling technique, namely prior to determining the key information. Data collection was carried out for two months. The instrument in this study was an interview with a prepared list of questions.

The total number of respondents of this research was 72 people consisting of the characteristics of 52 chrysanthemum cut flower farmers, 8 chrysanthemum cut flower village collectors, 5 chrysanthemum cut flower wholesalers, and 7 florist traders, as shown in the tables below.

Table 1. Characteristics of Respondents of Chrysanthemum Cut Flower Farmers

No.	Characteristics	No. of Farmers	Percentage
1	Age group (years)		
	≤ 35 years	6	11.5 %
	36-45 years	13	25 %
	46-55 years	23	44.2 %
	56-65 years	8	15.4 %
≥65 years	2	3.85 %	
2	Education level		
	Elementary School/ES Junior	25	48%
	High School/JHS Senior	19	36.5%
	High School/SHS)	6	11.5 %
	UNIVERSITY	2	3.85 %
3	Farming duration		
	≤ 10 years	16	30 %
	11- 20 years	25	48 %
	21 - 30 years	11	21.15 %
4	Land Area (meters)		
	≤ 1500	16	30 %
	1600 - 2500	13	25 %
	2600 - 3500	16	30 %
	3600 - 4500	6	11.5 %
	≥4600	1	1.92 %

5	Land ownership		
	Land owner	13	25 %
	Land renter	35	67.3 %
	Land owners and tenants	4	7.7 %

Table 2. Characteristics of Village Collector Traders Respondents
 Chrysanthemum Cut Flower

No.	Characteristics	Total of Respondents	Percentage
1	Age group (years)		
	30 - 45 years	4	50 %
	46 - 60 years	2	25 %
	> 60 years	2	25 %
2	Education level		
	ES	2	25 %
	JHS	3	37.5 %
	Senior High School	3	37.5 %
3	Trading Duration		
	≤ 10 years	2	25 %
	11 - 20 years	4	50 %
	21 - 30 years	2	25 %

Table 3. Characteristics of Respondents Wholesalers of
 Chrysanthemum Cut Flowers

No.	Characteristics	Total of Respondents	Percentage
1	Age Group (year)		
	50 - 60 years	5	100 %
2	Education level		
	JHS	3	60 %
	SHS	2	40 %
3	Trading Duration		
	21 - 30 years	5	100 %

Table 4. Characteristics of Florist Traders Respondents

No.	Characteristics	Total of Respondents	Percentage
1	Age Group (year)		
	30 - 40 years	2	29 %
	41 - 50 years	3	42 %
	51 - 60 years	2	29 %
2	Education level		
	JHS	3	42 %
	SHS	3	42 %
	Graduate (Bachelor)	1	16 %
3	Trading Duration		
	10 - 20 years	3	42 %
	21 - 30 years	4	58 %

RESULTS AND DISCUSSIONS

Market Structure

Observing the competition level in chrysanthemum flower market, this research conducted an analysis of the market structure which includes market share and concentration, as well as barriers to market entry. In Cianjur regency, the chrysanthemum cut flower market was concentrated in five large traders with control of 85 percent of total sales (CR 4; 0.85). Sequentially the five traders respectively have a market share of 24.6 percent; 22.5 percent; 19.2 percent; 18.7 percent; and 15 percent

Because the chrysanthemum cut flower market in this research has a CR4 value exceeding 50 percent, the market is in an oligopoly condition. Therefore, in obtaining consumers, the competitions that occur consist of price and non-price competitions (Baye, 22010). The consequence of these conditions, for farmers, they tend to be price takers, not having power in determining the price of chrysanthemum cut flowers.

Barriers to market entry indicate the level of difficulty for new entrants to enter the market. Market constraints can be analyzed using the minimum efficiency scale (MES). The MES value is obtained from the sales volume of chrysanthemum cut flowers by the largest traders to total sales. A MES value greater than 10 percent indicates that there is a barrier to market entry. Based on previous data, the largest trader of chrysanthemum cut flowers has a MES value of 28.6 percent. It means that there are significant barriers to market entry for chrysanthemum cut flowers.

Market Conduct

The indicators used in the analysis of market behavior in this study include: (1) Sales and purchasing practices of marketers; (2) Pricing and payment system; (3) Cooperation between marketing agencies; and (4) Practice of marketing functions in each institution.

