Bulgarian Journal of Agricultural Science, 26 (No 6) 2020, 1100–1108

The performance of the auction market of chili in the sandy coastal area of Indonesia

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Abstract

Nugroho, A. D., Prasada, I. Y. & Al Rosyid, A. H. (2020). The performance of the auction market of chili in the sandy coastal area of Indonesia. *Bulg. J. Agric. Sci., 26 (6)*, 1100–1108

The performance of the auction market of chili has proven to have many benefits to the farmers in the sandy coastal area. However, not all of the auction systems have a good market performance. This research is aimed at knowing the performance of the auction market of chili in the sandy coastal area and its determinant factors. This research was conducted in Kulon Progo Regency from April to July 2018. The respondents were all managers of the auction market in the sandy coastal area. The analysis models used in this research are descriptive analysis and ordinary least square. The study showed that most of the auction markets did not have good market performance. Some of the problems faced by the auction markets occurred at the input and the process stage; since the markets had no legal entities, they did not make any memorandum of association and article of association, they had incomplete organizational structures, have weak monitoring systems from other parties, and required long payment periods to the farmers. To increase their performance, the auction markets need access to counseling or monitoring from other parties, collaboration with financial institution, and a higher number of administrators.

Keywords: chili; auction markets; performance; determinant factors
Abbreviations: IDR – Indonesian Rupiah

Introduction

The farming pattern in the sandy coastal area is characterized by the combination of both horticultural products (onion, chili, eggplant) and food products (sweet potato), with livestock business (cattle, goats, and poultry) (Widodo, 2015; Triyatmo et al., 2018). Chili farming contributes to a high-income economy for farmers in every season and it has a competitive advantage (Nugroho et al., 2018a).

However, the main issue of concern for chili farmers is the fluctuating chili price. The abundant production in the harvest season results in a drop in the market price of the chili (Nugroho et al., 2018b). So, the standard reference price imposed by the government has been unable to control fluctuations of the chili price (Sativa et al., 2017). Therefore, in some countries, the government ensures there is a stable chili price to control the fluctuation (Marr et al., 2016).The price risk also increased after the enactment of global trade (Nadezda et al., 2017).

Another problem for farmers is the long marketing channel. The long marketing channel is often detrimental to farmers because it weakens farmers' market power (Ministry of Agriculture., 2006). It also leads to high transaction costs and low return to farmers (Argade & Laha, 2018).

To overcome such problems, farmers in the sandy coastal area established the auction markets as one of the buying and selling facilities. The auction markets benefit the farmers, since it can sell farmers' products in big quantities at a

good price (Prabhavathi et al., 2015). In the Netherlands, the horticultural auction markets can link farmers with consumer demand, create a national minimum price scheme, change the price discovery process, and drive logistical efficiency by reducing transaction costs (Meulenberg, 1989; Meulenberg & Viaene, 1993; Heezen & Baets, 1996; Tourte & Gaskell, 2004).

The auction market in the sandy coastal area was initiated in 2003 and it empowered local communities, facilitated collective marketing, and developed farming groups (Raya, 2014a). Most farmers in the sandy coastal area choose the auction market as their main marketing channel because it can provide them with higher prices than those prices provided by the traders (Nugroho et al., 2018a). Nowadays, the chili auction market system is set as a role model for other marketing systems in Indonesia, for horticultural marketing.

Nonetheless, not all of the auction market systems can perform well; some cannot improve the farmers' welfare, face difficulty in buying agricultural commodities due to competition from the existing traders, and have less warehouse space (Anugrah, 2004; Purwandani et al., 2016).

Many researches argue that to increase performance or capacity, The utilization of labor in a business institution must be efficient (Birinci, 2009); there must also be increased capital or investment (Bachev., 2018), increase age or experience (Hashmi et al., 2016), improved leadership (Raya, 2014a), collaboration with other parties (Arisoy et al., 2013), and organization of the supply chain (Serdaris et al., 2014).

