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THE EFFECT OF ACCOUNT RECEIVABLE TURNOVER AND CASH TURNOVER ON LIQUIDITY AT PT PLN PERSERO

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ABSTRACT

This study aimed to partially examine the effect of account receivable turnover and cash turnover on liquidity at PT PLN Persero, simultaneously evaluate the effect of account receivable turnover and cash turnover on liquidity at PT PLN Persero, and identify the financial ratios (the influence of account receivable turnover and cash turnover), which are more dominant in influencing account receivable turnover and cash turnover on liquidity (current ratio) at PT PLN Persero. Samples were taken from the financial statements of PT PLN Persero from 2010 to 2019 using the purposive sampling technique. The classical assumption tests (normality test, multicollinearity test, heteroscedasticity test, and autocorrelation test) were applied in this study. Multiple linear regression was utilized for analysis. To examine hypotheses, t-test, F-test, and coefficient of determination test were used. The results of statistical data tests show that partially account receivable turnover has no significant effect on liquidity (current ratio) and cash turnover has no significant effect on liquidity (current ratio). Thus, users of financial statements can consider these ratios as reference considerations in making decisions.

Keywords: account receivable turnover; cash turnover; liquidity

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INTRODUCTION

In this age of globalization, many companies carry out business activities, one of which is earning profit as much as possible. The ability of the company to meet its needs by carrying out activities effectively and efficiently is one of the factors that contribute to the company's growth. Furthermore, with the rapid development of companies in Indonesia, companies must be prepared to compete globally with working capital to survive. A good company's role is represented in management that can provide opportunities in the future, both short and long term, to meet the company goals. Working capital is one of the most important supports in carrying out company operations; therefore, the company must be able to effectively manage current assets and liabilities; the availability of working capital where current assets must be greater than current liabilities and can demonstrate a level of security, particularly for short-term creditors and ensure the continuity of future operations; and the company must also be able to obtain additional short term with current assets as collateral.

The impact of the company's failure to meet its short-term obligations demonstrates the importance of liquidity in providing the company's ability to meet its short-term obligations. One of the obstacles that frequently occurs in companies and is relatively difficult to solve in the corporate world comes from the creditors. Liquid companies are those that can pay their short-term debt with a relatively large number of current assets as collateral. However, from a management standpoint, companies with high liquidity exhibit poor management performance because high liquidity implies idle cash balances and relatively excessive inventories.

According to Riyanto (2012), inventory is an important component of working capital, which is an asset in a state that is constantly rotating and changing. Meanwhile, Kasmir (2013) defines inventory turnover as a ratio that measures the number of times funds invested in rotating inventory are used in one period.

Inventory is a type of current asset that is an active component of a company's operations constantly acquired, modified, and then sold to customers. With proper inventory management, a company can immediately turn stored inventory into profit.

Similarly, PT PLN (Persero) has a large volume of electricity to distribute to customers to benefit users in carrying out their activities. Meanwhile, the liquidity ratio can assess PT PLN (Persero)'s financial statement to meet its obligations by using its assets. Financial statement data relating to current assets and current liabilities at PT PLN (Persero) fluctuated from 2010 to 2019. Table 1 shows data from the company on account receivable turnover, cash turnover, and liquidity from 2010 to 2019.

Table 1. Data on account receivable turnover, cash turnover, and liquidity

Year	Account Receivable Turnover	Cash Turnover	Liquidity (CR)
2010	9.98	9.90	81%
2011	14.25	9.95	105%
2012	9.26	10.40	91%
2013	6.76	10.68	96%
2014	4.71	7.34	97%
2015	5.58	8.57	66%
2016	5.98	6.80	81%
2017	7.47	6.06	67%
2018	8.39	7.22	71%
2019	5.24	7.15	95%

Source: Processed financial statement of PT PLN (Persero)

In 2011, the highest account receivable turnover was 14.25 times. The quicker account receivable is turned over, the better the company's financial situation will be. Meanwhile, the highest cash turnover was 10.68 times in 2013, and the highest liquidity was 105% in 2011. Based on the data in 2011, PT PLN Persero had a high account receivable turnover, cash turnover, and liquidity. As a result, the company's financial situation was very good in 2011.