Sales and buying practices. All farmers sell cut chrysanthemum flowers not directly to end consumers or florists (end traders), but through village collectors.

Chrysanthemum cut flowers are collected directly from the farmers' gardens by village collectors. Harvesting costs, transportation costs, and packaging costs are all borne by the village collectors. Harvesting is carried out within three months and ten days with an average weekly production of 2,000 -3,000 bundles. The transaction system between farmers and village collectors is carried out using an evidence system, namely the farmers and village collectors both witness the amount of interest transacted. Even so, there are also those who carry out transactions using a wholesale system in accordance with the contract they have previously agreed upon. The chrysanthemum cut flowers purchased by village collectors are then sold to wholesalers and florists.

Pricing and payment system. Since they have more market information, village collectors determine prices at the farmer level. However, there is also pricing by means of bargaining by collectors who are new to working with farmers. The payment system is carried out in installments based on their mutual agreement.

At the level of collectors and wholesalers, pricing is usually carried out by way of bargaining, considering that they respectively have information on the market. The payment is made in installments based on their mutual agreement. By having information on demand conditions for a certain period, wholesalers are more dominant in determining the price of chrysanthemum cut flowers. Pricing at wholesaler level is determined by volume and demand for chrysanthemum cut flowers. The payment is made in cash when the transaction takes place.

Cooperation between marketing agencies In facilitating the sale of chrysanthemum cut flowers, farmers prefer to cooperate with collectors personally. This cooperation has been established for a long time on the basis of mutual trust and contracts. Likewise the cooperation between village collectors and wholesalers with the aim of maintaining continuity of supply.

Marketing functions This function is an activity to increase the utility of agribusiness products efficiently. Farmers, village collectors, wholesalers, and florists respectively carry out marketing function activities aiming at facilitating the distribution of chrysanthemum cut flowers from farmers to final consumers.

Market Performance

Marketing margin The institutional marketing of chrysanthemum cut flowers in Cianjur Regency consists of three channels: First channel; Farmers → Village Collector Traders → Florists. Second channel; Farmers → Village Collector Traders → Florists. And third channel; Farmers → Village Collector Traders → Big Traders → Decoration/Craftsmen. The level of marketing margin per bundle for the three channels is respectively 56.52 percent; 54.54 percent; and 50 percent.

While the comparison between prices at the farmer level and consumer prices or farmer's share for each channel is: 43.48 percent; 45.45 percent; and 50 percent, the Farmer's share formed in each chrysanthemum cut flower channel is quite high. It happens because the chrysanthemum cut flowers sold are still in fresh, there is no arrangement, and there are not too many marketing agencies

involved. The third type of marketing channel has a more efficient farmer's share compared to other types of marketing channels.

Vertical Market Integration

The integration analysis of the vertical market includes the price of chrysanthemum cut flowers at the farmer level in Cianjur Regency and the price level at the Rawabelong market in DKI Jakarta. The data analyzed are monthly prices at the farmer level in Cianjur Regency and consumer price levels in the Rawabelong DKI Jakarta market for five years. Statistical analysis in this study was carried out using stationarity test, co-integration test, and error correction model (ECM) test. The results of the three tests were used as the basis for short-term and long-term estimates.

1. Stationarity Test

Data is said to be stationary if the average value of the variance does not change systematically or remains constant (Ravalion, 1986). Data that is not stationary will produce spurious regression, autocorrelation will appear, and cannot generalize the regression results for different times. For data that is stationary, the regression analysis can use ordinary least squares (OLS) regression. If the data has not stationary yet, it needs to be seen as stationary at a level that has the possibility of being concentrated, so it is necessary to do a co-integration test. If the data has been co-integrated, the error correction model (ECM) test can be performed. To find out whether the time series data used is stationary or not, the unit root test can be used, which in this study uses the Augmented Dicky Fuller (ADF) method. By using a probability value smaller than alpha 0.05, the stationarity test results are shown in the table below.

Table 5. Output Result of Data Stationarity Test at the Level

Price of chrysanthemum cut flowers	Level		Conclusion
	T Counting	Probability	
Cianjur Farmer	-6.316773	0.0000	Stationary
Consument of Jakarta	-5.084850	0.0006	Stationary

The table above shows that price data for chrysanthemum cut flowers, both at the farmer level in Cianjur Regency and at the consumer level in DKI Jakarta, are both stationary.

