Balanced Scorecard Analysis of the Performance of Transportation and Logistics Companies Listed on the Indonesia Stock Exchange

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Abstract. This study aims to look at the performance of companies in the transportation and logistics sector that are listed on the Indonesia Stock Exchange in the 2017-2021 period using the balanced scorecard method. This study also aims to analyze the influence of the perspective in the balanced scorecard on company performance. This study used a purposive sampling technique. The data analysis technique in this study uses multiple regression analysis. The results of this study were found that the financial perspective, customer perspective, internal business process perspective, and learning and growth perspective have no significant effect on company performance.

Keywords: Company Performance, Balanced Scorecard, Performance Management System, Performance Assessment.

1 Introduction

The Covid-19 pandemic has not only had an impact on the world of health and human life but has had a major impact on the economic and business sector in all sectors. The rate of population mobility has changed due to the implementation of large-scale social restrictions (PSBB) to stop the spread of Covid-19. This has an impact on changes in people's income and consumption patterns. Food and beverage products increased 46.1%, health increased 73.3%, pulse/data package increased 56.6%, food ingredients increased 65.8%, electricity increased 37.3%, public transportation increased only 7.8 %, and fuel increased by only 7.3% [13].

Changes in economic activity due to the spread of Covid-19 also affect companies in the transportation and logistics sector. This is due to the fact that the transportation sector companies are a very important part of all economic activities because of their high mobility in supporting shipments to various destinations. Especially for the economy associated with the sale of goods. To support smooth mobility, reliable transportation and facilities are needed [15]. This study aims to assess empirically whether there has been an increase or decrease in the transportation and logistics sector companies, which at the end of 2019 the transportation and logistics sector companies were affected by the spread of the Covid-19 pandemic which hampered economic

activity. Aims to determine the development of performance in the transportation and logistics sector companies. Company performance appraisal uses a balanced scorecard.

The aims to be achieved in this study are to find out the development of the performance of transportation and logistics companies listed on the IDX during the 2017-2021 period and analyze the influence of the perspective balanced scorecard on the company's performance. It is hoped that this research can provide knowledge and understanding to investors or potential investors as a consideration before determining an investment in a transportation and logistics management company, as information for other companies or agencies in making decisions, it is expected to be able to develop a process of learning and applying knowledge including in analyzing company performance and is expected to be used as an additional reference for further research.

2 Literature Review and Hypothesis

Stewardship Theory

Stewardship visualizes a situation where managers are not driven by individual goals but are more focused on their main performance goals, namely the interests of the organization. This theory has a psychological and sociological basis, designed so that managers act in accordance with the wishes of managers, and managers' actions do not override the organization because stewards are working hard to achieve organizational goals. This theory is designed for researchers to test conditions where managers in companies as servants can be motivated to function in the best way in principle [4].

Company performance

The concept of financial performance is an assessment of the results achieved by the company through the performance of company management, especially corporate finance effectively for a certain period of time [21]. Financial performance is an important part of a company and is generally closely and directly related to company performance because net income is reported in the income statement as the main performance indicator [17]. Performance measurement will motivate in achieving organizational goals and in complying with management policies in order to produce the actions and results desired by the organization [6].

Balanced Scorecard

According of Kaplan & Norton [11] proposed a system for evaluating company performance called Balanced Scorecard. The specialty of the BSC is that it has a comprehensive range of assessments, which in addition to considering financial (financial) performance, also considers non-financial performance. Operational benchmarks include customer satisfaction levels, internal business processes, organizational learning, and growth. The manager's focus is only on these four very critical indicators [5].

Based on [24] discuss perspective testing balance scorecard on the performance of PT Perusahaan Listrik Negara Salatiga. Shows that the financial perspective, customer perspective, and internal business process perspective do not have a significant effect on company performance, while the learning and growth perspective has a significant influence on company performance. According of [14] discusses evaluating the performance of companies in the

cosmetics and household goods sector using the balance scorecard. The results found that the company's performance was not good, measured by four perspective-balance scorecards. According of [2] discussed the influence of performance-based balanced scorecard on the performance of managers at the Telkom Education Foundation.