The smallest account receivable turnover was 4.71 times (2014), the smallest cash turnover was 6.06 times (2017), and the smallest liquidity was 66% (2015). For a 10-year period (2010-2019), the current assets and current liabilities of PT PLN increased every year. The highest current assets occurred in 2019, which was IDR151,366,673 (in millions), while the highest current liabilities were in 2019, reaching IDR159,298,153.

The current ratio and the quick ratio are two liquidity measures commonly used. The current ratio is one of the rules used to determine a company's liquidity condition. It is used to show the extent to which current assets cover the company's current liabilities, whereas the quick ratio examines liquidity conditions by comparing current assets minus current assets with current liabilities. Cash is a form of current asset.

Indut et al. (2021) examined cash flow and account receivable turnover of food and beverage companies listed on the IDX for the 2016-2020 period and concluded that both cash flow and account receivable turnover affect the company's liquidity. Rauna et al. (2018) claimed that cash turnover has a positive and significant effect on liquidity, whereas Rahmat Hidayat (2018) reported that cash turnover has no effect on liquidity, and account receivable turnover has a significant effect on liquidity. The purpose of the present study was to investigate the relationship between the independent variables of account receivable turnover and cash turnover and their influence on the liquidity of PT PLN (Persero).

RESEARCH METHOD

In this study, data were collected using the sampling technique. A non-probability sampling method with a purposive sampling approach was used. Purposive sampling, according to Sugiyono (2011), is a sampling technique with specific considerations. The data used are secondary data obtained from PT PLN (persero)'s financial statements from 2010 to 2019. This study applied a quantitative data analysis employing statistical analysis methods such as multiple regression analysis and correlation analysis to determine the effect and relationship between dependent and independent variables. Multiple linear regression was one of the analytical methods used to test the effect of two or more independent variables on one dependent variable (Janie, 2012). Following the analysis, the results were presented, and a conclusion was obtained (Creswell, 2017). The regression model in this study was:

$$\hat{y} = a + b_1 x_1 + b_2 x_2$$

Notes:

$\hat{y}$: Estimated value of liquidity variable

b_1 : Effect of receivable turnover variable

b_2 : Effect of cash turnover variable

x_1 : Account receivable turnover variable

x_2 : Cash turnover variable

There were two stages of hypothesis testing in multiple regression analysis in this study, namely (1) testing whether the variables X1 and X2 had a simultaneous or joint effect on Y, with hypothesis tested using the F-test or ANOVA; and (2) testing whether the variables X1 and X2 partially affected Y, with the hypothesis examined using t-test.

Multiple regression analysis requires several assumptions to be met, including normality, multicollinearity, homoscedasticity, and non-autocorrelation. These assumptions must be met in to ensure that the multiple regression analysis results are valid. Correlation analysis is an analytical technique used to determine the close relationship between two variables (Suparto, 2014). Furthermore, the coefficient of determination was calculated in this study to determine how much variation in the Y variable is described by X1 and X2 in the model. The IBM SPSS 21 software was used to analyze the research data.

