Factors Influencing Supply Chain Performance through Sharing Information on PT Sinar Sosro KPW Banten

Aji Rilamsyah, Fauzi Abdillah, Muhamad Rifaldy Ramadhan, Sambudi Hamali

Abstract: The purpose of this study is to know the influence of supplier integration, internal integration, and customer integration on supply chain performance through sharing information at PT. Sinar Sosro KPW Banten. The study method used is quantitative method by collecting data through questionnaire. Data analysis using SEM-PLS with WarpPLS 5.0 software. The results show that supplier integration and internal integration have no effect on supply chain performance. Supplier integration, internal integration, and costumer integration affect the sharing information. And customer integration and sharing information have an effect on supply chain performance. The current conclusion of this result, managers need to improve customer integration and information sharing. (AR, FA, MRR)

Keywords: Customer Integration, Internal Integration, Sharing Information, Supplier Integration, Supply Chain Performance.

I. INTRODUCTION

The food and beverage industry in Indonesia experienced growth in the 2017 quarter and contributed to the Gross Domestic Product (GDP) ([1]). The economic development of a country can be measured by economic growth, which shows the growth of the production of goods and services in an economic region within a certain time. The measurement of economic growth is commonly known as Gross Domestic Product (GDP). Gross Domestic Product can be used as an indicator in measuring the economic performance in a country ([2]).

PT. Sinar Sosro KPW Banten is a company engaged in the distribution of beverages to support one of the consumption needs of public drinks in the Banten area.

PT Sinar Sosro KPW Banten has several products distributed to outlets whose products include Tea Bottles, S-tea, and Prima Mineral. PT. Sinar Sosro KPW Banten has outlet locations that are always distributed by the company.

Aji Rilamsyah, Management Department, BINUS Business School Undergraduate **Program**, Bina Nusantara University, Jakarta, Indonesia.

Fauzi Abdillah, Management Department, BINUS Business School Undergraduate Program, Bina Nusantara University, Jakarta, Indonesia.

Muhamad Rifaldy Ramadhan, Management Department, BINUS Business School Undergraduate Program, Bina Nusantara University, Jakarta, Indonesia.

Sambudi Hamali*, Management Department, BINUS Business School Undergraduate Program, Bina Nusantara University, Jakarta, Indonesia. E-mail: sambudi_hamali@binus.ac.id

These locations include Gading Serpong - Alam Sutera, Kelapa Dua - Karawaci, and Cimone - Modernland.

The problem that occurs in this company is the problem in its operation. The first problem being faced is the ups and downs of sales over the past six months.
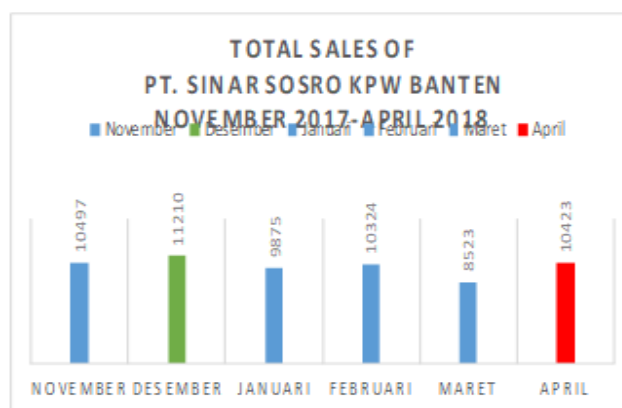

Fig. 1. Total Sales Data Recap
Source: PT. Sinar Sosro KPW Banten 2018

In the second problem, PT. Sinar Sosro KPW Banten sells its products in a variety of outlets, starting from Canteen, Restaurants, Shops, Services, Modern Market, End Users, and Disters. The graph of total data from the number of product outlets that were sold from November 2017 to April 2018 is as follows.
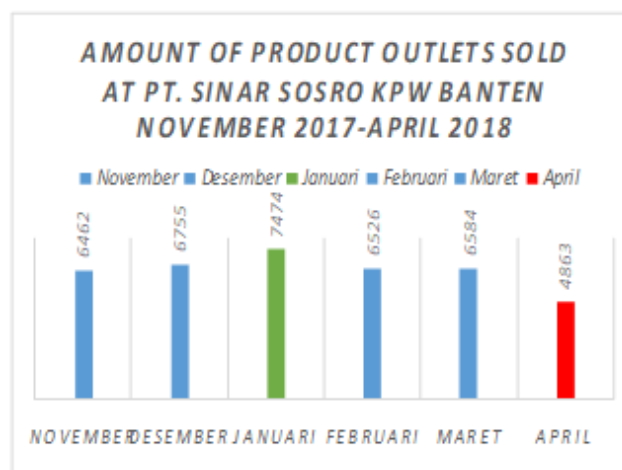