The results show that the financial perspective and the learning and growth perspective have a significant effect on the performance of managers. The customer perspective and internal business processes have no significant effect on the manager's performance. Based on [25] discuss the influence balance scorecard on employee performance and company performance PT Semen Indonesia Tbk. The results show that the internal business process perspective has no significant effect on company performance but shows that it has a significant influence on employee performance. Based on [26] discuss performance evaluation using balance scorecard at PT Bank Central Asia. The results show performance evaluation on all four perspectives balance scorecard encourage increased financial performance and customer satisfaction.

Based on the results of different studies that have been presented above, it is concluded balance scorecard it is not only used in evaluating company performance but also in evaluating business performance, employee performance, manager performance and many more. Performance is measured using four perspectives contained in the balance scorecard. These perspectives are interrelated with each other to evaluate the performance of an organization and obtain information for improvement and innovation in the future.

Hypothesis

H1: The financial perspective significantly influences company performance.

H2: The customer perspective significantly influences company performance.

H3: Internal business process perspective influences company performance.
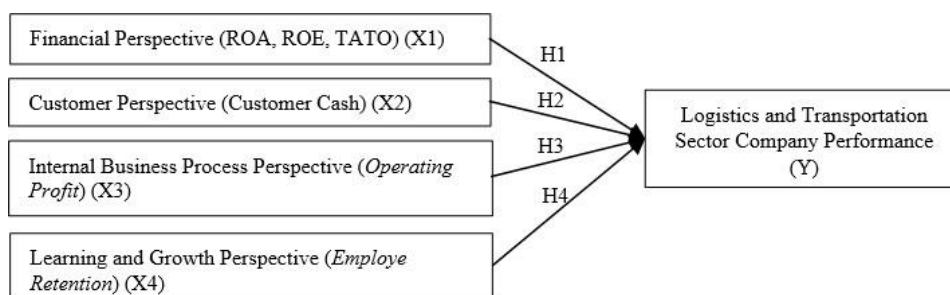H4: The learning and growth perspective significantly influences firm performance.

Fig 1. Research Model

3 Research methods

Table 1. Operational Variables

Variable Name	Dimensions	Measurement	Scale

Company Performance (Y)	Company performance is a view of the overall condition of the company during a certain period of time	Performance Range = (Achievement Year n- Achievement year n-1)/ (Achievement n-1) x 100% [19]	Ratio

Variable Name	Dimensions	Measurement	Scale
Financial Perspective (X1)	The financial perspective describes the company's achievements as measured from the financial side	Return on Equity = (Net profit)/ (Total Equity) x 100% Return on Assets = (Net profit)/ (Total Asset) x 100% Total Asset Turnover = (Net Sales)/ (Total Assets) x 100% [19]	Ratio
Customer Perspective (X2)	The customer perspective describes the level of customer satisfaction with products, prices, distribution and services	Customer Cash = (Customer Cash n- Customer Cash n-1)/ (Customer Cash n-1) x 100%	Ratio
Business/ internal perspective (X3)	The internal business process perspective describes the internal processes that provide value for customers and owners	Operating Profit = (Operating Income)/Sales x 100% [19]	Ratio
Learning Perspectives and Growth (X4)	The learning and growth perspective describes the ability of individual companies to increase profits and corporate value	Net Income/Employee = Income/ (Number of Employees) x 100% [19]	Ratio

This study uses quantitative data types and secondary data sources. The secondary data used is data on the financial reports of transportation and logistics sector companies listed on the IDX during the 2017-2021 period. Data were obtained from the website www.idx.co.id and on each company's official website. Sampling technique using purposive sampling that is based on specific criteria that have been determined. The criteria for taking samples in this study are as follows: the selected sample is transportation and logistics sector companies listed on the Indonesia Stock Exchange for the 2017-2021 period, companies that have issued complete financial reports as of December 31, consecutively for the last 5 years namely 2017-2021, companies that distribute dividends during the 2017-2021 period, companies that present

financial reports in rupiah currency. The samples obtained in this study were 7 companies.

