

Strategy to improve supplier performance for product competitiveness in the fried onion supply chain in Kuningan Regency

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ABSTRACT

Keywords:

commitment

trust

information sharing

supplier performance

competitiveness

This study aims to determine strategies that have proven to be effective in improving supplier performance. This study uses SmartPLS SEM (Partial Least Squares - Structural Equation Modeling) software for analysis. The results show that the variables of commitment, trust, information sharing, and supplier performance affect competitiveness by 0.294 (29.4%), 0.133 (13.3%), 0.587 (58.7%), respectively. Meanwhile, commitment, trust, and information sharing affect supplier performance by 0.359 (35.9%), 0.055 (05.5%), 0.599 (59.9%) and 0.417 (41.7%), respectively. Moreover, the variable of information sharing has a significant effect on supplier performance (P0.05). This study provides valuable insights and practical recommendations for organizations looking to improve their supply chain management and strengthen supplier relationships, contributing to the broader understanding of performance optimization in supplier networks. In addition, it is also useful as a reference for fried onion suppliers in order to improve performance.

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INTRODUCTION

Supply chain performance has a crucial role in today's increasingly fierce business competition. An optimized supply chain can provide a huge competitive advantage for a company, while an inefficient or unresponsive supply chain can lead to increased costs, lost customers, and a decline in brand reputation. Supply chain performance refers to the quality of activities related to the flow and movement of goods, from raw materials to the end consumer, including aspects of information and funds. This performance was measured using four indicators adapted from Munizu (2017).

Factors that are considered influential can improve supplier performance, namely commitment, trust, and sharing information to improve supplier performance, namely with the company (Juniarto et al., 2021). Companies and suppliers need mutual trust and information openness between suppliers and companies to improve business efficiency as well as good relationships to build long-term and improve performance in the supply chain. Long-term relationships require commitment from the parties involved (Herrera & De Las Heras-Rosas, 2021; Stewart & Alrutz, 2012). Commitments between buyers and suppliers play an important role in ensuring the company's healthy operations to improve performance.

Trust is the cornerstone of business. Trust in long-term relationships with customers is essential to creating loyalty. Trust has an important role in reducing uncertainty and creating stability in the supply chain performance relationship (Alshurideh et al., 2022; Faruquee et al., 2021). In addition, a high level of trust and commitment can support the company's successful performance in supply chain performance (Mukhsin, 2017).

Information sharing is also a key element in the success of the supply chain (Hastig & Sodhi, 2020; Yadav & Singh, 2020). Information sharing is interpreted as the intensity and ability of an organization to exchange information with other parties involved in business relationships (Feliipe et al., 2020; Kmiecik, 2020). Dynamic consumer demand requires companies to always have access to accurate information. Companies can avoid the bullwhip effect through the provision of quality information (Peña et al., 2021; Yang et al., 2021). Performance is defined as the ability to complete tasks that show the level of work competence.

Supply chain management performance is the company's ability to meet consumer needs in terms of cost and quality.

Competitiveness is the ability of an organization to create a position that can be defended in the face of competition (Chih-Yi & Bou-Wen, 2021; Morais et al., 2021). Supply chain competitiveness refers to the ability of a company's supply chain to provide superior value to customers better than its competitors. This involves various aspects such as operational efficiency, product and service quality, responsiveness to market demand, flexibility in dealing with change, as well as sustainability and innovation.

The role of suppliers will determine the smooth production process and the quality of the products to be produced (Sarkar et al., 2021; Sharma & Joshi, 2023). The quality of raw materials from suppliers greatly affects the level of quality of products that a company can produce. Each supplier has its own strengths and weaknesses, so it takes a careful assessment before placing an order. In today's competitive business environment, the issue of supplier selection is very important (Juniarto et al., 2021).

