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Supplier Performance Enhancement for Sugar Product Competitiveness at PG. Rajawali II, Sindanglaut Unit, Cirebon Regency

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Abstract: This study aims to analyze the influence of contract farming, information sharing, and communication quality on supplier performance and its impact on sugar product competitiveness at PG. Rajawali II Sindanglaut Unit, Cirebon Regency. The research method used was quantitative with a survey approach involving 110 sugarcane farmers selected through proportional random sampling. The data were analyzed using Structural Equation Modeling (SEM) with SmartPLS. The results indicate that contract farming, information sharing, and communication quality significantly affect supplier performance. Furthermore, supplier performance is proven to enhance sugar product competitiveness. The contract farming variable contributes the largest total effect (0.417), followed by communication quality (0.460) and information sharing (0.179). These findings confirm that effective collaboration between farmers and sugar factories, supported by transparent communication and accurate information sharing, is a key factor in improving product competitiveness. The implications of this study highlight the need to strengthen partnerships through sustainable contract farming, enhanced information access, and improved communication quality between suppliers and producers.

Keywords: Performance, Competitiveness, Contract Farming, Information Sharing, Communication Quality, Sugarcane Supply Chain.

INTRODUCTION

Sugar is a primary necessity for all societal layers, serving as a source of calories for the body. It is essential as the main sweetener in the food and beverage industry to enhance flavor, both industrially and domestically. The significant role of sugar causes national demand to increase yearly, driven by the scarcity of other safe sweetening alternatives. Household sugar consumption reached 6.32 kg per capita per year in 2022 but decreased to 5.80 kg per capita per year in 2023. Overall, average sugar consumption is approximately 7.3 million tons per year, consisting of 3.2 million tons of consumed sugar (white crystal sugar/WCS) and 4.1

million tons of industrial sugar (refined crystal sugar/RCS)(Yani Supriyati, 2024). However, despite high demand, national sugar production has declined. The Agricultural and Plantation Modernization Council revealed that national sugar production reached 2.4 million tons in 2022 but dropped to 2.3 million tons in 2023. This results in an an nual sugar deficit of 4.9 million tons.

The data shows that the demand for sugar in Indonesia cannot be met by domestic sugar producers, so the country must act as an importer. Therefore, the government has issued a policy requiring sugar producers to increase production in order to maintain national sugar availability. However, the productivity of sugarcane, which is the main raw material for sugar, continues to decline due to reduced land area due to climate change and declining interest in sugarcane farmers, this is a major challenge in increasing sugar productivity in Indonesia. (Terresa Indrajani Kusuma, Rahaditya Dimas Prihadianto, & Silvi Istiqomah, 2024) Several factors that need to be considered in increasing sugarcane productivity from upstream to downstream include yield, cultivation techniques used, sugarcane varieties, irrigation systems, transportation access, and the performance of sugar supplier farmers and producers.(Suryana, 2025) To overcome this, the Ministry of Agriculture is trying to make improvements through optimizing land intensification and extensification programs, renewing the sugarcane purchasing system from farmers, and a partnership model between farmers and sugar factories. (Silalahi, 2024)

The implementation of supply chain management in the food industry, especially sugar, is very important to improve and maintain stability related to production, productivity, quality, price protection from uncertainty, and improving supply chain performance (Magfiroh, 2020). In this era, many companies are starting to realize that a good supply chain strategy will have an impact on their competitiveness. A study conducted by (Magfiroh, 2020) revealed that the sugar supply chain from upstream to downstream generally includes:

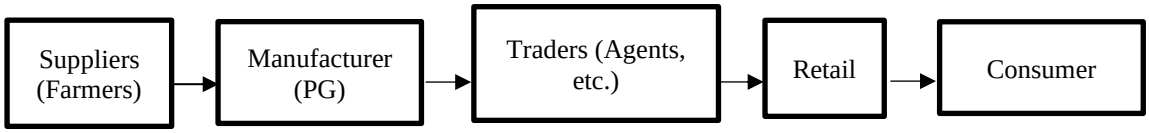


Figure 1. Sugar Supply Chain Diagram

In this case, it is important to pay attention to the performance of suppliers as the first party in the sugar supply chain. Improving supplier performance can be supported through partnership strategies. According to (Widyadana, Octavia, Palit, & Gunawan, 2014). Partnership strategies can be applied in the fresh agriculture sector and can provide benefits to stakeholders. This partnership strategy is known as contract farming. In developing countries, contract farming is agreed upon as a promising policy to help small farmers gain access to finance, information, and risk management. (CC Chang, 2006). (Abebe, Bijman, Kemp, Omta, & Tsegaye, 2013) And (Ayu, Giantari, Nyoman, & Yasa, 2021) agreed that contract farming can benefit both suppliers and producers in terms of revenue and business process continuity. (Khan, Nakano, and Kurosaki, 2019) defines contract farming as a condition where farmers are willing to contribute to the supply chain of raw materials for the company in agreed quantities and quality, including production processes, prices and other conditions.

The formation of sugarcane farmer partnerships helps expand access to raw materials, although it does not completely address the risk of failing to meet national sugar production targets during the milling season. Research by (Hudnurkar and Rathod, 2017) And (Ayu et al., 2021) found that contract farming or supplier partnerships can have a positive impact on supplier performance and competitiveness through innovation capabilities. Collaboration drives supplier contributions. Supplier performance in improving competitiveness is also

influenced by information sharing. Information sharing includes access to capital, cultivation information, and market data. Information sharing has a positive impact on supplier performance because it allows producers to respond quickly to price and service requests. (Elwan Ibrahim, 2012) (Mufaqih, Indarti, Ciptono, & Kartikasari, 2017): (Guan, Zhang, Zhou, & Dan, 2020).

To build and leverage supplier relationships, manufacturers must develop information sharing values such as training and other supporting activities to encourage quality communication between suppliers and production companies. Communication is one of the key factors to improve the quality of collaboration in the supply chain. (Nguyen, Onofrei, Akbari, & McClelland, 2022) In addition to contract farming and information sharing, researchers also highlighted the problem of communication quality between sugarcane farmers and sugar factories, due to the lack of communication frequency. This is because field officers (Regional Garden Sinder) are not only responsible for one farmer but also for several assisted farmers. (Prahinski, 2007) And (Nguyen et al., 2022) agreed in their research that communication quality can strengthen commitment and knowledge development for suppliers in adapting to quality and innovation, which ultimately helps improve supplier performance. Previous research by (Roethlein & Ackerson, 2004) found that the communication relationship between manufacturers and suppliers is at the heart of the supply chain.

Therefore, this study was conducted to examine strategies to improve the competitiveness of sugar products through factors such as contract farming, information sharing, communication quality, performance and competitiveness. The researcher conducted a survey of sugarcane farmers who partnered with sugar production companies in Cirebon Regency, West Java Province, Indonesia. The researcher found an interesting phenomenon in the partnership between sugarcane farmers and producers in maintaining and improving the competitiveness of sugar produced through the supplier performance approach in this study.

METHODS

This research uses a quantitative approach. According to (Sugiyono, 2020) Quantitative research is a type of research whose data is presented and then analyzed using statistical tests. Descriptive research activities using the survey method include collecting data to test hypotheses or answer questions about the current condition of the research subject. To collect explanatory data, researchers use a scoring system for each respondent's answer. The score is calculated using a Likert scale: Strongly Agree (SA) = 5, Agree (A) = 4, Neutral (N) = 3, Disagree (DA) = 2, and Strongly Disagree (SDA) = 1.

This research was conducted at PG Rajawali II Unit PG Sindang Laut, Lemahabang District, Cirebon Regency. The location of the study was selected purposively, considering the existence of a sugar factory in Sindanglaut. The population in this study were farmers as sugar cane suppliers of PG Rajawali II Unit PG Sindang Laut which covers the areas of Cirebon, Majalengka, and Kuningan Regencies, totaling 523 farmers. The sample size was 110 respondents, calculated using the formula of the number of indicators multiplied by the number of latent variables (Hair et al., 2021).