The method to be used in assessing company performance in this study uses balance scorecard by comparing the achievement of the company's performance in the current period with the previous period. Performance measurement based balanced scorecard by measuring the overall perspective in a balanced way using a rating scale measurement scale [19].

Table 2. Rating Scale

Performance Ranges	In Score	Variable	In Score	Relationship Level
< 0%	1	6	6	Not good
51% - 100%	3	6	18	Good
>100%	4	6	24	Very good

4 Results and Discussion

Company Performance with Balanced Scorecard

Table 3. Rating result Balance Scorecard

Company	2017	2018	2019	2020	2021
AirAsia Indonesia Tbk	19	13	11	15	8
Eka Sari Lorena Transport Tbk	11	10	10	15	7
Sidomulyo Selaras Tbk	6	13	13	13	9
Temas Tbk	10	9	16	9	22
WEHA Transport Indonesia Tbk	7	8	12	9	7
Jaya Trishindo Tbk	17	10	13	6	9
Adi Sarana Armada Tbk	10	11	10	9	17
Rate-Average Balance	11,43	10,57	12,14	10.86	11,29
Relationship Level	Pretty good	Pretty good	Good	Pretty good	Pretty good

From the calculation of the company's performance using the method balance scorecard in the transportation and logistics sector companies listed on the Indonesia Stock Exchange for the 2017-2021 period, it can be interpreted that the company has performed quite well. Even though the spread of the Covid-19 pandemic temporarily hampered shipping activities in 2019, transportation and logistics companies were still able to improve their performance quite well. 2018 was the year with the lowest performance.

Companies in the transportation and logistics sector are considered financially sound enough in terms of ROA, ROE and TATO. Companies need to improve sales and service capabilities by increasing performance to generate profits [14]. The customer perspective is considered

quite good even though the experience fluctuates every year. Companies need to improve their service to customers. Customers who are satisfied with the services provided by the company provide a high profit level that needs to be maintained. The internal business process perspective is considered quite good even though the experience fluctuates every year. Companies need to increase expertise, innovation and improve internal business processes. Improving strategies for managing costs efficiently and consistently [14]. The learning and growth perspective is considered quite good event though the experience fluctuates every year.

Companies need to increase the productivity of human resources so that employee performance makes an optimal contribution to increasing revenue for the company. This can be done by providing performance improvement training for employees.

Descriptive statistics

Table 4. Results of Descriptive Statistical Analysis

Variable	NMinimum	Maximum	Mean	Std. Deviation
Company performance	35-5.47	54.59	2.2428	9.83607
ROA	35-0.45	0.17	-0.0558	0.1436
ROE	35-13.84	5.14	-0.357	2.70649
TATO	350.12	2.57	0.6421	0.47912
Customer Cash	35-0.91	2.21	0.117	0.54551
Operating Profit	35-0.56	2.67	0.2087	0.53211
Income Employee	35-1.51E+09	6.93E+08	-5.56E+07	4.02E+08

Classic assumption test Normality test

Table 5. Normality Test Results

	Unstandardized Residual
N	35
Kolmogorov-Smirnov Z	1.096
Asymp. Sig. (2-tailed)	0.181

Based on the test results in table 11, the Kolmogorov-Smirnov value and the significance asymp value are at a value of 0.181 greater than 0.05. Then all the data in this study concluded that it was normally distributed.

Autocorrelation Test

Table 6. Autocorrelation Test Results

Model	Std. Error of the Estimate	Durbin-Watson

1	0,11785	2,098

The DW value from the research results that have been tested above obtains a value of 2.098. Then it is compared with the DU value in the Durbin-Watson statistical table with n as much as 25, a significance value of 5%, and all independent variables 6 (k = 6). The result of the DU value is 1.8835. With the formula du<d<4-du or 1.8835 > 2.098 <2.1165, it is certain that there are no symptoms of autocorrelation in the regression model used.