The future challenge of the auction markets of chili at the sandy coastal area is how to fulfill the consumer need and create a fair price for the farmers. It is vital to handle these challenges because in the age of global trade, there will be fast flow of agricultural products from developed countries to the less developed countries. This outcome may have a big impact on domestic agricultural product prices and the farmers' welfare. Thus, it is necessary to improve the market performance of the auction market system to ensure that farmers receive a fair price for their products.

Previously, there have been some researches addressing the auction market of chili in the sandy coastal area. Nonetheless, there is no research to examine the performance of the auction market since most research only examine an auction market in general. On this basis, this research intends to examine all auction markets in the sandy coastal area and the activities carried out by managers to improve the performance of the auction market. This is an important issue to address since the auction markets should attract and retain all parties (Haruvy et al., 2007). This research aims to know the performance of the auction market of chili in the sandy coastal area and its determinant factors.

Material and Method

Data Collected

The research was conducted in Panjatan and Galur Sub-district, Kulon Progo Regency, Yogyakarta Province because the area has been the center of chili production in the sandy coastal area and has several auction markets. The chili farm in the sandy coastal area contributes to almost 72 percent of the total percentage of chili production in Yogyakarta Province (Central Bureau of Statistics., 2017).

This research was conducted for 4 (four) months from April to July 2018. The study used primary and secondary data. Primary data was obtained from interviews with all of the chili auction market managers in the sandy coastal area. The auction market managers in this study were selected using the census method. Based on a statement from the local agricultural officer and survey, there are 13 auction markets existing in the sandy coastal area. The secondary data was obtained from the local agricultural office and the Central Bureau of Statistics' documents.

Data Analysis

This study applied the following methods to analyze the data:

To determine the performance of the auction market of chili, the researcher used the descriptive analysis approach based on the scoring method with data obtained through interviews with the managers. The market performance was assessed based on the input, process, output, outcome, and impact stages (Table 1 and Table 2).

The Ordinary Least Square method was used to find out the determinant factors of the performance of the auction market of chili:

$$PV = \beta_0 + \beta_1 AA + \beta_2 AQ + \beta_3 CS + \beta_4 AC + e$$

Here "PV" is the performance score, "AA" is the auction markets' age (years), "AQ" is the administrator quantity (persons), "CS" is the chili supply (tons), "AC" is the auction markets' capital (IDR[1]), and e is error. In the estimation, the auction markets' age, the administrator quantity, the chili supply, the auction markets' capital is expected to have an effect on the auction market's performance.

Results and Discussion

Profile and Mechanism of the Auction Market

The number of the auction markets of chili in Kulon Progo Regency is 13 units and it is located along the coastal area