Based on the results of the preliminary survey, in May 2024 the facts were obtained that there are 10 fried onion factories, each of which has a different number of suppliers. Suppliers for the factory in Taraju village are not fixed, depending on the quality of the raw materials delivered and in accordance with the company's SOP standards. The price that the supplier sets determines the company chooses the supplier. If the price does not match the company then the company will choose another supplier. The price of shallots in the market is fluctuating because it is not available at all times.

The production of shallots is seasonal, while the fried onion business is not seasonal, so the sustainability of the fried onion business depends on the performance of suppliers. The obstacle that often occurs from some companies regarding suppliers is the delivery of raw materials that do not arrive on time and the demand for raw materials that are not suitable as in the initial agreement will send good quality onions but those who come instead are the opposite. Good supplier performance will support the company to continue to produce so that it will have a good impact on supply chain performance. However, if the supplier's performance is not good, it will also affect the performance of the supply chain. The good or bad performance of suppliers is influenced by several variables that can only be known through research.

This study aims to determine strategies that have proven to be effective in improving supplier performance. The research contribution lies in identifying and determining effective strategies that enhance supplier performance. By focusing on proven approaches, this study provides valuable insights and practical recommendations for organizations looking to improve their supply chain management and strengthen supplier relationships, contributing to the broader understanding of performance optimization in supplier networks. In addition, it is also useful as a reference for fried onion suppliers in order to improve performance.

The hypotheses used in this study are:

- 1) H1 : Commitment has a positive effect on supply chain performance
- 2) H2 : Trust has a positive effect on supply chain performance
- 3) H3: Various information has a positive effect on supply chain performance.
- 4) H4 : Supplier performance has a positive effect on competitiveness
- 5) H5 : Commitment has a positive effect on competitiveness
- 6) H6 : Sharing information has a positive and significant effect on competitiveness

METHOD

This study involved a population of companies and suppliers of shallots that supply to fried shallot companies in Taraju Village, Sindangagung District, Kuningan Regency. The research sample was taken using the probability sampling method, with the sample size determined based on the formula from Hair et al., resulting in 150 respondents. Measurements were made using the Likert Scale to determine the score of the respondents' responses, with five answer choices from "Strongly Agree" to "Strongly Disagree," each of which was scored from 5 to 1.

Data testing was conducted using SmartPLS SEM (Partial Least Square - Structural Equation Modeling) software to analyze the relationship between latent variables. Outer model analysis ensures the validity and reliability of the measuring instrument by looking at the convergent validity, composite reliability, and Cronbach's alpha values. Inner model analysis tests the relationship between latent constructs using the R Square value. Hypothesis testing is conducted by looking at the t-statistic and probability values, where the hypothesis is accepted if the t-statistic value is > 1.96 or $p < 0.05$.

RESULTS AND DISCUSSION

This study collected data from shallot farmers and fried shallot companies in Kuningan Regency, West Java. Questionnaire Data Recap: Recap the data from the questionnaire and change the format to Comma Delimited or CSV. Figure 1 below shows the results of the SEM-PLS analysis using Bootstrapping.