2. Co-integration Test

The data that has been stationary is then tested for integration to see whether the residual data has a long-term relationship. The co-integration test was carried out using the Johansen System Co-integration Test. The test results are shown in the table below

Table 6. Co-integration Test Output Results of the Johansen System
Co-integration Test

Unrestricted Co-integration Rank Test (Trace)					
Hypothesized CE(s)	No. of	Eigen Value	Trace Statistic	0.05 Critical Value	Prob.**
None *		0.302396	27.52598	15.49471	0.0005
At most 1 *		0.108173	6.640005	3.841466	0.0100

Trace test indicates 2 co-integrating eqn(s) at the 0.05 level

- Denotes rejection of the hypothesis at the 0.05 level

** MacKinnon-Haug-Michelis (1999) p-values

Co-integration results can be determined by comparing the value of the trace statistic to the critical value at the 5% or 1% confidence level. If the calculated value of the test statistic, namely the trace statistic and the maximum eigen value, is higher than the critical value, it can be concluded that there is co-integration. From the test results, it is known that the value of the trace statistic is higher than the critical value for prices at the farmer level and consumer market level for chrysanthemum cut flowers. Likewise, the eigen value is higher than the critical value of the prices in both markets. Thus, it can be concluded that the two variables are mutually co-integrated.

3. Error Correction Test Model

The error correction test is the control variable in the ECM analysis. The results of the Error Correction Term (ECT) are said to be good if they have a significant residual value. The significance of the error correction term can be seen not only from the t-statistic value which is then compared with the t-table, but also from the probability. If the t-statistic value is higher than the t-table, the co-efficient is significant. Likewise, if the probability of error correction term is lower than the alpha value, the co-efficient is significant. The results of the regression test are shown in the table below.

Table 7. ECM Regression Results of Consumer Prices of Chrysanthemums
in Jakarta and Farmer Prices in Cianjur

Variables	Coefficient	Std. Error	t-Statistics	Prob
C	347.8451	1466.373	0.237215	0.8134
Price_at_Farmer_Level Cianjur	2.400070	0.312412	7.682384	0.0000
ECT2(-1)	-0.398974	0.102687	-3.885346	0.0003
R-squared	0.554879	Mean dependent var	593.2203	
Adjusted R-squared	0.538981	S.D. dependent var	16585.33	
S.E. of regression	11261.16	Akaike info criterion	21.54562	
Sum squared resid	7.10E+09	Schwarz criterion	21.65125	
Log likelihood	-632.5957	Hannan-Quinn criter.	21.58685	
F-statistic	34.90418	Durbin-Watson stat	2.322531	

Prob(F-statistic)	0.000000
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The table above shows that the results of the regression test are valid with a significant error correction model coefficient with a probability less than 0.05. It indicates that the Error Correction Model (ECM) used is valid.

4. Short Term Estimates

This short-term estimation was carried out to determine the effect of the correlation between the price of chrysanthemum cut flowers at the consumer level in DKI Jakarta and prices at the farmer level in Cianjur Regency. This error correction analysis model can be said to be valid if it has a negative and statistically significant Error Correction Term (ECT) value. The table below shows the short-term estimation analysis.

Table 8. Short Term Estimation of Chrysanthemums Cut Flower Prices at the Jakarta Consumer Level towards Prices at the Cianjur Farmer Level

Variables	Coefficient	Std. Error	t-Statistics	Prob.
C	297.6738	1503.329	0.198010	0.8438
Prices at Cianjur Farmer Level	2.537536	0.326493	7.772097	0.1187
ECT(-1)	-0.368490	0.107895	-3.415263	0.0012
R-squared	0.323012	Mean dependent var		59.32203
Adjusted R-squared	0.295599	S.D. dependent var		1658.533
S.E. of regression	11543.21	Akaike info criterion		21.59509
Sum squared resid	7.469809	Schwarz criterion		21.70073
Log likelihood	-634.0552	Hannan-Quinn criter.		21.63633
F-statistic	6.186771	Durbin-Watson stat		2.294645
Prob(F-statistic)	0.000000			

Based on the table above, it can be seen that the ECT value is negative, which is -0.368. The ECM test results show that in the short term there is no significant effect on the price of chrysanthemum cut flowers that occurs at the consumer level in DKI Jakarta on prices at the farmer level in Cianjur Regency. This can be seen from the probability value of 11.87 percent which is higher than the alpha of 5 percent.