Heteroscedasticity Test

Table 7. Heteroscedasticity Test Results

Variable	t count	Say.	Information
ROA	1,566	0,129	There is no heteroscedasticity
ROE	-7,117	0,000	There is Heteroscedasticity
TATO	0,862	0,396	There is no heteroscedasticity
Customer Cash	-0,535	0,597	There is no heteroscedasticity
Operating Profit	0,518	0,609	There is no heteroscedasticity
Income Employee	-1,606	0,119	There is no heteroscedasticity

The information that has been obtained will also be processed through tabulations using computational program calculations Microsoft Excel. The data will also be processed using the SPSS version 25 program aimed at facilitating researchers in obtaining suitable analysis results. The data in this study are described using descriptive statistical analysis and multiple linear regression analysis. The tests performed are classical assumption tests, such as normality, multicollinearity, heteroscedasticity, and autocorrelation. Test the hypothesis with a simultaneous test (T-test), simultaneous test (F-test), and test of the coefficient of determination (R^2) [7].

Multicollinearity Test

Table 8. Multicollinearity Test Results

Variable	Tolerance Value	Nilai VIF	Information
ROA	0,19	5,27	Multicollinearity Does Not Occur
ROE	0,856	1,168	Multicollinearity Does Not Occur
TATO	0,878	1,139	Multicollinearity Does Not Occur
Customer Cash	0,74	1,352	Multicollinearity Does Not Occur
Operating Profit	0,332	3,01	Multicollinearity Does Not Occur
Income Employee	0,112	8,955	Multicollinearity Does Not Occur

Based on table 4, it can be understood that the tolerance value for the independent variables is not less than 0.10 and the variance inflation factor (VIF) value is not more than 10, which means

that there is no multicollinearity between the independent variables.

Multiple Regression Analysis Determinant Coefficient (R2)

Table 9. Determinant Coefficient Analysis Results

Model	R	R^2	Adjusted R2
1	.839a	0.703	0.64

Table 15 states that R Square is worth 0.703 or 70.3%. The meaning of the regression model used is the independent variables ROA, ROE, TATO, customer cash, operating profit and income employee give effect related to fixed variable company performance as much as 70.3%. Another effect of 29.7% (100% -70.3%) is given by other variables that are not included in the regression model of this study.

Hypothesis testing T-test

Table 10. T test results

Variable	t count	Say.
ROA	1.566	0.129
ROE	-7.117	0.000
TATO	0.862	0.396
Customer Cash	-0.535	0.597
Operating Profit	0.518	0.609
Income Employee	-1.606	0.119

Table 16 explains that the results of the t test are sig. of the independent variable ROA, namely 0.129> 0.05. The significant value of ROE is 0.000> 0.05. The significant value of TATO is 0.396> 0.05. The significant value of customer cash is 0.597> 0.05. The significant value of operating profit is 0.609> 0.05. Significant value the significant value of employee income is 0.119> 0.05. Thus, the effect of ROA, ROE, TATO, Customer Cash, Operating Profit, Income Employee on company performance is not significant.

F-test

Table 11. F test results

Model	F	Sig.
Regression Residual	11.053	000a

Based on table 17 the calculated f value is 11.053 and Sig. 0.000. Small significant value of 0.05. This shows that all the independent variables used in the research ROA, ROE, TATO, customer cash, operating profit and income employee simultaneously affect the fixed variable company performance.

Data Analysis

Effect of financial perspective on company performance in the output table 16 the results of the t test show ROA, ROE and TATO do not have a significant effect on company performance. This means that the results of the first hypothesis are not supported. Other factors that are not included in this study have a greater influence such as measuring perspective by Economic Value Added, Gross Profit dan Earnings before interest, taxes, depreciation, and amortization. This is supported by research [24] which concludes that the financial perspective does not have a significant effect on company performance. The influence of the customer perspective on company performance in output table 16 the results of the t test show that customer cash does not have a significant effect on company performance. This means that the results of the second hypothesis are not supported. Other factors that are not included in this study have a greater influence such as [8] measuring the customer perspective using the percentage of customer satisfaction, customer retention and customer acquisition. This is supported by research [24] and research [2] which concludes that the customer perspective has no significant effect on companyperformance.