[1] IDR = 0.0000594 Euro

Table 1. Assessing Aspects of the Auction Markets' Performance

Aspect	Criteria	Maximum Score	Details Score
1	2	3	4
Input		12	
	1. The auction market used government funds	1	0 if it does not use and 1 if it uses
	2. The auction market owns capital	2	0 if 0 percent, 1 if < 50 percent, and 2 if ≥ 50 percent
	3. Rule completeness of the auction market	1	0 if it did not have and 1 if it has
	4. The auction market had a legal entity	1	0 if it did not have one and 1 if it has
	5. The auction market has applied management training	2	0 if it has not applied, 1 if it has applied but does not continue, and 2 if it has applied and continued the management training
	6. Facilities and infrastructure (equipment, human resources, capital and others)	2	0 if it did not have enough, 1 if it had enough, and 2 if it had excessive supply
	7. Supervision from the government	1	0 if there is no supervision and 1 if there is
	8. Continuous chili supply from the farmers	2	0 if it is not enough, 1 if it is enough, and 2 if excessive
Process		28	
	1. The auction market has promoted its rules & mechanisms to its members	2	0 if it has not been applied, 1 if it has been applied but is not continued, and 2 if it has been applied continuously
	2. The auction market has applied coaching and mentoring to the members	2	0 if it has not applied, 1 if it has applied but does not continue, and 2 if it has applied continuously
	3. The number of the auction market open days within a year	2	0 if it does not, 1 if only during the harvest season, and 2 if conducted every day
	4. Use online applications/communication technology	1	0 if no and 1 if yes
	5. Price monitoring unit	2	0 if no and 2 if yes
	6. The auction market has a sorting and grading process	2	0 if no, 1 if yes only farmer groups, and 2 if yes both farmer groups & auction market
	7. The duration of product sale	2	0 if more than 5 days, 1 if between 3 to 5 days, and 2 if between 0 until 2 days
	8. The timeline for product delivery to the buyer following the transaction	2	0 if more than 2 days after transaction, 1 if between 1 and 2 days after transaction, and 2 if between 0 and 1 day after transaction
	9. Supervision of the product distribution	2	0 if no, 1 if yes but not continue, and 2 if yes and continue
	10. The duration from delivery to the payment of farmers	2	0 if more than 5 days after transaction, 1 if between 2 to 4 days after transaction, and 2 if between 0 until 1 day after transaction
	11. Dispute resolution unit	2	0 if no, and 2 if yes
	12. Recording and book keeping	2	0 if no, 1 if yes but not continue, and 2 if yes and continue
	13. Financial reports to members (farmer groups)	2	0 if no, 1 if yes but not continue, and 2 if yes and continue
	14. Incentive and sanction mechanism	1	0 if no and 1 if yes
	15. The management fee	1	0 if more than 10 percent and 1 if between 0 until 10 percent
	16. An annual member meeting	1	0 if no and 1 if yes
Output		7	
	1. Selling quantity	3	0 if between 0 to 25 percent of farmer's supply, 1 if between 26 to 50 percent of farmer's supply, 2 if between 51 until 75 percent of farmer's supply and 3 if between 76 until 100 percent of farmer's supply
	2. Selling price	3	0 if below traders' price, 1 if same with traders' price, and 3 if above traders' price
	3. Contracting with buyers	1	0 if no and 1 if yes

Table 1. Continued

1	2	3	4
Outcome		4	
	1. Business dividend	1	0 if no and 1 if yes
	2. Third party funds	1	0 if no and 1 if yes
	3. Assets	2	0 if below the beginning capital, 1 if same with the beginning capital, and 2 if above the beginning capital
Impact		4	
	1. Increased of employment	1	0 if no and 1 if yes
	2. Increased scale of the farmer group business	2	0 if, 1 if and 2 if
	3. Growth of new farm-based businesses (processed)	1	0 if no and 1 if yes

Table 2. Classification of the Auction Market Performance

Information	Maximum Score	Category			
		Not Good	Enough	Good	Very Good
Performance	55	< 38.5	38.51–44.00	44.01–49.5	49.51–55.00

Source: Nugroho et al (2018c)

of Kulon Progo Regency, ranging from the Trisik Village (Galur Sub-district) to the Garongan Village (Panjatan Sub-district). In 2015, there were 24 units of the auction market, but due to the establishment of the New Yogyakarta International Airport, many auction markets were closed. Many farmers' lands and the auction markets in the sandy coastal area were acquired by the airport.

The auction market's procedure begins with chili harvesting and sorting following predetermined criteria. This process will classify chili into three grades. The first grade, A, is the best quality, and will be sold at a high price. The second grade, B, is the medium quality, and will be sold at medium price. The third grade, C, is the bad quality, and will be sold at the lowest price. Every grade will be sold at a different time in the auction market. The best products will be deposited to the auction market, while the lower quality products will be sold to the traders around the farmer's house.

The auction market conducts an auction process using a closed mechanism. The traders place a bid secretly to the auction market administrators by writing their bid on a piece of paper and inserting it into the designated box. The highest bid price from a trader will be the highest price agreed between the bidders (traders) and the auction market administrators in the auction market. The winning bidder will immediately pack the chili and will market it to various regions. The competition among traders will elevate the price higher than the conventional sales system making it more profitable to the farmers (Table 3).