Prices at the farm level do not have a significant effect on prices at the consumer level because farmers have a low bargaining position, so they have no choice in determining marketing channels. Farmers do not know sufficient market information so that farmers only sell and receive prices set by collectors, the position of farmers as price takers. It means that the increase in the price of chrysanthemum cut flowers at the consumer market level within the short term is not transformed well to farmers.

5. Long term estimation

Long-term estimation is a period that allows full adjustments to be made for any changes that arise, so that it can be seen to what extent changes in the independent variable have a full effect on the dependent variable. In this case, the long-term estimate looks at how changes in the price of chrysanthemum cut flowers at the farmer level in Cianjur Regency make adjustments to any changes in Rawabelong market, DKI Jakarta. The table below shows the long-term estimation results:

Table 9. Long Term Estimation of Chrysanthemums Cut Flower Prices at the Jakarta Consumer Level towards Prices at Cianjur Farmer Level

Variables	Coefficient	Std. Error	t-Statistics	Prob.
Price_in_Farmer_Level Cianjur	3.180566	0.345484	9.206105	0.0000
Price_in_Consumer_Level	2.456384	0.218657	7.564865	0.0275
C	13430.53	15098.50	0.889527	0.3774
R-squared	0.593702	Mean dependent var	124500.0	
Adjusted R-squared	0.586697	S.D. dependent var	22506.12	
S.E. of regression	14468.88	Akaike info criterion	22.03015	
Sum squared resid	1.21E+10	Schwarz criterion	22.09996	
Log likelihood	658.9046	Hannan-Quinn criter.	22.05746	
F-statistic	84.75237	Durbin-Watson stat	0.825872	
Prob(F-statistic)	0.000000			

The table above shows the results of long-term regression estimates that the price of chrysanthemum cut flowers at the consumer level in DKI Jakarta affects prices at the farmer level in Cianjur Regency. It can be seen from the probability value of 0,0275 which is lower than the alpha of 0.05. So it can be said that in the long run the chrysanthemum cut flower market at the farmer level in Cianjur Regency is integrated with the market at the consumer level in Rawabelong, DKI Jakarta. Meaning, for every change in the price of chrysanthemum cut flowers at the consumer level, the farmers make price adjustments to the price of the chrysanthemum flowers.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

In accordance with the purpose of this study, namely to analyze the structure, conduct, and market performance of chrysanthemum cut flower, the results of this study can be formulated into some following conclusions.

1. The market structure of chrysanthemum cut flowers is dominated by wholesalers with a CR4 of 85 percent, that consequently, the market is classified as imperfect competition or oligopoly. The largest market share is in the first trader with a market share of 24.6 percent. In addition to having a low level of competition, this market also has entry barriers in marketing chrysanthemum cut flowers with an average Minimum Efficiency Scale (MES) value of 24.6 percent.
2. The market conduct of chrysanthemum cut flowers for farmers, village collectors, wholesalers and florists (retailers) as marketing organizations respectively has a different behavior. However, each of them performs the same marketing function which includes exchange, physical, and facility functions.
3. The market performance of chrysanthemum cut flowers consisting of three types of marketing channels has different total margins. The highest total margin is in the first channel (farmers → village traders → wholesalers → florists) which is 56.52 percent. It causes the farmer's share to get lower. The most efficient marketing channel is the third type of marketing channel (farmers → village collectors → wholesalers → decorations/craftsmen) with a farmer share margin value of 50 percent.
4. In the short term, market integration between chrysanthemum farmers in Cianjur Regency and the consumer market in DKI Jakarta is not integrated. It means that changes in the price of chrysanthemum cut flowers at the consumer level in Jakarta do not affect the prices at the farmer level. But in the long term, the two markets are integrated, so that changes in the price of chrysanthemum cut flowers at the consumer market level affect prices at the farmer level.
5. The imperfect competitive market structure indicates that the market operates inefficiently. The inefficiencies faced by farmers occur because of the collaboration carried out by village collectors with respect to capital, so that farmers do not have a bargaining position. Farmers are unable to influence the price and output produced, nor are the prices of chrysanthemums that occur at the consumer market level transformed into prices at the farmer level.