The sampling technique used in this study is Proportional Random Sampling. The proportion of each subgroup (stratum) in the population is accurately represented in the sample. The data in this study include primary and secondary data, collected through questionnaires and observations. Data analysis includes instrument validity and reliability tests, followed by the Structural Equation Modeling (SEM) approach using SmartPLS.

The Conceptual Framework can be seen in Figure 2:

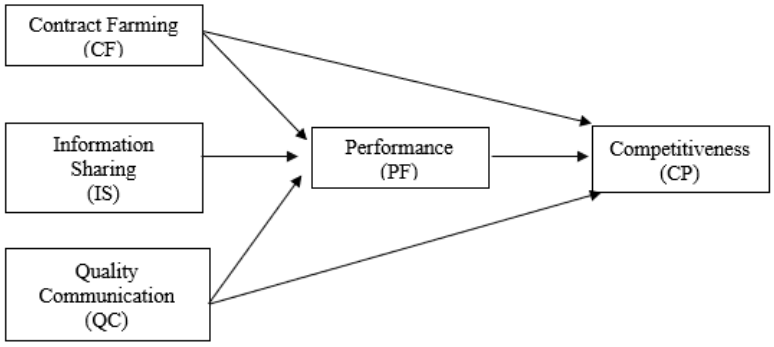


Figure 2. Conceptual Framework

RESULTS AND DISCUSSION

Results

1. Evaluation of Measurement Model

a. Validity Test Results

In the validity testResearchers use several tests that represent discriminant validity and convergent validity tests. This test aims to determine the validity of the relationship between each indicator and its construct or latent variable. (I. Ghozali, 2016). In convergent validity testing, it can be assessed based on outer loading with the loading value criteria.The high outer loading indicates the many similarities in the construct. The minimum value of outer loading is 0.7. (Hair et al., 2021). The following are the results of the outer loading test which can be seen in Table 1:

Table 1. Loading Factors

Variable/Item	Factor Loading	Variable/Item	Factor Loading
Contract Farming		**Performance**	
Contract Farming 1	0.778	Performance 1	0.813
Contract Farming 2	0.763	Performance 2	0.812
Contract Farming 3	0.752	Performance 3	0.798
Contract Farming 4	0.787	Performance 4	0.802
Contract Farming 5	0.811	Performance 5	0.822
Contract Farming 6	0.774	Performance 6	0.821
Contract Farming 7	0.800	Performance 7	0.843
Contract Farming 8	0.779	Performance 8	0.811
Contract Farming 9	0.807	**Competitiveness**	
Contract Farming 10	0.799	Competitiveness 1	0.796
Information Sharing		Competitiveness 2	0.836
Information Sharing 1	0.788	Competitiveness 3	0.796
Information Sharing 2	0.773	Competitiveness 4	0.855
Information Sharing 3	0.817	Competitiveness 5	0.820
Information Sharing 4	0.826	Competitiveness 6	0.829
Information Sharing 5	0.815	Competitiveness 7	0.795
Information Sharing 6	0.791	Competitiveness 8	0.811
Information Sharing 7	0.824		
Information Sharing 8	0.838		
Information Sharing 9	0.819		

Information Sharing 10	0.830
Quality Communication	
Quality Communication 1	0.846
Quality Communication 2	0.788
Quality Communication 3	0.799
Quality Communication 4	0.805
Quality Communication 5	0.750
Quality Communication 6	0.831
Quality Communication 7	0.791
Quality Communication 8	0.822

Source: SEMPLS, 2025

According to Table 1, this leads to the conclusion that all indicators of each variable, namely Agricultural Contracts, Information Sharing, Communication Quality, Performance, and Competitiveness have a Loading Factor value greater than 0.7 (outer loading value ≥ 0.70). Thus, these indicators are declared valid or meet the required criteria. (Sekaran & Bougie, 2016).