Table 3. Profile of The Auction Market in The Sandy Coastal Area

Name	Address	Since	Members (persons)	Administrators (persons)
Auction group 1 (K1)	Garongan 1 Hamlet, Garongan Village, Panjatan Sub-district	2004	90	15
Auction group 2 (K2)	Garongan 2 Hamlet, Garongan Village, Panjatan Sub-district	2007	40	10
Auction group 3 (K3)	Garongan 2 Hamlet, Garongan Village, Panjatan Sub-district	2007	30	10
Auction group 5 (K5)	Garongan 3 Hamlet, Garongan Village, Panjatan Sub-district	2008	112	10
Harapan Tani	Pleret 1 Hamlet, Pleret Village, Panjatan Sub-district	2012	85	10
Sidomaju	Pleret 2 Hamlet, Pleret Village, Panjatan Sub-district	2012	60	15
Gisik Wonotoro	Bugel 1 Hamlet, Bugel Village, Panjatan Sub-district	2010	125	8
Gisik Pranaji	Bugel 2 Hamlet, Bugel Village, Panjatan Sub-district	2003	120	6
Sewu Rejo Barat	Siliran VI Hamlet, Karangsewu Village, Galur Sub-district	2007	50	10
Sewu Rejo Timur	Siliran VI Hamlet, Karangsewu Village, Galur Sub-district	2006	50	10
Tani Sari	Siliran V Hamlet, Karangsewu Village, Galur Sub-district	2008	70	15
Wahana Tani	Gupit Hamlet, Karangsewu Village, Galur Sub-district	2007	60	10
Sido Dadi	Sidorejo Hamlet, Banaran Village, Galur Sub-district	2015	-	3

Primary Data Processing (2018)

Every auction market has a different number of members depending on the number of farmers in that area. An area with more farmers may hold more than one auction, a condition previously experienced in auction group 3, which is an expansion of the auction group 2. Auction group 2 and auction group 3 are under the same farmer group (Sumber Rejeki). The other auction market, Sewu Rejo Timur, is an expansion of the Sewu Rejo Barat. This expansion happened due to a large area of the hamlet which had to be covered by a single auction market, impeding farmers from selling their products to the auction market. Having 2 auction markets in every hamlet, all farmers can reach it easily and get a decent price.

However, there are also conditions where one village has only one auction market, like The Sido Dadi auction market which facilitates all farmers in the Banaran village. The Sido Dadi auction market is located at the center of the village and is easily accessed by all the farmers.

The Auction Markets Performance

The auction markets performance is known from the score of the input, process, output, outcome, and impact stage. Based on the analysis, 7.70 percent of the auction market was categorized as good, 15.38 percent was categorized enough and 76.92 percent is categorized as not good (Table 4). Most of the auction markets had a problem at the process stage because some activities are not in line with the ideal requirements for a marketing institution. However, the auction market benefits the farmers, especially in terms of the maximum quantity and selling prices, which makes the output stage of the auction market optimal.

Input

Every auction market has a different performance at each stage. At the input stage, almost all of the auction markets did not come up with optimal conditions as they lacked the respective legal entities. Moreover, 23 percent of the auction markets did not have a memorandum of association & article of association (MOA & AoA). All managers knew nothing about the benefit of the legal entity.

The legal entity plays a significant role in case an auction market has a legal dispute with other parties. However, there has never been any problem so far since any arising problems are normally resolved through deliberation. A legal entity is also required when the auction markets are about to receive grants from the government. The MOA & AoA are also needed for managing all the members of auction markets, especially when there is a dispute between members.

Another drawback in the operations of the auction markets is the absence of monitoring from a local government agricultural officer. Ideally, all auction markets require government monitoring. The auction market managers revealed that 85 percent of the auction markets had only received management training once from the government since their establishment while the others (15 percent) had never received any management training. As a result, the managers stated that many times they faced some challenges around price information, fierce competition with the traders, and some other problems. Therefore, it is essential that the government conducts various counseling and information dissemination programs for the development of the auction markets.