The influence of internal business process perspective on company performance in the output table 16 the results of the t test show operating profit no significant effect on company performance. This means that the results of the third hypothesis are not supported. This is because other factors that are not included in this study have a greater influence. Based on [9] measures the perspective of internal business processes using the percentage comparison of new products/services, process quality, and service efficiency. This finding is consistent with previous research [2] and [24] which states that the internal business process perspective has no significant effect on company performance.

The influence of learning and growth perspective on company performance in the output table 16 the results of the t test show income employee no significant effect on company performance. This means that the results of the fourth hypothesis are not supported. This is because other factors that are not included in this study have a greater influence. Based on [9] measures learning and growth perspectives using the percentage of employee satisfaction, employee skill development, and employee turnover. This finding is consistent with previous research [2] and research [25] which also states that the learning and growth perspective has nosignificant effect on company performance.

5 Conclusion

The results of this study indicate that based on the results of the rating scale assessment balance scorecard the performance of companies in the transportation and logistics sector balance scorecard the 2017-2021 period shows quite good conditions. The results of this research also show that the financial perspective does not significantly affect company performance. The customer perspective does not significantly affect the company's performance. Internal business process perspective does not significantly affect company performance. The learning and growth perspective does not significantly affect company performance. The management of the company can use the results of this research to see how far the company has been successful in achieving its goals or objectives. The results of this research are expected to assist management in identifying problems or deficiencies and are expected to be taken into consideration in preparing strategies to improve performance in the

future.

In this study there are still limitations that may affect the results of the study and are expected to be improved in further research. The limitations include that researchers only use ROA, ROE and TATO for measuring financial perspectives, customer cash for measuring customer perspectives, operating profit for measurement of internal and business process perspective income employee for measuring the learning and growth perspective. Researchers only used a sample of transportation and logistics sector companies listed on the IDX and the time period used was only the period 2017-2021. Future research is expected to add performance measurement tools in each perspective balance scorecard, changing the research sample to a different enterprise sector and extending the research period to make the test yield better results.

References

[1]   Ahmad, F., Nawi, M. N. M., Hamid, N. A., Rahman, N. A. A. A., Ahmad, A. N. A., & Hamid, N. A. A. (2022). The Impact of TQM On Business Performances Based on Balanced Scorecard Approach In Malaysia SMEs. International Journal for Quality Research, 16(1), 231–242.

[2]   Aryane, & Norita, D. (2015). The Influence of Implementing Balanced Scorecard-Based Performance Measurement on Manager Performance (Case Study at Telkom Education Foundation). 2(3), 2381–2393.

[3]   BPS, B. P. S. (2022). Indonesia's Economy in Quarter III-2022 Grows 5.72 Percent (y-on-y). Central Bureau of Statistics. https://www.bps.go.id/pressrelease/2022/11/07/1914/ekonomi- indonesia-triwulan-iii-2022-tumbuh-5-72-persen--y-on-y-.html

[4]   Donaldson, L., & Davis, J. H. (1991). Stewardship Theory or Agency Theory: CEO Governance and Shareholder Returns. Australian Journal of Management, 16.

[5]   Elbanna, S., Kamel, H., Fatima, T., & Eid, R. (2022). An investigation of the causality links in the balanced scorecard: The case of the Gulf Cooperation Council hospitality industry. Tourism Management Perspectives, 41, 100934.

[6]   Gaspersz, V. (2005). Balanced Scorecard Integrated Performance Management System with Six Sigma for Business Organizations and Governments. Main Library Gramedia.

[7]   Ghozali, H. I. (2018). Multivariate Analysis Application With SPSS 19 Program (E. 9 (ed.)). Dipenogoro University Publishing Agency.

[8]   Haidiputri, T. A. N., & Cahyanty, R. N. (2019). The Use of the Balanced Scorecard Method in Measuring the Performance of the Regional Drinking Water Company (PDAM) in Probolinggo City. Journal of Business Management, 6(2), 59–68.