Convergent validity reflects how well a construct captures the variance of its associated indicators. It is commonly assessed through the Average Variance Extracted (AVE), which quantifies the proportion of variance explained. As noted by (Hair et al., 2021) an AVE value above 0.5 suggests that the construct accounts for more than half of the variance in its indicators, supporting its convergent validity.

Table 2. AVE values

	Average Variance Extracted (AVE)
Competitiveness	0.668
Contract Farming	0.616
Information Sharing	0.660
Performance	0.664
Quality Communication	0.647

Source: SEMPLS, 2025

Based on3353ronb above, it can be seen that the AVE value for the five variables exceeds 0.50. Therefore, it can be concluded that all variables meet the requirements of convergent validity. All constructs have AVE values above 0.50, indicating that each variable has good convergent validity. The highest AVE value is owned by Competitiveness (0.668) and the lowest by Contract Farming (0.616), but all meet the minimum criteria.

b. Reliability Test

Reliability refers to the consistency of a measuring instrument, such as a questionnaire, in assessing5Ronbach5variables or constructs. (Imam Ghazali, 2009). The questionnaire is considered reliable if the individual's response to its statements remains consistent or stable over time. Reliability reflects a model’s stability, consistency, and predictive accuracy. To assess internal consistency in the outer model, Cronbach's alpha and composite reliability are used. Cronbach's alpha measures indicator correlation within a construct, while composite reliability considers differences in outer loadings. Values above 0.7 for both indicate acceptable reliability (Hair et al., 2021).

Table 4. Reliability Test

	Cronbach's Alpha	Composite Reliability
Competitiveness	0.929	0.942
Contract Farming	0.931	0.941
Information Sharing	0.943	0.951
Performance	0.928	0.941
Quality Communication	0.922	0.936

Source: SEMPLS, 2025

The results presented in the table indicate that all latent variables satisfy the reliability criteria. Both the Cronbach's alpha and composite reliability values exceed the threshold of 0.7, confirming that each construct demonstrates adequate internal consistency. Consequently, all latent variables can be considered reliable according to the established measurement standards.

2. Structural Model Testing

Evaluation of the structural model indicates that the measurement instrument has met the required standards. The visualization of the SEM-PLS analysis results through the Bootstrapping method is presented in Figure 3 below.