Fig. 2. Amount of Product Outlet Sold
Source: PT. Sinar Sosro KPW Banten 2018

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Based on previous research [3]showed a problem in manufacturing companies in Ghana that is observing the mediating effect of sharing information in the relationship between supply chain integration (SCI) and supply chain performance (SCP). This research uses the Partial Least Squares Structural Equation Modeling (PLS-SEM) method. The results of this research indicate that there is an influence showing that there is an influence between SCI on SCP, there is a positive effect of SCI on information sharing, and there is an effect of information sharing on SCP.   As for other previous studies, [4]showed a problem in manufacturing companies in Greece examining the effect of SCI on customer satisfaction, and supply chain performance (SCP). This research uses Explanatory Factor Analysis (EFA) method. The results of this research indicate the influence of supplier integration, internal integration, and customer integration on supply chain performance.   The thing that distinguishes this research from previous studies is a different unit of analysis, namely distribution and sales engaged in the food and beverage industry. And the variable dimensions used are supplier integration, internal integration, and customer integration (multi-dimensional) whereas previous research is supply chain integration (uni-dimensional).   [3]show the significant influence of supplier integration, internal integration, and customer integration on information sharing. Customer integration and information sharing have a significant effect on supply chain performance. Kocoglu et al. in [3]show the significant influence of supplier integration, and internal integration on supply chain performance.

Hypothesis 1: Supplier Integration significantly influences on Sharing Information.
Hypothesis 2: Internal Integration significantly influences on Sharing Information.
Hypothesis 3: Customer Integration significantly influences on Sharing Information.
Hypothesis 4: Supplier Integration significantly influences on Supply Chain Performance.
Hypothesis 5: Internal Integration significantly influences on Supply Chain Performance.
Hypothesis 6: Customer Integration significantly influences on Supply Chain Performance.
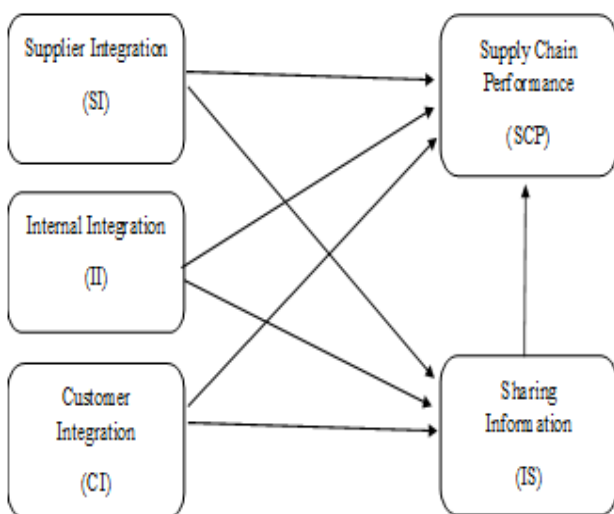Hypothesis 7: *Sharing Information* significantly influences on *Supply Chain Performance.*

Fig. 3. Research Model

II.   RESEARCH METHODOLOGY

Seeing the problems that occur, the method used in this research is a quantitative method. According to [5], quantitative research methods are research methods that are based on the philosophy of positivism, used to examine specific populations or samples. The type of research used is causal, according to [6], causal research is research that tests whether one variable causes other variables to change, to describe one or more factors that cause problems. The time horizon used in this research is cross section. According to [6], the cross section is that in this research, the data was only collected once, and in answering research questions, we can wait for these results for several days, weeks or months. The data collection technique used in this research was a questionnaire. This research uses the saturation sampling technique to function as a sampling technique. This research uses WarpPLS 5.0 software which is an application program (software) with partial least square, is a non-linear analysis method and is not based on many assumptions [7].

III.   RESULT AND DISCUSSION

The PLS model uses two elements. The first is a measurement model that shows the relationship between constructs and variable indicators, the second one is structural model which shows the relationship between constructs.

Measurement model aims to examine the validity and reliability of each construct. The validity of construct has two components: convergent and discriminant. In measurement model, according to Hair et al. in [8], there are two criteria to assess whether the outer model must meet the requirements of convergent validity for reflective constructs, namely loading must be above 0.70 and the p-value (<0.05). According to Fornell and Larcker in [9], for evaluating convergent validity, the AVE threshold often recommended for acceptable validity is 0.5 and only applies to reflective latent variables.

In the measurement model there is a reliability test, according to [9], which are Composite Reliability (CR) and Cronbach's Alpha (CA). According to Nunally and Bernstein in [9], in particular, a reliability value of 0.60 to 0.70 can be accepted in exploratory research, while in the further research stage, values between 0.70 and 0.90 can be considered satisfactory

The following are the tables of loading, AVEs, the sq. rts of AVEs, CR, and CA values.