In terms of funds, most of auction markets derived their capital from their own management fees and the grants from Bank Indonesia. The management fee is part of the chili

Table 4. The Auction Market Performance in the Sandy Coastal Area

Name	Performance Score						Criteria
	Input	Process	Output	Outcome	Impact	Total	
Auction group 1	9.00	25.00	6.00	2.00	3.00	45.00	Good
Auction group 2	6.00	18.00	6.00	3.00	1.00	34.00	Not Good
Auction group 3	6.00	19.00	6.00	2.00	3.00	36.00	Not Good
Auction group 5	5.00	17.00	6.00	2.00	3.00	33.00	Not Good
Harapan Tani	8.00	20.00	6.00	2.00	3.00	39.00	Enough
Sidomaju	6.00	23.00	6.00	0.00	3.00	38.00	Not Good
Gesik Wonotoro	5.00	20.00	6.00	2.00	3.00	36.00	Not Good
Gesik Pranaji	8.00	20.00	6.00	2.00	3.00	39.00	Enough
Sewu Rejo Barat	7.00	18.00	6.00	2.00	3.00	36.00	Not Good
Sewu Rejo Timur	8.00	18.00	6.00	3.00	1.00	36.00	Not Good
Tani Sari	8.00	18.00	6.00	2.00	3.00	37.00	Not Good
Wahana Tani	7.00	19.00	6.00	3.00	1.00	36.00	Not Good
Sido Dadi	4.00	14.00	6.00	2.00	3.00	29.00	Not Good

Source: Primary Data Analysis (2018)

sale's funds allocated to the auction markets. The management fees varies from one across every auction market has a different amount of management fee. This fee contributes significantly to the development of the auction markets. In addition, the grant from Bank Indonesia's helps the auction market to build some infrastructures. Unfortunately, until now the auction markets do not have any warehouse for agricultural product storage. Consequently, the collected chili rots if it is not sold immediately. In the future, this drawback may lead to the necessity for a quick selling solution for the products in the auction markets, which eventually may result in lower price. However, such probability is relatively low due to the high demand for chili in Indonesia.

The highest score of the input indicator is the continuity of chili supply. All of the auction markets find it easy to obtain chili from farmers. This is because almost all of the sandy coastal farmers cultivate chili and prioritize selling their products to the auction markets.

Process

There are many problems experienced during the process stage, especially related to the organizational structure, distribution supervision, and the duration between delivery and payment. Most of the auction markets did not have any price monitoring and dispute resolution divisions. In fact, only 38 percent of the auction markets, like Gesik Pranaji and Sidomaju, had price monitoring divisions to monitor chili prices in other markets, especially in Kramatjati market (Jakarta). The auction markets with price monitoring divisions also joined the WhatsApp group made for auction markets in Indonesia. This group shares the chili prices in other areas as a price reference for the auction markets.

The auction markets also need a dispute resolution division to deal with conflicts between parties. One of the auction markets has been in conflict because of dishonest traders who failed to make any payment for the chili they had purchased. However, because there was no dispute resolution division, the farmer group, which coordinates that auction market, had to eventually use their deposit funds to pay the farmers.

Another problem decreasing the market performance of the auction market is lack of distribution monitoring. This happens because after the transaction, the buyer is held responsible for the distribution of the chili.

The other indicators that lag the performance of the management process include: lack of promotion and information dissemination about the rules of the auction market, lack of guidelines from the auction market to farmers, and the duration of waiting for payment to farmers after product delivery. The auction markets have never conducted any promotion or offered guidelines to the farmers because they think this is the responsibility of the farmer groups.

Considering the waiting duration as a lagging factor, farmers will normally get their money between 2–6 days after they deliver their product to the auction market. However, farmers would prefer to get their money immediately after they deliver their chili into the auction markets. On the other hand, the auction markets manager explained that they need time to receive payments from traders and to complete sales administration due to the large number of chili transactions.

On the other hand, there are some indicators had good performance, including sorting and grading process, number of open days, application usage, financial reports, incentive and sanction mechanism, and the management fee.

Every auction market highly depends on the duration of the chili harvest period in every farmer group. The harvest season in Kulon Progo is from May to June and from November to October. Most auction markets in the area will open within those months. Once the chili harvest is completed, the auction markets are closed. This turn around does help the farmers because during the harvest season, the chili prices drop rapidly. Here the auction markets facilitate farmers through the use of an auction system to ensure that they get a fair price even during harvest season. Only the Sido Dadi auction market opens all year-round, facilitating even farmers who cultivate chili during the rainy season even in small quantity.