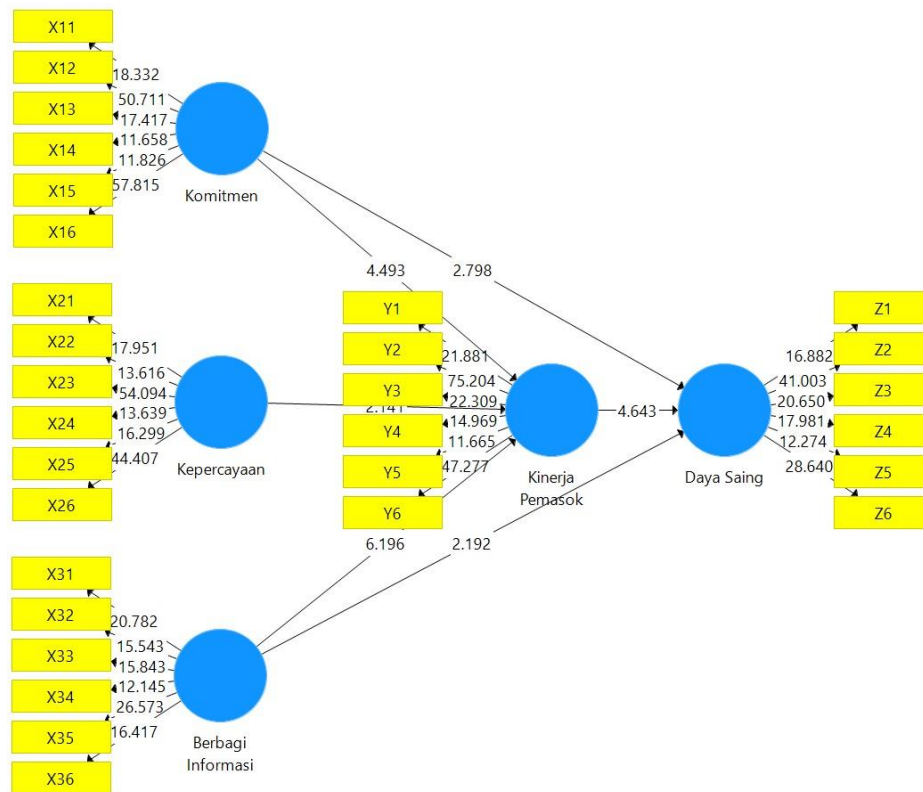


Figure 1. Data Analysis Results (Smart PLS)

The results of research on fried onion farmers and companies on variables X1 (Commitment), X2 (Trust), X3 (Information Sharing), Y (Supplier Performance) and Z (Competitiveness).

This study makes six hypotheses that require testing to explain their acceptance and rejection. Two criteria used in testing are statistical values and path coefficients. If the statistical value exceeds the t table, the hypothesis is accepted with a prediction error of 5%, which is 1.96. A positive path coefficient indicates that a variable affects another variable, while a negative coefficient indicates the opposite effect on another variable.

Validity Test

Table 1. Validity Test

	Sharing Information	Competitiveness	Trust	Supplier Performance	Commitment
X11	0.671	0.723	0.408	0.722	0.807
X12	0.782	0.817	0.550	0.835	0.910
X13	0.734	0.756	0.563	0.758	0.797
X14	0.656	0.714	0.623	0.690	0.751
X15	0.654	0.695	0.433	0.655	0.732
X16	0.768	0.845	0.586	0.822	0.919
X21	0.479	0.491	0.794	0.459	0.432
X22	0.516	0.533	0.802	0.519	0.532
X23	0.526	0.556	0.902	0.566	0.522
X24	0.410	0.521	0.739	0.524	0.490
X25	0.568	0.610	0.727	0.613	0.589
X26	0.484	0.544	0.889	0.526	0.527
X31	0.818	0.772	0.477	0.749	0.691
X32	0.833	0.763	0.469	0.748	0.739
X33	0.793	0.729	0.473	0.727	0.658
X34	0.775	0.707	0.591	0.715	0.661
X35	0.830	0.765	0.516	0.782	0.716
X36	0.785	0.762	0.471	0.744	0.723
Y1	0.756	0.819	0.519	0.835	0.770

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Y2	0.849	0.898	0.621	0.932	0.853
Y3	0.759	0.799	0.596	0.833	0.755
Y4	0.731	0.761	0.590	0.791	0.700
Y5	0.720	0.705	0.425	0.712	0.642
Y6	0.820	0.855	0.585	0.903	0.843
Z1	0.761	0.799	0.453	0.785	0.731
Z2	0.863	0.901	0.575	0.877	0.805
Z3	0.777	0.828	0.622	0.821	0.785
Z4	0.754	0.837	0.633	0.795	0.758
Z5	0.687	0.742	0.504	0.719	0.686
Z6	0.788	0.872	0.575	0.812	0.838

Source: Processed primary data, 2024

Based on the validity test above, each variable has a factor loading value above 0.70 indicating that all question instruments are valid. The quality of the research instrument is assessed through validity and reliability tests to determine the level of evaluation Fu et al (in Yayat et al, 2024) its validity using confirmatory analysis (CVA) factors, where the values of all factors are above 0.50 and significant at the level of 0.01 Fu et al (in Yayat et al, 2024). The measurement has acceptable quality in the multiple regression model at a threshold above 0.70 Hair et al (in Yayat et al, 2024).