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Table- I: Combined Loadings

Variable	Indicator	Loading factor	p-value
Supplier	SI 1	.918	< .001
Integration	SI 2	.873	< .001
(SI)	SI 3	.761	< .001
Internal	II 1	.935	< .001
Integration	II 2	.963	< .001
(II)	II 3	.847	< .001
Customer Integration (CI)	CI 1	.750	< .001
	CI 2	.702	< .001
	CI 3	.716	< .001
	CI 4	.818	< .001
Sharing	IS 1	.819	< .001
Information	IS 2	.728	< .001
(IS)	IS 3	.780	< .001
	IS 4	.710	< .001
	SCP 1	.523	< .001
	SCP 2	.743	< .001
Supply Chain	SCP 3	.653	< .001
Performance	SCP 4	.769	< .001
(SCP)	SCP 5	.753	< .001

Source: Data Processing Results, 2018.

Table- II: AVEs, the sq. rts of AVEs, CR and CA

Variable	AVEs	sq. rts. of AVEs	CR	CA
Supplier Integration (SI)	.728	.853	.889	.810
Internal Integration (II)	.840	.916	.940	.903
Customer Integration (CI)	.560	.748	.835	.736
Sharing Information (IS)	.578	.760	.845	.755
Supply Chain Performance (SCP)	.482	.694	.820	.725

Source: Data Processing Results, 2018.

The results of validity and reliability on SI, II, CI, IS, and SCP variables have met the criteria.

The Structural Model is applied to assess the ability to predict relationships between constructs. The important thing in examining structural models in SEM is a significant path coefficient.
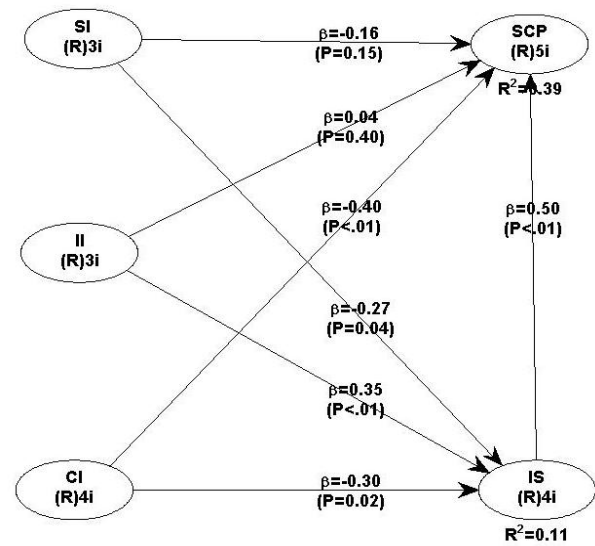

Fig. 4. WarpPLS Result
Source: Data Processing Results, 2018.

Table- III: Standardized Path Estimates

Hypothesis	Path	Coefficient	p-value	F^2	Result
H1	SI→IS	-.267	.04	.080	Ho Rejected
H2	II→IS	.353	.01	.152	Ho Rejected
H3	CI→IS	-.303	.02	.117	Ho Rejected
H4	SI→SCP	-.165	.15	.029	Ho Accepted
H5	II→SCP	.042	.40	.08	Ho Accepted
H6	CI→SCP	-.403	.01	.139	Ho Rejected
H7	IS→SCP	.501	.01	.230	Ho Rejected

Source: Data Processing Results, 2018.

The results of the seven hypotheses, the results of hypothesis 1 above can be seen that the p-value of 0.04 <0.05 (H0 is rejected and Ha is accepted). It can be concluded that there is a negative influence between supplier integration on sharing information. This means that the more supplier integration increases, the more sharing information decreases. It can be seen on the results of hypothesis 2 test above that the p-value of 0.01 <0.05 (H0 is rejected and Ha is accepted). It can be concluded that there is a positive influence between internal integration on sharing information. This means that the more internal integration increases, the more sharing of information increases. It can be seen on the results of hypothesis 3 test above that the p-value of 0.02 <0.05 (H0 is rejected and Ha is accepted). It can be concluded that there is a negative influence between customer integration on sharing information. This means that the more customer integration increases, the lower the sharing of information. It can be seen on the results of hypothesis 4 test above that the p-value of 0.15 <0.05 (H0 is accepted).

It can be concluded that there is no influence between supplier integration on supply chain performance. It can be seen on the results of hypothesis 5 test above that the p-value of $0.40 < 0.05$ (H0 is accepted). It can be concluded that there is no influence between internal integration on supply chain performance. It can be seen from the results of hypothesis 6 test above that the p-value of $0.01 < 0.05$ (H0 is rejected and Ha is accepted). It can be concluded that there is a negative influence between customer integration on supply chain performance. This means that the more customer integration increases, the lower the supply chain performance. It can be seen from the results of hypothesis 7 test above that the p-value of $0.01 < 0.05$ (H0 is rejected and Ha is accepted). It can be concluded that there is a positive influence between sharing information on supply chain performance. This means that the more information sharing increases, the more supply chain performance increases.