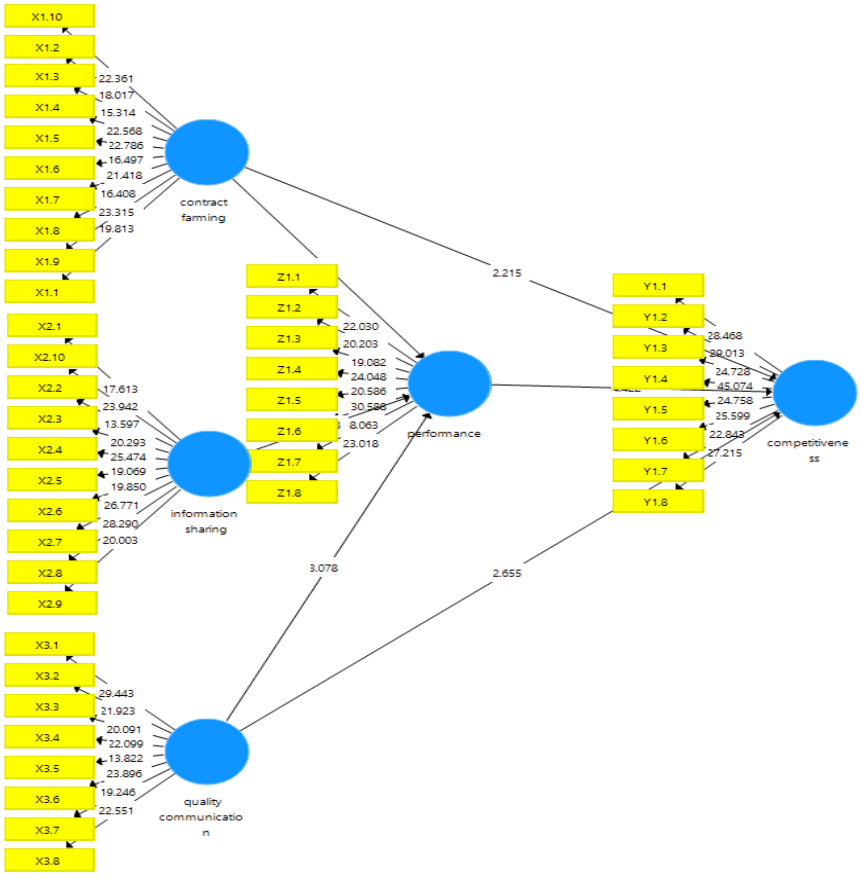


Figure 3. Model Analysis Results

a. *R-Square (R^2)*

The R-Square test is used to evaluate how well the model can explain the variation of the dependent variable, which is measured using the Adjusted R-Square. Its value ranges from 0 to 1, with the effect considered stronger if it is closer to 1. In this study,

the adjusted R^2 value is used because the model contains more than two independent variables. (Hudin, Farlina, & Denny, 2019).

A model's explanatory power reflects how well it fits the observed data, often assessed through the strength of relationships represented in the PLS path model. The most widely used metric for this purpose is the coefficient of determination (R^2), which gauges the predictive accuracy of the structural model. Higher R^2 values indicate stronger explanatory capability and a more robust predictive model. The table presents the results of the analysis regarding these values.

Table 5. R-Square

	R Square	R Square Adjusted
performance	0.502	0.488
competitiveness	0.699	0.691

Source: SEMPLS, 2025

The R Square value of 0.502 for Performance indicates that 50.2% of the variability in Performance is explained by Farming Contracts, Information Sharing, and Communication Quality. While the R Square for Competitiveness of 0.699 indicates that 69.9% of the variability in this variable can be explained by the variables Farming Contracts, Communication Quality, and Performance. Adjusted R Square supports the stability of the model.

b. Hypothesis Testing

At this stage, the direct effect hypotheses were tested using the Path Coefficient, which assesses the strength of causal relationships between latent variables—namely Contract Farming, Information Sharing, Communication Quality, Competitiveness, and Performance. The analysis focuses on both the path coefficient and the corresponding *t*-value. A path coefficient closer to 1 indicates a strong positive relationship, while values near 0 suggest a weaker connection within the model. The *t*-value, on the other hand, determines the statistical significance of these relationships at a given error level. In this study, a 5% significance level was applied, requiring *t*-values greater than 1.96 to confirm significance (Hair, Risher, Sarstedt, & Ringle, 2019). The corresponding path coefficients and *t*-values are summarized in the table below.

Table 6. Hypothesis Testing

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
contract farming -> competitiveness	0.230	0.232	0.089	2,576	0.020
contract farming -> performance	0.353	0.356	0.114	3.109	0.002
information sharing -> performance	0.338	0.339	0.117	2.902	0.004
performance -> competitiveness	0.528	0.533	0.119	4.431	0.000
quality communication -> competitiveness	0.278	0.272	0.107	2,607	0.009
quality communication -> performance	0.345	0.350	0.109	3.164	0.002

Source: SEMPLS, 2025

The analysis results indicate that Information Sharing significantly influences both Performance and Competitiveness. Similarly, Farming Contracts and Communication Quality also show a meaningful direct impact on these two variables. Additionally, Performance itself exerts a significant direct effect on Competitiveness. These findings suggest that enhancing information exchange, strengthening farming agreements, and improving communication quality can boost performance, which subsequently contributes to greater competitiveness.