Reliability Test

Table 2. Reliability Test

	Cronbach's Alpha	Composite Reliability
Sharing Information	0.892	0.918
Competitiveness	0.910	0.930
Trust	0.894	0.920
Supplier Performance	0.913	0.933
Commitment	0.902	0.926

Source: Processed primary data, 2024

The results of the instrument testing show that each question item from each variable is declared reliable overall. This is due to the reliability values of Alpha and Composite Cronbach which exceed 0.70, which is a higher value than the standard.

R² Test

Table 3. R² Test

	R Square	R Square Adjusted
Competitiveness	0.951	0.950
Supplier Performance	0.907	0.905

Source: Processed primary data, 2024

From the output table, we can see that the supplier performance variable has an R-Square value of 0.907, which indicates that the company performance variable can be explained by 90.7% by the supply chain management variable, and the remaining 93% is influenced by other factors.

In addition, it is necessary to determine the level of variation as a basis for identifying differences between the variables tested. Based on the results of the study, the competitiveness variable has the potential to be explained by the variation in the values of the commitment, trust, information sharing, and supplier performance variables by 95.1%. While the supplier performance variable is explained by the variation in the values of the commitment, trust, and information sharing variables by 90.7%.

Total Effects Test

Table 4. Total Effects Test

	Sharing Information	Competitiveness	Trust	Supplier Performance	Commitment
Sharing Information		0.599		0.587	
Competitiveness					

Trust	0.055	0.133
Supplier Performance	0.417	
Commitment	0.359	0.294

Source: Processed primary data, 2024

The results above show that the variables of commitment, trust, information sharing affect supplier performance by 0.294 (29.4%), 0.133 (13.3%), 0.587 (58.7%), respectively. While commitment, trust, information sharing, and supplier performance affect competitiveness by 0.359 (35.9%), 0.055 (05.5%), 0.599 (59.9%), 0.417 (41.7%), respectively.

Hypothesis

The significance of the estimated parameters provides very useful information about how the variables in this study interact with each other. The value of the output result for inner weight provides the estimated output for testing the structural model, which can be seen in the following table:

Table 5. Hypothesis Test

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Valu es
Information Sharing -> Competitiveness	0.224	0.223	0.102	2,192	0.029
Information Sharing -> Supplier Performance	0.515	0.517	0.083	6,196	0,000
Trust -> Supplier Performance	0.083	0.090	0.039	2,141	0.033
Supplier Performance -> Competitiveness	0.551	0.552	0.119	4,643	0,000
Commitment -> Competitiveness	0.228	0.228	0.082	2,798	0.005
Commitment -> Supplier Performance	0.413	0.404	0.092	4,493	0,000

Source: Processed primary data, 2024

Discussion

In this study, hypothesis 1 is accepted, indicating that commitment to supplier performance has a real and significant effect. The path coefficient value is 0.413, the T statistic value is 4.493, and the p-value is 0.000, which is less than 0.05. A long-lasting relationship requires commitment from all parties, according to previous studies. Commitment drives suppliers and distributors to work together (Vieira et al., 2023). A successful relationship is highly dependent on commitment. The channel relationship between suppliers and distributors is better with commitment built from satisfaction and trust.

Hypothesis 2 shows that relationship trust has a real and significant effect on supplier performance with a path coefficient value of 0.083, a T-statistic value of 2.141, and a p-value of 0.033 below 0.05. For the sake of Le et al.'s business sustainability, the trust built between supply chain actors and the commitment to the relationship facilitates the exchange of information.