Recommendations

The results of this research provide some recommendations in an effort to increase the empowerment of chrysanthemum cut flower farmers, namely: (1) Consolidating farmers in one organization is necessary; (2) Encouraging farmers to join in formal institutions such as agricultural cooperatives or agribusiness cooperatives; (3) Consolidating themselves in the form of farmer or agribusiness associations and carrying out technology-based marketing functions (4) Providing formal financial institutions with easier requirements so that farmers can reduce capital dependence on village collectors; (5) Making efforts to increase

the yield of chrysanthemum cut flowers to overcome prices that are not well integrated between the consumer market and farmers; (6) Optimizing the role of agribusiness consulting and service centers in improving the quality of marketing institutions and agribusiness partnerships

FURTHER STUDY

Every research is subject to limitations; thus, you can explain them here and briefly provide suggestions to further investigations.

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REFERENCES

- Amalia, D. N., (2013). *"Sistem Pemasaran Karet Rakyat di Provinsi Jambi dengan Pendekatan Structure, Conduct, Performance"* (People's Rubber Marketing System in Jambi Province with a Structure, Conduct, Performance Approach). Bogor. IPB University
- Anindita, R., & Baladina, Nur, (201) *"Pemasaran Produk Pertanian"* (Marketing of Agricultural Products). Pene Jogjakarta, Andi Publisher.
- Asmarantaka, R. W., & Juniar (2017) *"Konsep Pemasaran Agribisnis: Pendekatan Ekonomi Dan Manajemen"* (Agribusiness Marketing Concept: Economic and Management Approach). Agribusiness Journal of Indonesia, Vol. 5, No 2, Dec. pp 151-172 151
- Asmarantaka, R. W., (2012) *"Agribusiness Marketing (Agrimarketing)"*, Department of Agribusiness, Faculty of Economics and Management, IPB University.
- Baye, M., (2010) *"Managerial Economics and Business Strategy"* (Indonesian Flower Farming Business and Its Prospects for Increasing Domestic and Export Consumption), Seventh Edition. Mc Graw-Hill Irwin. Singapore. Pennsylvania (US): Douglas Retne.
- Boseno, D. T., Bekabil, G. Barhan, & H., Dirk, (2011) *"SCP of Cotton Market: Current Issues and Future Directions"*. Journal of Educational Administration. 4(1); 1-12
- Bunador (1998) *"Bisnis Usahatani Bunga Indonesia dan Prospeknya Bagi Peningkatan Konsumsi Domestik dan Ekspor"* (Indonesian Flower Farming Business and Its Prospects for Increasing Domestic and Export Consumption). Jakarta, Bunga Nusantara Foundation.

- Central Statistics Agency, West Java (2018) "*Grafik Produksi Tanaman Florikultura (Hias) Krisan (Tanhgkai) Tahun 2017, di Indonesia*" (Chrysanthemum (Flowers with Stalk) Floricultural Plant Production Chart in 2017), in Indonesia, Jakarta.
- Central Statistics Agency, West Java (2018) "*Luas panen dan total produksi bunga krisan potong menurut kabupaten/kota di Provinsi Jawa Barat tahun 2017*" (Harvested Area and Total Production of Chrysanthemums Flower Cut According to Regencies/Cities in West Java Province in 2017), West Java.
- Dahl, A.D., & Hammond (1977) "*Market and Price Analysis, The Agriculture Industries*", New York. (US): McGraw Hill
- Ekunwe, P. A., & Alufohai, G.O., (2009) "*Economics of Poultry Egg Marketing in Banin City*". Edo State, Nigeria. International Journal of Poultry Science, 8(2), 166- 169
- Funke, O., Raphel, B., & Kabir, S., (2012) "*Market Structure, Conduct and Performance Market of Gran Processing Industry in South Western Nigeria*". European Journal of Business and Management. 4(2), 99-112
- Ghozali, Imam., (2008) "*Structural Equation Modeling: Metode Alternatif dengan Partial Leasts Square*" (Structural Equation Modeling: Alternative Method with Partial Leasts Square). Publishing Dept. of Diponegoro University.
- Kotler, Philip & Amstrong, Gary. (1996) "*Principles of Marketing*"; International Edition. Prentice-Hall International, Inc.
- Kurniawan, Jeffri. (2008) "*Formulasi Strategi Pengembangan Usaha Bunga Potong Krisan Pada Loka Farm Cilember Bogor*" (Formulation of a Chrysanthemum Cut Flower Business Development Strategy at the Cilember Farm Workshop, Bogor). IPB University.
- Lipsey, Richard G., & Steiner, Peter O., (1985) "*Pengantar Ilmu Ekonomi*" (Introduction to Economics). Jakarta, Vol. 1, 2, dan 3, Sixth Edition. Bina Aksara.
- Mubarok, E. Saefuddin. (2019) "*Pengantar Ekonomi Mikro*" (Introduction to Microeconomics) Second Edition, In Media Publisher.
- Mubarok, E. Saefuddin., (2015) "*Ekonomi Manajerial dan Strategi Bisnis*" (Managerial Economics and Business Strategy) In Media Publisher.
- Muhaimin, Abdul Wahib., Yapanto, Lis M., & Wijayanti, Verina., (2019) "*Analysis of Market Structure, Conduct and Performance of Corn (Zea Mays L) in Kedung Malang Village, Papar Dictrict, Kediri Regency, East Java*". International

