Factors Influencing Farmers' Decisions in Selling Chili to the Auction Market of Sleman Regency

Faktor-Faktor yang Mempengaruhi Keputusan Petani dalam menjual Cabai ke Pasar Lelang Kabupaten Sleman

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ABSTRACT
This study aims to identify the mechanism of the chili auction market in Sleman Regency and analyse the influence of formation access, market location, income, social capital and auction market objectives on farmers' decisions in selling chili to the Sleman Regency auction market. The research uses a quantitative approach with a survey method. Location determination by purposive method. Samples were taken using the disproportionate stratified random sampling. The types of data used primary data and secondary data. Data collection methods through observation, interviews, and documentation. The analysis used descriptive analysis and logistic regression analysis. The results showed that: (1) the auction market mechanism starts from the transportation of chili by farmers from the land to the collection point, weighing, sorting and grading, digital auction, packaging to picking up and selling chili by traders, (2) the variables of access to information, social capital, and auction market objectives partially affect farmers' decisions. In contrast to the variables of market location and profits which partially have no effect on farmers' decisions to sell chili. All independent variables simultaneously affect the decision of farmers to sell chili peppers to the Sleman Regency auction market.
Keywords: auction market, chili, decision, farmer, logistic regression

ABSTRAK
Penelitian ini bertujuan untuk mengidentifikasi mekanisme pasar lelang cabai di Kabupaten Sleman dan menganalisis pengaruh akses formasi, lokasi pasar, pendapatan, modal sosial dan tujuan pasar lelang terhadap keputusan petani dalam menjual cabai ke pasar lelang Kabupaten Sleman. Penelitian ini menggunakan pendekatan kuantitatif dengan metode survei. Penentuan lokasi dengan metode purposive. Sampel diambil dengan menggunakan metode disproportionate stratified random sampling. Jenis data yang digunakan data primer dan data sekunder. Metode pengumpulan data melalui observasi, wawancara, dan dokumentasi. Analisis yang digunakan adalah analisis deskriptif dan analisis regresi logistik. Hasil penelitian menunjukkan bahwa: (1) mekanisme pasar lelang dimulai dari pengangkutan cabai oleh petani dari lahan ke tempat pengumpulan, penimbangan, sortasi dan grading, lelang digital, pengemasan hingga pengambilan dan penjualan cabai oleh pedagang, (2) variabel akses

informasi, modal sosial, dan tujuan pasar lelang secara parsial berpengaruh terhadap keputusan petani. Berbeda dengan variabel lokasi pasar dan keuntungan yang secara parsial tidak berpengaruh terhadap keputusan petani dalam menjual cabai. Semua variabel independen secara simultan berpengaruh terhadap keputusan petani menjual cabai ke pasar lelang Kabupaten Sleman.
Kata kunci: pasar lelang, cabai, keputusan, petani, regresi logistik

INTRODUCTION

Chili commodities are one of the commodity categories to fulfill basic necessities. The need and availability of chili often encounter price fluctuations, as a result this commodity plays a major role in high inflation rate. Price fluctuations occur because chili is seasonal, consequently during the peak of harvesting the selling price can be low and during the lean season, the price increases high. The fluctuation of chili prices is caused by the inability to balance chili production and market demand. The fluctuation in chili prices is a serious problem that can harm farmers and consumers. The Indonesian government has made various efforts to overcome this problem, one of those is by determining the location of national production centers (Nugrahapsari and Arsanti, 2019).

Sleman is one of the regencies appointed by the Ministry of Agriculture to be the location of the national chili commodity development centre through the letter of Ministry of Agriculture number 472/Kpts/RC.040/6 of 2018. The Sleman regency government through the Regency Agriculture Department moved quickly by designing various work programs to improve the quality and quantity of chili commodities. The work program that has been designed includes the fulfilment of production and operational facilities, creating a chili auction market marketing institution with digital technology, adding chili auction market gathering points, and creating a chili processing industry (Lubis, 2019).

The program to establish a digital chili auction market is one of the efforts made by the Sleman Regency Government to support agricultural development. The aim of the establishment of this chili auction market is to be a marketing institution that creates a transparent, effective, and efficient trading system. The aim of establishment of a chili auction market also to improve farmers bargaining position because it is supported by the quality and quantity that have been carefully

standardized, so it hoped that the auction market will improve farmers' welfare (Oktia and Abubakar, 2022).