Hypothesis 3 shows that the information sharing variable has a real and significant effect on supplier performance with a path coefficient value of 0.515, a T-statistic value of 6.196, and a -value of 0.000 < 0.05. According to previous studies, sharing information that is in accordance with its quality can lead to increased supply chain performance for network benefits including upstream and downstream levels. In addition, supply chain partners benefit from information sharing because they can rely on it to make better decisions and improve performance (Deghedi, 2014).

Hypothesis 4 shows that the supplier performance variable has a real and significant effect on competitiveness accepted with a path coefficient value of 0.551, a T statistic value of 4.643, and a p-value of 0.000 < 0.05. A previous study found that commitment, which is built from satisfaction and trust, is positively correlated with the quality of channel relationships between suppliers and distributors (Meyer & Allen, 1991).

Hypothesis 5 shows that the commitment variable has a real and significant effect on competitiveness with a path coefficient value of 0.228, a T-statistic value of 2.798, and a p-value of 0.005. According to previous research, supplier performance is very important for the supply chain (Connor et al., 2020). Sukriyadi (2015) found several things that can be used to measure supplier performance, including product quality, product price, product delivery time, and the supplier's ability to fulfill orders (Gunasekaran et al., 2004). National

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competitiveness consists of a country's ability to achieve or maintain a favorable position compared to other countries in several important industrial sectors (Širá et al., 2020).

Hypothesis 6 shows that the information sharing variable has a real and significant effect on competitiveness with a path coefficient = 0.224, T-statistic = 2.192, and a p -value = 0.029 < 0.05. Companies must always have access to the latest information because customer demand is constantly changing. Previous studies have shown that information sharing is the intensity and capacity of an organization to exchange information with other parties involved in Simatupang business relationships (Wan et al., 2020). By providing high-quality, transparent, and unambiguous information, companies can avoid the bullwhip effect (Morgan et al., 2023).

This study focuses on the determinants of supply chain performance and its positive effects on the competitiveness of major food products based on the Relational View theory. Several studies have shown a direct relationship between several variables: information sharing, relationship quality, shared corporate value, and supply chain collaboration (Abdallah et al., 2021; Tajvidi et al., 2021; Zaman et al., 2024).

This study is based on the relational view theory and focuses on the determinants of supply chain performance and its positive impact on the competitiveness of major food products. Several studies have shown a direct relationship between several variables: commitment, trust, information sharing (Munizu, 2017).

In this study, statistical analysis was used to examine the direct relationship between the following factors: trust commitment, information sharing, supplier performance, and competitiveness. The results showed that supplier performance was significantly affected by information sharing. In the same way, previous studies have shown that information sharing based on its quality can result in improved supply chain performance for the benefit of the network including upstream and downstream levels. In addition, supply chain partners benefit from information sharing because they can rely on it to make better decisions and improve performance (Deghedi, 2014).

In addition to sharing information, trust and commitment also have a positive effect on competitiveness. This is in line with previous findings, which show that sharing, trust, and commitment to competitiveness are important factors in meeting consumer demand. The higher the quality of the relationship between suppliers and distributors, the higher the consumer satisfaction and commitment built from sharing information, trust, and consumer satisfaction (Mukhsin, 2017).

CONCLUSION

Based on the results of hypothesis testing using SEM-PLS, it can be seen that commitment, trust, and information sharing have a direct effect on supplier performance. In addition, supplier performance also has a direct effect on competitiveness, while commitment and information sharing also have a direct effect on competitiveness. From these results, it can be concluded that these six variables have a positive and significant effect. This means that if commitment, trust, and information sharing are carried out properly, supplier performance will increase, which can then improve the performance of fried onion companies in Kuningan Regency and improve supply chain management to support the company's business activities, so that the company's goals can be achieved. Future research should explore the long-term effects of these variables on corporate performance in different industries or regions, as well as the potential moderating effects of external factors like market volatility, technological innovation, or regulatory changes. Additionally, exploring the role of digital tools and platforms in enhancing information sharing and trust among suppliers could provide deeper insights into optimizing supply chain management.

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