Table- IV: R^2 and Q^2 Value

Variable	R^2	Q^2
Sharing Information (IS)	.114	.353
Supply Chain Performance (SCP)	.390	.430

Source: Data Processing Results, 2018.

Based on the above table, R^2 sharing information value of 0.114 shows that 11.4% of the variance of the sharing information variable is explained by the supplier integration, internal integration, and customer integration variables and the remaining 88.6% is explained by other factors outside the model. And the supply chain performance R^2 of 0.390 shows that 39% of the variance of supply chain performance variables is explained by the supplier integration, internal integration, customer integration, and sharing information variables and the remaining 61% is explained by other factors outside the model.

IV. CONCLUSION

Based on the results of research conducted by the researchers at PT. Sinar Sosro KPW Banten, some conclusions can be drawn as follows:

Supplier integration has a negative effect on sharing information at PT. Sinar Sosro KPW Banten which means that the more increased supplier integration, the lower the sharing information. Internal integration has a positive effect on sharing information at PT. Sinar Sosro KPW Banten which means that the more increasing the food integration supplier, the more sharing information will be. Customer integration has a negative effect on sharing information at PT. Sinar Sosro KPW Banten which means that the more the increase in customer integration, the lower the sharing information. There is no effect of Supplier Integration on Supply Chain Performance at PT. Sinar Sosro KPW Banten. There is no influence of Internal Integration on Supply Chain Performance at PT. Sinar Sosro KPW Banten. Customer Integration has a negative effect on supply chain performance at PT. Sinar Sosro KPW Banten which means that as customer integration increases, supply chain performance will decrease. Sharing Information has a positive effect on supply chain performance at PT. Sinar Sosro KPW Banten which means that as information sharing increases, supply chain performance will increase.

Based on the conclusions above, there are a number of suggestions as follows:

For companies, it is better to increase good cooperation relationships with suppliers (head office) so that later it will reduce the company's product inventory data, it can be seen in all outlets. Improve communication between departments was well established so that later it will increase the company's product inventory data that can be seen in all outlets. Increase in surveying customer needs (outlets) so that later it will reduce the company's product inventory data that can be seen in all outlets. Increase in surveying customer needs (outlets) so that later it will reduce the delivery of company products to all outlets on time. And increasing the company's product inventory data can be seen in all outlets so that later it will increase the delivery of company products to the outlet on time. In this study there are small sample limitations, so for further research it is better to use a larger sample so that the results obtained are more optimal. Seeing the effect on Supply Chain Performance is still below 50%, it must add other variables such as customer satisfaction and financial performance.

REFERENCES

1. Badan Pusat Statistik, "Produk Bruto Domestik Triwulan," *September*, 2017. [Online]. Available: https://www.bps.go.id/publication/2017/10/02/a169618dd6a187b5029ab668/produk-domestik-bruto-triwulanan-2013---2017.
2. Kementrian Perindustrian Republik Indonesia, "Artikel," *Agustus 12*, 2017. [Online]. Available: http://www.kemenperin.go.id/artikel/17984/Tertinggi,-Kontribusi-Industri-Makanan-dan-Minuman-Capai-34,17-Persen.
3. B. Asamoah, D., Andoh-Baidoo, F. K., & Agyei-Owusu, "Examining the Relationships between Supply Chain Integration, Information Sharing, and Supply Chain Performance: A Replication Study," *Twenty-second Am. Conf. Inf. Syst.*, pp. 1–9, 2016.
4. P. Chatzoudes, D., & Chatzoglou, "Supply Chain Integration (SCI) measured from an information sharing perspective: Examining its impact on business success," *Res. Challenges Inf. Sci.*, pp. 52–63, 2015.
5. Sugiyono, *Metode Penelitian Bisnis*. Bandung: Alfabeta, 2014.
6. R. Sekaran, U., & Bougie, *Research Methods for Business 7th Edition*. West Sussex: John Wiley & Sons. Ltd, 2016.
7. N. Kock, *WarpPLS 5.0 User Manual*. Texas: ScriptWarp Systems, 2015.
8. D. Sholihin, M., & Ratmono, *Analisis SEM-PLS dengan WarpPLS 3.0*. Yogyakarta: Indonesia Journal of Accounting Research, 2013.
9. M. Hair, Jr, J. F., M. Hult, G. T., Ringle, C. M., & Sarstedt, *A Primer On Partial Least Squares Structural Equation Modeling (PLS-SEM)*. California: SAGE Publications, Inc, 2014.