The Digital Chili Auction Market Program in Sleman has been running for seven years, however there are still various problems and obstacles faced. The biggest obstacle is the number of chili production in Sleman that enters the auction market is still low compared to the whole chili production in Sleman. In 2021, the total chili production in Sleman was 9.923,3 tons and only 13,2% or 1312,34 tons entered the auction market. In 2022, the total pf chili production in Sleman increased by 11,406.6 tons and only 5.8% or 670,04 tons entered the auction market.

The problem of how low chili production entering the Sleman auction chili market is allegedly due to various reasons. The strongest reason for the low chili production is because there are still few farmers who sell their product to the middleman instead of the Sleman chili auction market. According to Purba, et al. (2020), there are several factors that cause chili farmers to sell their products to the middleman, including the lack of access to information to market their own products which leads them to use the services of the middleman. Farmers have limited access to the information on product quality, as a result the low quality of farmers' products weakens the bargaining position of farmers and ultimately only middlemen who are willing to accept those farmers' products.

According to Widodo (2019), a factor that causes farmers to sell their products to the middmen is some farmers are constrained by access to the capital, as a result farmers borrow funds from the middleman and after harvesting, the farmers should sell their products to those middlemen. Another factor that made the number of chili production entering the auction market low is allegedly due to the farmers' access to the   sales location or auction markets being less strategic. According to Sari, et al. (2022) the more strategic the sales location, the level of sales decisions will be higher. Other factors that influence farmers' decision in choosing to sell their products are social capital, auction market objectives, profits, and others.

Study about factors that influencing farmers' decision in selling chilies Sleman auction market aims to analyze the relationship between factors influencing

farmers' decision to sell chilies to the auction market. Factors that influence farmers' decisions are access to information, market location, social capital, auction market objectives, and profits.

RESEARCH METHOD

This study used a quantitative approach, according to Sugiyono (2018) the method is used to study a certain population/sample, collecting data using research instruments, quantitative statistical data analysis, aimed at describing and testing the hypothesis that has been established. The location determination method used in this study is the purposive method. According to Abdullan (2015), the definition of purposive is a technique that is usually carried out due to certain considerations. The location of the study was at the Sleman Chili Auction Market, DIY. Based on the Decree of the Minister of Agriculture of the Republic of Indonesia Number 72 / Kpts / RC.040 / 6/2018 concerning the location of the National Agricultural Area, it was stated that Sleman Regency is one of the national chili centre locations. The implementation of the Chili Auction Market in Sleman has utilized a mobile-based information system namely the *Dipanen.id* application

The population in this study were chili farmers who participated in selling chili at the Chili Auction Market in Sleman, through the Sleman and Pakem District as a Gathering Point. The population was 678 people consisting of 225 people through the Sleman District gathering point and 453 people through Pakem Gathering Point. The sample to be selected is 87 farmers who have made sales to the Chili Auction Market through the gathering points of Sleman and Pakem District. Table 1 shows the number of farmers selected as samples at each gathering point and the intensity of their chili deposit time.

Tabel 1. Population and Research Sample

No	District Gathering Point Location	Number of Farmers (people)	Number of Sample (People)
1	Sleman Intensity of deposit time (<3 times/year)	45	6
	Intensity of deposit time (>3 times/year)	180	23

No	District Gathering Point Location	Number of Farmers (people)	Number of Sample (People)
2	Pakem		8
	Intensity of deposit time (<3 times/year)	64	
	Intensity of deposit time (>3 times/year)	389	50
Total		678	87

Source: Dipanen. id (2023)

The sampling method uses proportionate stratified random sampling technique that aims to determine the number of samples, if the population is stratified but not proportional (Sugiyono, 2018). Samples are drawn from population groups, but not all members of the population groups are sample members. The number of samples needed is 87 people, consisting of 73 farmers who deposit more than three times each year and 14 farmers wh deposit less than three times each year or even never did the deposit at all.