The results of the Hypothesis Test show the following:

- Show Variables Farming Contracthas a real and significant influence on the Competitiveness Variable, with a Path Coefficient value = 0.230 (23%), T-statistic = 2.326 > 1.96 and P-Value = 0.020 < 0.005, it is stated that H1 is accepted.
- Showing Farming Contract Variableshas a real and significant influence on the Performance Variable, with a Path Coefficient value = 0.353 (35.3%), T-statistic = 3.109 > 1.96, and P-Value = 0.002 < 0.005, H2 is accepted.
- Showing Information Sharing Variableshas a real and significant influence on the Performance Variable, with a Path Coefficient value = 0.338 (33.8%), T-statistic = 2.902 > 1.96 and P-Value = 0.004 < 0.005, it is stated that H3 is accepted.
- Showing Performance Variableshas a real and significant influence on the Competitiveness Variable, with a Path Coefficient value = 0.528(52.8%), T-statistic = 4.431 > 1.96 and P-Value = 0.000. < 0.005, it is stated that H4 is accepted.
- Shows the influence of Communication Quality has a real influence on the Competitiveness Variable, with a Path Coefficient value = 0.278 (27.8%), T-statistic = 2.607 > 1.96 and P-Value = 0.009 < 0.005, H5 is accepted.
- Shows the influence of Communication Quality has a real and significant influence on the Performance Variable, with a Path Coefficient value = 0.345 (34.5%), T-statistic = 3.164 > 1.96 and P-Value = 0.002 < 0.005, it is stated that H6 is accepted.

c. Total Effect

Table 7. Total Effect

	competitiveness	contract farming	information sharing	performance	quality communication
competitiveness					
contract farming	0.417			0.353	
information sharing	0.179			0.338	
performance	0.528				
quality communication	0.460			0.345	

Source: SEMPLS, 2025

The total effect of each variable on Competitiveness shows that Performance has the largest total influence of 0.528 (52.7%), followed by Contract Farming. 0.417 (41.7%), andCommunication Quality 0.460 (46%).All three show a significant overall positive contribution to competitiveness.

The total effect of each variable on Performance shows that Contract Farming has the largest total effect of 0.353 (35.3%), followed by Communication Quality 0.345 (34.5%), and Information Sharing 0.338 (33.8%). All three show a significant positive contribution overall to Performance.

Discussion

Based on the table above, the results of the hypothesis testing show the following decisions:

The Impact of Farming Contracts on Performance

Based on the table above, the T value for Contract Farming → Performance is 3.109 with a significance value of 0.002 <0.05 which means H1 is accepted. This means that the Contract Farming process given to farmers is carried out effectively and significantly affects performance, improving the relationship between suppliers and companies. This is in line with research conducted by Rosanti et al., (2020) who found that contract farming can have a positive impact on organic farming performance by increasing productivity, efficiency, and farmer income. Contract farming can increase farmer access to markets and technology, which in turn can increase the productivity and quality of organic farming products. Research by Liang et al., (2023) which states that farmers involved in contract farming experience increased productivity, these contracts provide farmers with access to quality inputs and training, which contributes to better crop yields.

Findings from Ogunleye & Ojedokun, (2022) shows that contract farming has a positive impact on supplier (farmer) performance in Nigeria, with results showing improvements in productivity, income and market access for farmers involved. This is in line with research conducted by (Kanburi Bidzakin, Fialor, Awunyo-Vitor, & Yahaya, 2019) which shows that contract farming significantly improves the performance of rice farmers, especially in terms of yields, contract farming can also help smallholder farmers in gaining access to markets and improving production efficiency, which in turn helps increase their household incomes and ensure food security.

Thus, contract farming has a significant impact on supplier performance, by increasing productivity, income, and relationships in the supply chain. These good relationships can increase trust and collaboration, which ultimately contribute to improving the overall performance of the supply chain. Therefore, contract farming can be considered as an important instrument in improving supplier performance and overall increasing the efficiency of sugarcane production at PG Rajawali Unit II Sindanglaut.

The Impact of Information Sharing on Performance

Based on the table above, the T value for Information Sharing → Performance is 2.902 with a significance value of 0.004 < 0.05, which means H2 is accepted. This indicates that the process of sharing information provided to farmers is carried out effectively and contributes significantly to farmer performance in the supply chain system, which can strengthen the relationship between suppliers and companies. This shows that information sharing can improve farmers' understanding and positive perceptions, which in turn encourages them to improve their performance. This finding is consistent with previous research presented by Kusmantini et al., (2023)**,** which shows that the more information is communicated between suppliers and their partners, the greater the opportunity to improve business performance. Information sharing has a positive and significant impact on supply chain performance. which means that the better the information sharing practices, the higher the supply chain performance achieved (Delfinia, Mukhsin, & Satyanegara, 2025).