The auction markets manager uses WhatsApp to communicate with other parties. Subejo et al. (2017) argued that the utilization of Information and Communication Technologies (ICTs) to access market information has become increasingly popular among the farmers. The auction markets manager uses ICTs to communicate with the farmer groups' leaders to know the quantity and the quality of the chili product. The manager also communicates with the traders to inform them of the quantity and quality of the chili to be auctioned every day.

Every auction market creates a financial report in two formats. The first one is the report of the daily transaction and the second one is the annual report. The first report is meant for the information of farmers who deliver their products into the auction markets, particularly on payment. The annual report is presented during the annual meeting. This annual meeting is held to ensure transparency and to avoid prejudice in managing the auction markets.

The auction markets have some sanctions, which they apply to tricky farmers and traders. The farmers will be sanctioned through warnings and product rejection if they deliver bad quality chili. On the other hand, when the trad-

ers cheat, they will no longer be trusted and must pay a security deposit following a transaction in all of the chili auction markets in the sandy coastal area.

Every auction market has the management fee mechanism. As an example, auction group 1 applied a fee price rule of IDR 200 per kilogram when the chili price in the auction market is less than IDR 10,000 per kilogram, but when the chili price ranges between IDR 10 000 and IDR 14 999 per kilogram, the fee price will be IDR 300 per kilogram. The fee price will continue to increase according to the increase of chili price. When the chili prices are between IDR 15 000 to IDR 19 999, the management fee will reach IDR 400 per kilogram. Auction group 1 imposes the management fee of IDR 500 per kilogram when the chili price is above IDR 20 000. Every auction market has a different way of management scoring, but normally the management fee will rise alongside an increase in chili price.

The management fees are the main source of income that caters for the salary of managers and administrators of the auction market. The money is also used as a saving or capital for farmer groups to carry out their activities. The farmer groups will help their members who have challenges in accessing funds for chili cultivation, especially for collective purchase of seeds (Raya, 2014b).

Output

The auction markets give many benefits to the farmers. Every auction market sells different chili quantities, but all of the chili products from the farmers must be sold. The auction group 1 auction market can sell up to 100 tons per year; auction group 2 sells up to 40 tons per year; the auction group 3 sells up to 30 tons per year, the auction group 5 sells up to 40 tons per year; The Harapan Tani sells up to 60 tons per year; Sidomaju sells up to 60 tons per year; The Gisik Wonotoro sells up to 30 tons per year; The Gisik Pranaji sells up to 50 tons per year; The Sewu Rejo Timur sells up to 50 tons per year; The Tani Sari sells up to 60 tons per year; The Wahana Tani sells up to 90 tons per year; and The Sido Dadi sells up to 60 tons per year. This success is achieved because the auction market managers and the traders conduct meetings at the beginning of the planting season to discuss the chili varieties to be planted, which are to be bought during the harvest season.

The other indicator of the output stage is the chili price. The farmers get a higher price when selling their products to the auction markets than that they receive from the traders. The gap price between the auction markets' and the traders' comes to ranges from IDR 2000 to IDR 5000 per kilogram.

The other indicator of the output stage is the contract with the buyers or the traders. All of the auction markets have come into an agreed contract with the buyers or traders because the auction markets fear that the contract will interfere the price in every auction system.

Outcome

The outcome indicator is the increase of the auction markets' assets. As the transaction increases, there will be increasing management fee for the auction market, for buying equipment for the auction market.

All of the auction markets do not give business dividends at the end of the year. This is because the farmers benefit directly from the auction markets in every transaction by providing them with the highest price for the farmers' product.

Impact

The auction markets give increased employment and business scale. The increasing transaction on the auction market will reap huge profits for hiring more people, especially young people around the auction market. As a result, this will increase the scale of the farmer's business because there is certainty about the sale of their products. The auction market management fees are also used to provide loans for the members of the farmer groups. These loans help the farmers to cultivate chili and other commodities such as watermelon and melon.