Research data will be taken and collected through observation, interview, and documentation. The first objective of this study is to identify the mechanism of the Chili Auction Market in Sleman, DIY. Identification of chili sales through the auction mechanism will be explained descriptively. Logistic regression analysis is used to analyze the influence of information access, market location, social capital, auction market objectives, and profits on farmers' decision in selling to the Auction Market in Sleman, DIY. According to Ghozali (2018), logistic regression is an analysis method that is commonly used for research data if the dependent variable is dummy (dependent data has two or more categories).

RESULT AND DISCUSSION

Based on the research results of 87 samples that had been surveyed and then processed, resulting in processed data that can be seen in Table 2.

Table 2. Data Processing Results

Type	Output	Regression Test Results	
Regression Model Suitability Test	Hosmer and Lemeshow's Goodness of Fit Test	Chi Square	10.277
		Df	8
		Sig	0.246

Nagelkereke's R Square Test	Model Summary	-2 log likelihood	31.801 [a]	
		Cox & Snell R-Square	0.404	
		Nagelkereke's R Square	0.689	
Simultaneous Test/ Whole Model	Omnibus Test of Model Coefficient	Chi-square hitung	44.966	
		Chi-square table	11.070	
		Df	5	
		Sig	0.000	
Partial Test	Variables in the Equation	Variable	Wald	Sig.
		Information Access (X1)	4.033	0.045*
		Market Location (X2)	1.417	0.234
		Social Capital (X3)	4.236	0.040*
		Market Purpose (X4)	6.773	0.009*
		Profit (X5)	1.067	0.302

Source: Processing Data (2024)

Based on Table 2, it can be shown that,

The regression model has a significance value of 0.246 which indicates that the model is appropriate/feasible.

The coefficient of determination is 00.689 which means it is able to explain the dependent variable by 68.9%.

The omnibus test of model coefficient has a value, therefore it can be concluded that the variable of information access, market location, profit, social capital, and auction market objectives simultaneously influence farmers' decision in selling chilies to the auction market.

Partially the results show that each variable,

The Access to Information variable has a Wald test value of 4.033 which is greater than the Chi-Square table which is 3.481. The significance value of the variable of the access to information obtained a result of 0.045 which is smaller than the significance level of $\alpha=5\%$. This means that the decision that has been taken is Ha accepted or the variable of access to information has an effect on the farmers' decision to sell chilies to the auction market partially.

The Market Location variable has a Wald test value of 1.417 smaller than Chi-square table which is 3.481. The significance value of the market location variable obtained result of 0.234 which is greater than the significance level of $\alpha=5\%$. This means that the decision that has been taken is H0 is rejected or the market location variable does not affect farmers' decision to sell chilies to the auction market partially.

The Social Capital variable has a Wald test value of 4.236 which is greater than the Chi-square table which is 3.481. The significance value of the social capital variable obtained as a result is 0.04 which is smaller than the significance level of α=5%. This means that the decision that has been taken, Ha is accepted or the social capital variable has a partial effect on farmer's decision to sell chilies to the auction market.

The Market Objective variable has a Wald test value of 6.773, which is greater than the Chi-Square table, which is 3.481. The significance value of the social capital variable obtained a result of 0.009, which is smaller than the significance level of α=5%. This means that the decision that has been taken, Ha is accepted or the market objective variable has a partial effect on farmers' decision to sell chilies to the auction market.

The Profit Variable has a Wald test value of 1.067, smaller than the Chi-square table which is 3.481. The significance value of the profit variable obtained a result of 0.302 which is greater than the significance level of α=5%. This means that the decision that has been taken, H0 is rejected or the profit variable does not affect the farmers' decision to sell chilies to the auction market partially.

Tabel 3. Coefficient Value of Each Variable

Variable	B (Coefficient)	Sig. (P-Value)	Exp (B)/ Odds Ratio
Access to Information (X1)	6.753	.045	.755
Market Location (X2)	-2.923	.234	5.977
Social Capital (X3)	-2.649	.040	.163
Market Objectives (X4)	3.407	.009	86.210
Profit (X5)	.939	.302	.464
Constant	-16.544	.036	.000

Source: Processing Data (2024)

$$Y = -16,544 + 6,753X_1 - 2,923X_2 - 2,649X_3 + 3,407X_4 + 0,939X_5 + e$$

The information access variable obtained a coefficient value of 6.753 with a positive sign, this indicates that farmers selling chilies to the Sleman Auction Market will have a tendency to increase more than XI input, assuming that other independent variables are in a fixed condition (constant). The probability of farmers selling their product to the auction market in information access can be conveyed

properly based on the Exp (B)/Odds Ratio value is 0.755/75.5%. Information access has a significant influence on farmers' decision to sell chilies to the auction market. In line with the statement from Harmoko and Darmasya (2016), the information needed by farmers in managing their farming business is access to the information that is accurate, efficient, and easy to reach.