Journal of Civil Engineering and Technology (IJCIET), Volume 10, Issue 06,
June, pp 364- 374.

- Ndoen, Dice Fice Siska., Susrusa, Ketut Budi, & Sudarma, Made, (2019). *"Supply Chain Performance of Cut Flower in Denpasar City"*. Journal of Agribusiness Management, Vol. 7, No. 2, October
- Pappas, J. L., & Hirschey, M., (1995) *"Ekonomi Manajerial"* (Managerial Economics), Jakarta, Indonesian Edition, Binarupa Aksara.
- Pujiharto & Wahyuni (2020) *"Potato Trading Based on Structure, Conduct, Performance (SCP) in the Centre of Vegetable Production in Central Java-Indonesia"*, Research World Economy, Vol. 11, No. 1, Special Issue
- Ravallion, M., (1986) *"Testing Market Integration"*, American Journal of Agricultural Economics, 88(1): 102-109.
- Rosiana, N., (2012) *"Sistem Pemasaran Gula Tebu Dengan Pendekatan Structure, Conduct, Performance: Kasus: Perusahaan Perseroan (Persero) PT. Perkebunan Nusantara VII Unit Usaha Bungamayang"* (Cane Sugar Marketing System Using Structure, Conduct, Performance Approach: Case: Limited Liability Company (Persero) PT. Perkebunan Nusantara VII, Bungamayang Business Unit." Bogor (ID): Institut Pertanian Bogor (IPB University).
- Rukmana, R., & Mulyana, A.E., (1997) *"Krisan: Seri Bunga Potong"* (Chrysanthemum: Cut Flower Series). Jogjakarta, Kanisius
- Soekartawi (1996). *Manajemen Agribisnis Bunga Potong* (Cut Flower Agribusiness Management). Depok. Universitas Indonesia.
- Sudiyono A. 2002. *"Pemasaran Pertanian"* (Agricultural Marketing). Malang, Muhammadiyah University of Malang
- Teguh, Muhammad. (2010) *"Ekonomi Industri"* (Industrial Economics). Jakarta, Rajawali Press
- Tomek, W. G., & Robinson, K.L., (1990) *"Agricultural Product", Prices*. Third Edition.
- Wahyuningsih (2013). *"Sistem Pemasaran Rumput Laut di Kepulauan Tanekke Kabupaten Takalar Provinsi Sulawesi Selatan: Struktur, Perilaku Dan Keragaan Pasar"* (Seaweed Marketing System in the Tanekke Islands, Takalar Regency, South Sulawesi Province: Structure, Market Behavior and Performance). Bogor, IPB University.

Waldman, D. E., & Jensen, E. J., (2007) *“Industrial Organization”*, Theory and Practice. Third. New York (US): Addison Wesley.

Zulfi (2013). *“Trategi Pengembangan Usaha Bunga Krisan Pada Lulu Green House, Kecamatan Pacet, Kabupaten Cianjur”* (Chrysanthemum Flower Business Development Strategy at Bulu Greenhouse, Pacet Subdistrict, Cianjur Regency). Bogor, IPB University