Determinant Factors of the Auction Markets Performance

The estimation in Table 5 is a good model because it is free from multicollinearity and heteroscedasticity. This model also has normality data. The f-statistic result supports the hypothesis that the auction markets' age, the number of administrators, the chili supply, and the auction markets' capital have an effect on the auction markets' performance. However, the t statistic reveals that only the auction markets' age, the number of administrators, and the auction markets' capital have a significant effect on the auction markets' performance (Table 5).

The increasing age of the auction markets correlates with the professionalism of the manager. The oldest auction markets, such as auction group 1 and The Gesik Pranaji, had better performance compared to other auction markets. They can manage their activity stages very well. However, the improvement of professionalism not only depends on the auction markets' age, but also relates to counseling and guidance from the government agricultural officer (Muneer, 2014; Anang & Yanwen, 2014). The counseling that may

Table 5. Performance Determinant Factors for the Chili Auction Markets in the Sandy Coastal Area

Variable	Coefficient	Std. Error	t Statistic	Prob	Correlation			
					AA	AQ	CS	AC
C	20.360	3.476	5.857	0.000				
AA	0.735	0.254	2.895	0.020*)	1.000	0.261	0.134	−0.540
AQ	0.726	0.239	3.039	0.016*)	0.261	1.000	0.398	−0.344
CS	−1.11E−05	4.50E−05	−0.248	0.810	0.134	0.398	1.000	0.340
AC	7.11E−07	3.55E−07	2.002	0.080**)	−0.540	−0.344	0.340	1.000
R-squared		0.758	F-statistic	6.256				
Adjusted R-squared		0.637	Prob (F-statistic)	0.015				
Prob (Normality Test)		0.897						
Prob (White Heteroskedasticity Test)		0.287						

Source: Primary Data Analysis (2018);*) = significant at the 5 percent level, **) = significant at the 10 percent level

improve professionalism is related to many themes such as saving costs for the auction market, improving efficiency and service level, and increasing revenue (Qin et al., 2010).

Adding the number of administrators will improve the auction markets' performance. The auction markets' administrators are needed during the harvest season when the farmers sell their product in the auction markets. Therefore, during this period the auction markets are usually very busy. A bigger number of administrators will fasten the service process in the auction markets. However, the auction market manager must choose good administrators to ensure they work efficiently.

Addition of capital investment will improve the performance of the business institution (Verter, 2017). The addition of capital in the auction markets has many benefits, especially in paying the farmers who supply the auction markets and building some infrastructures. Some farmers, who deposit chili to the auction markets, say they must wait for a long time to receive payments from the auction markets because of the capital limitation. If the auction market has big capital, the payment comes faster and improves the performance of the auction markets.

The auction markets need to build infrastructures, like warehouses, to improve their performance. However, the capital limitation has prevented its implementation. Therefore, it is necessary for the auction markets to collaborate with banks to increase the capital. They may have wider access to micro-finance institutions for large loans for agricultural purposes (Shkodra & Shkodra, 2018).

Conclusion

On the basis of this analysis, it is revealed that most of the auction markets do not have good market performance because of some lagging factors. Some of the problems faced by the auction markets occur in the input and the process stages.

Therefore, it is advised that the auction markets improve their performance by accelerating the selling process, which requires counseling or monitoring from other parties, such as the government or universities. It is suggested that they conduct a counseling program on organizational management (legal entity, the making of a memorandum of association & article of association, organizational structure and its function. Additionally, it is vital for the government to monitor the auction markets continuously to solve the existing problems as soon as possible.

The auction markets also need to collaborate with financial institutions, especially banks. The increase of capital will improve the auction markets' performance, especially by providing the farmers with immediate payment and building some infrastructure (warehouse). The auction markets' manager also need to consider increasing the number of administrators to fasten the service process in the auction markets.

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Received: February, 12, 2019; *Accepted:* October, 8, 2019; *Published:* December, 31, 2020