The market location variable obtained a coefficient value of 2.923 with a negative sign. That coefficient value can be interpreted if the X2 variable increases, then the farmers' decision to sell chilies to the Sleman Auction Market has tendency to decrease by 2.923 units, assuming the other independent variables are in a fixed condition (constant). The probability of the farmers selling their products to the auction market if the market location is accessible based on the Exp (B)/Odds Ratio Value 5.977/597.7%. Market location has no influence and not significant on farmers' decision to sell chilies to the auction market. According to Kotler (2022), location is often used as a strategy to make decisions to improve business. However, farmer respondents in this study consider that the market location is accessible so they do not feel disturbed by the market location factor. The farmers who were respondents in this study were farmers who lived in Sleman and Pakem District, therefore the majority of the farmers did not feel burdened by the market location variable.

The social capital variable obtained a coefficient value of 2.648 with a negative sign. The coefficient value can be interpreted that if the X3 variable has incensed, then the farmers' decision to sell chilies to the Sleman Auction Market has a tendency to decrease, assuming that other independent variables are in a fixed condition (constant). The probability of farmers selling their products to the auction market if they get a good social capital based on the Exp (B)/Odds ratio is 0.163/16.3%. Social capitalvalue influences farmers' decision to sell chilies to the auction market. However, the social capital variable obtained a coefficient value of 2.649 with a negative sign because in fact there is a social inequality in chili auction market until, it can be seen from the amount of farmer deposit in each region. In addition, there are still some farmers who have not had the opportunity to participate in various activities and facilities that can be useful in their farming activities. As

stated by Skewes (202), inequality affects the way people make decisions. Communities with higher inequality often make less profit overall, and some members of the less fortunate groups received unsatisfactory results.

The Market Objectives variable obtained a coefficient value of 3.407 with positive signs. The coefficient value can be interpreted that if the X4 variable has increased, then the farmers' decision to sell chilies to Sleman Auction Market has tendency to increase then its input, assuming that the other independent variables are in fixed condition (contant). The probability of farmers selling their products to the auction market if the auction market objectives work effectively and efficiently based on the Exp (B)/Odds Ratio value is 86.210/8621%. Market objectives have significant influence on farmers' decision in selling chilies to the auction market. These results are in line with Rusdiyana's (2017) research which states that efficiency in marketing function and higher selling prices make farmers prefer the auction market to selling their chilies.

The profit variable obtained a coefficient value of 0.939 with a positive sign. The coefficient can be interpreted that if the X5 variable increases by a unit, then the farmers' decision to sell chilies to Sleman Auction Market will increase by 0.939 a unit, assuming that other independent variables are in fixed condition (constant). The probability of the farmers selling their products to the auction market if the profit obtained is high on the Exp (B)/Odds Ratio Value is 0.464/46.4%. Profit does not have an effect on the farmers' decision to sell chilies to the auction market. The results of this study are in line with the research of Devi, et al. (201) which stated that some farmers feel that they are still suboptimal because sometimes they are not able to cover the cost incurred during the production. Farmers feel that the profits obtained from selling chilies at the auction market will depend on the quality of their harvest yields. The majority of the chili farmers in Sleman are focused on cultivating chiles according to the SOP, therefore the harvest yields will always be optimal.

CONCLUSION

The auction market mechanism starts from the transportation of chilies by farmers from the fields to the collection point, weighing, sorting and grading, digital auctions, packaging to the pickup and sale of chilies by traders.

The variables of information access, social capital, and auction market objectives partially have a significant effect on farmers' decision, while the variables of market location and profit partially do not have a significant effect on the farmers' decision to sell chilies. Based on the model, all the independent variables simultaneously have a significant effect on farmers' decision to sell chilies to the Sleman Auction Market.

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