[9]   Hansen, D. R., Mowen, M. M., & Guan, L. (2009). Cost Management: Accounting and Control. In Cengage Learning (Sixth Edit). South-Western Cengage Learning.

[10]   Jusoh, R., Ibrahim, D. N., & Zainuddin, Y. (2008). The performance consequence of multiple performance measures usage: Evidence from the Malaysian manufacturers. International Journal of Productivity and Performance Management, 57(2), 119–136.

[11]   Kaplan, R. S., & Norton, D. P. (1996). Management to Strategy Scorecard to Strategy. California Managment Review, 39(1), 53–79.

[12]   Kusnandar, V. B. (2021). The transportation and warehousing sector will grow 3.24% in 2021. https://databoks.katadata.co.id/datapublish/2022/02/21/sektor-transportasi-dan-pergudangan- tumbuh-324-pada-2021

[13]   Lidwina, A. (2020). Changes in Public Consumption Patterns During the Covid-19 Pandemic. Databoks.   https://databoks.katadata.co.id/datapublish/2020/06/29/perubahan-pola-konsumsi-

masyarakat-selama-pandemi-covid-19

[14] Natasya, E. E., & Siagian, V. (2022). Analysis of the Implementation of the Balance Scorecard as a Company Performance Assessment System in the Cosmetics and Household Goods Sub- Sector for the 2018-2020 Period.Jurnal of Economic, Management, and Accounting, 5, 139–148.

[15] Nugraha, M., Suryani, & Nst, C. J. (2022). Implementation of Corporate Governance by Transportation and Logistics Companies During the Covid-19 Pandemic.Research In Accounting Journal, 2(4), 465–471.

[16] Nugrahayu, E. R., & Retnani, E. D. (2019). Application of Balanced Scorecard as Performance Measurement Benchmark.Balance: Journal of Accounting and Business, 4(2), 571.

[17] Prastowo, D. (2015). Analysis of Financial Statements Concepts and Applications Third Edition

UPP STIM YKPN.

[18] Riswandi, P., & Yuniarti, R. (2020). The Effect of Earnings Management on Firm Value.Pamator's Journal, 13(1), 134–139.

[19] Riyana, D. (2017).PT Indofood Company Performance Measurement using the Balanced Scorecard. 1(2), 42–53.

[20] Rosie, L. N., & Idayati, F. (2018). Balance scorecard in measuring the performance of PT Kereta Api Indonesia (Persero) DAOP VIII Surabaya.Journal of Accounting Science and Research.

[21] Rudianto. (2013). Management Accounting. Erlangga.

[22] Rumintjap, M.L. (2012). Application of the Balanced Scorecard as a Benchmark for Performance Measurement at Noongan Hospital.Journal of Economic Research, Management, Business and Accounting, 1(3), 841–850.

[23] Sagala, S. A., & Siagian, V. (2021). Performance Assessment Using the Balanced Scorecard Method in Pharmaceutical Sector Companies Before and During Covid (2019-2020) Listed on the IDX.Perspective Journal, 19(2), 145–149.

[24] Utami, W. B., Prastiwi, I. E., & Ningsih, S. (2020). The Balanced Scorecard Method For Assessing Company Performance (Case Study at PT Salatiga   State   Electricity Company). *International Journal of Economics, Business and Accounting Research (IJEBAR)*, *4*(03).

[25] Yassin, A., Al Musadieq, M., & Afrianty, T. 2016. The Effect of Balanced Scorecard and Knowledge Management on Employee Performance and Company Performance (Studies on Employees of PT Semen Indonesia (Persero) Tbk). Journal of Brawijaya University S1 Business Administration, 33 (2), 125–134

[26] Saputera, D., Amri, W. A. A., Affandi, R. N., & Alam, G. N. (2021). Balance Scorecard a Tool for Performance Evaluation: A Specific Geogrpahical Setting Case Study on Bank Central Asia Tbk, Indonesia. *Review of International Geographical Education Online*, *11*(1), 469-483.