Information sharing in the supply chain context has been shown to have a significant positive impact on supplier performance. Research by Nazifa & Ramachandran, (2018) shows that effective information sharing between suppliers and buyers can improve supplier performance and finances. This finding indicates that transparency and good communication in the information sharing process can strengthen the relationship between suppliers and buyers, which ultimately contributes to improving overall performance. In addition, research by Alavi Fard et al., (2019)also confirmed that sharing timely and accurate information can

reduce uncertainty in the supply chain, which contributes to improved supplier performance. This suggests that shared information not only improves efficiency but also helps suppliers make better decisions. This finding is in line with research presented by Kusmantini et al., (2023), which states that accurate and timely information on changes in demand and raw materials is critical to improving responsiveness and efficiency in the supply chain.

It is also stated that timely and accurate information helps in better decision making, which in turn improves supplier performance. This was revealed in a study by Grimm (2008). The process of sharing information will help companies and suppliers to have a better understanding of each other's operations, which can contribute to improving supplier performance, as explained by Baah et al., (2022) and encourage farmers to improve their performance.

The Influence of Communication Quality Variables on Performance

Based on the table above, the T value for Communication Quality → Performance is 3.164 with a significance value of 0.002 > 0.05 which means H3 is accepted. Thus it can be concluded that Communication Quality has a significant influence on Performance. This finding is consistent with previous research conducted by (Kim, Kim, Park, Lee, & Lee, 2020) empirically confirms that communication quality has a significant influence on team performance because open and quality communication is believed to strengthen relationships between individuals in the organization, thus having a positive impact on overall performance achievement. ResearchHH Chang et al., (2011) emphasizes that the level of clarity, completeness, and accuracy of communication between team members greatly determines the extent to which the team can achieve its goals effectively. The quality of communication does not only include the content of the message, but also involves the communication channels used, the speed of information exchange, and the appropriateness of the cultural context between team members.

Based on these findings, this research significantly supports the research conducted by Ferdanto & Ocky Sundari, (2023) states High quality communication allows superiors to convey instructions clearly, provide a friendly and caring understanding, and demonstrate a commitment to healthy working relationships. The quality of communication in supply chain management will have a positive impact on the actors involved in it, this is clearly proven by (Ahmed, Asim, & Manzoor, 2020) that the quality of communication between the company and suppliers is proven to be a significant determinant factor in shaping supplier satisfaction. Open, timely, and responsive communication has a positive and significant impact on the perception of satisfaction from the supplier side.

The Influence of Performance Variables on Competitiveness

Based on the table above, the T value for Performance → Competitiveness is 4.356 with a significance value of 0.000 <0.05, which means that H4 is accepted. Thus, it can be concluded that Performance has a significant effect on Competitiveness. This shows that the performance of sugarcane suppliers plays an important role in increasing the competitiveness of sugar products. A number of empirical studies have shown that supplier effectiveness and efficiency not only support the smooth running of operational processes but also make a significant contribution to the creation of added value in the final product. A study conducted by (Nature & Tui, 2022) emphasized the positive and significant relationship between a company's capabilities including its supplier performance and its competitive advantage. The findings highlighted that close collaboration with supply chain partners, such as suppliers, can improve market response, product quality, and customer satisfaction, which ultimately strengthens the company's competitive position. Similar findings were reported by J uniarto et al., (2021),

which found that supplier performance has a significant impact on supply chain performance, which is a key foundation in building a company's overall competitiveness.

From this perspective, the role of suppliers is no longer seen as merely a supporting function, but as a strategic partner in creating competitive advantage. Performance variables such as product quality, on-time delivery, cost efficiency, and responsiveness used in this study are in line with the findings Ida Farida & Doddy Setiawan, (2022) They argue that companies that are able to develop business strategies based on product excellence, high-quality services, and cost efficiency are better prepared to compete in a dynamic and competitive market. Furthermore, adaptively formulated strategies enable companies to generate innovations that not only result in product differentiation but also strengthen their market position in a sustainable manner.

The Influence of Contract Farming Variables on Competitiveness

Based on the table above, the T value for Contract Farming → Competitiveness is 2.326 with a significance value of 0.020 <0.05, which means H5 is accepted. Therefore, it can be concluded that Contract Farming has a significant effect on Competitiveness. This means that Contract Farming plays an important role in determining the competitiveness of sugar products at PG Rajawali II Unit Sindanglaut.

The consistency of the results of this study is supported by several previous studies, including research Hoang et al., (2021) which reveals that contract farming has the potential to increase farmer competitiveness through increased access to modern technology and more secure markets. In addition,(Bellemare & F., 2015)in his research entitled "Contract Farming: What's in It for Smallholder Farmers in Developing Countries?" also found that contract farming significantly contributes to increasing the productivity and income of small-scale farmers. The main mechanism is through knowledge transfer, provision of quality agricultural inputs, and guarantees of purchasing harvests that provide economic certainty for farmers.

In the context of the sugar industry at PG Rajawali II Sindanglaut Unit, the implementation of contract farming provides dual benefits. First, sugarcane farmers get certainty of price and marketing of their harvest, thus reducing the risk of price fluctuations in the market. Second, farmers gain access to modern agricultural technology such as superior seeds, subsidized fertilizers, and technical training which in turn increase the productivity and quality of the sugarcane produced. The combination of market certainty and increased production capacity has a direct impact on increasing the competitiveness of the sugar products produced.

The Influence of Communication Quality Variables on Competitiveness

Based on the table above, the T value for Communication Quality → Competitiveness is 2.607 with a significance value of 0.009 <0.05, which means that H6 is accepted. Therefore, it can be concluded that Communication Quality has a significant effect on Competitiveness. This positive relationship indicates that effective communication between sugarcane farmers as suppliers and sugar factories as producers plays a crucial role in creating better coordination, reducing information asymmetry, and accelerating responses to market dynamics. In the context of this study, communication quality as measured by indicators such as message clarity, frequency of interaction, and accuracy of information delivery has been shown to provide a real contribution to increasing the competitiveness of sugar products.

Several previous studies have proven a positive relationship between communication quality and competitiveness. (Hardana & Pratiwi, 2023) which states that communication quality plays an important role in increasing competitiveness by increasing stakeholder trust and synergy. Nguyen et al., (2022) specifically confirms that in the agribusiness context, transparent and responsive communication increases innovation capacity (β=0.42) while

reducing contract disputes. This finding strengthens the proposition that increasing the frequency of interaction (as measured by the indicators of this study) can be a catalyst for increasing competitiveness.

Overall, communication quality plays an important role in improving a company's competitiveness. Effective communication can increase trust, innovation, and corporate image, all of which contribute to a competitive advantage in the market. Therefore, companies need to focus on improving communication quality as a strategy to compete better in their industry.

CONCLUSION

Based on the analysis results, this study concludes that farming contracts, information sharing, and communication quality have a positive and significant influence on the performance of sugarcane suppliers at PG. Rajawali II Unit Sindanglaut. Increased supplier performance directly contributes to increasing the competitiveness of sugar products. Farming contracts not only provide market and price certainty for farmers but also facilitate the transfer of knowledge and technology, which in turn increases productivity. Meanwhile, information sharing reduces information asymmetry and uncertainty, while communication quality strengthens coordination and trust between suppliers and producers. Overall, these findings confirm that the integration of these three variables in sugarcane supply chain management can be an effective strategy to achieve competitive advantage. Practical recommendations from this study include strengthening partnership programs, increasing farmer capacity through training, and developing a more responsive and structured communication system. Further research could expand the sample scope or explore additional variables, such as the role of technology in supporting supply chain performance. Additionally, future studies could compare the influence of different types of farming contracts to determine which has a greater impact on supplier performance.

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