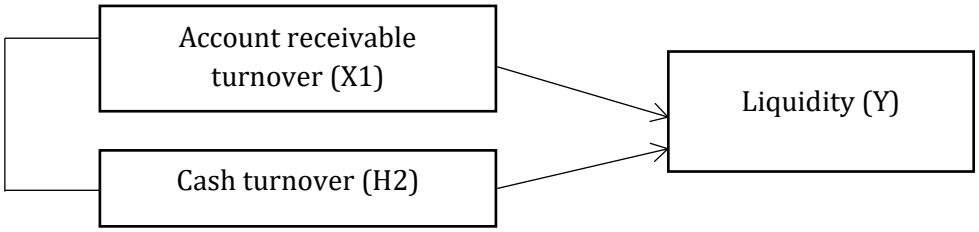

Diagram 1. Conceptual framework
Source: Processed data

RESULTS AND DISCUSSION

Development of Account Receivable Turnover at PT PLN

According to Kasmir (2014), account receivable turnover is a ratio that measures how long it takes to collect the account receivable over a period or how many times funds invested in account receivable rotate in one period. Further, Koesomowidjojo (2017) suggests that it is a ratio that evaluates the average account receivable collected by a company in one year. The faster account receivable turnover is, the more effective an organization's account receivable management will be. Account receivable turnover is the ratio value of net sales value compared to the average account receivable (Jumingan, 2017). The following are data on net sales and average account receivable from 2010-2019.

Table 2. Description of the data on PT PLN (Persero) account receivable turnover

Year	Net Sales (Million Rupiahs)	Average Account Receivable (Million Rupiahs)	Account Receivable Turnover (Times)
2010	162,375,294	12,268,620	13.24
2011	208,017,823	14,597,573	14.25
2012	232,656,456	25,119,182	9.26
2013	257,404,581	38,060,955	6.76
2014	193,417,941	41,040,755	4.71
2015	217,346,990	38,907,028	5.59
2016	222,821,956	37,231,480	5.98
2017	255,295,243	34,153,861	7.47
2018	272,897,742	32,507,092	8.40
2019	285,640,589	54,433,587	5.25

Source: Processed financial statements of PT PLN (Persero)

Figure 1 depicts the development of account receivable turnover at PT PLN (Persero).

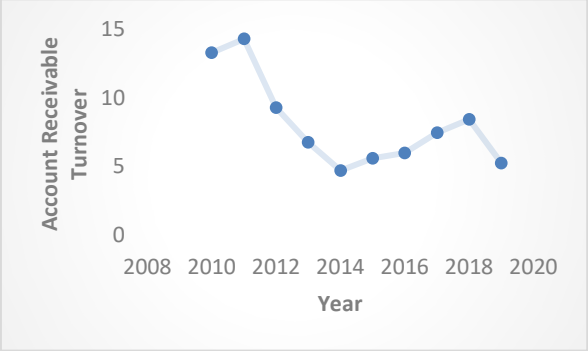

Figure 1. Data on the account receivable turnover of PT PLN from 2010 to 2019
Source: Processed data

Based on the data in Table 2 and Figure 1, the account receivable turnover of PT PLN (Persero) in the period 2010-2019 fluctuated from year to year. The highest account receivable turnover was 14.25 times in 2011, and the lowest was 5.25 times in 2019.

Development of Cash Turnover at PT PLN

Cash is the most recent company asset in a series of funds used to maintain the company's profitability and to finance operational needs or make new investments. It is the most liquid form of working capital in a business (Sulindawati et al., 2017). Moreover, it is a medium of exchange and is benefitted as an accounting measure in a balance sheet (Sutrisno, 2013).

According to (Manullang, 2019), cash turnover is a ratio that can evaluate a company's ability to pay off debts that will be due with the availability of cash and the company's bank. (Yuniati & Suharti, 2018) stated that in terms of sales, cash turnover can assess the level of the company's sales volume within a specific time directly and evaluate the company's ability to pay a short-term debt that is due soon. Cash turnover is the ratio value of net sales value compared to the average cash (Harmono, 2015). Data on net sales and average cash from 2010 – 2019 are presented in Table 3.

Table 3. Overview of data on the cash turnover of PT PLN (Persero)

Year	Net Sales (Million Rupiahs)	Average Account Receivable (Million Rupiahs)	Cash Turnover (Times)
2010	162,375,294	16,397,997	9.90
2011	208,017,823	20,902,446	9.95
2012	232,656,456	22,363,973	10.40
2013	257,404,581	24,084,911	10.68
2014	193,417,941	26,320,749	7.34
2015	217,346,990	25,353,934	8.57
2016	222,821,956	32,752,781	6.80
2017	255,295,243	42,100,591	6.06
2018	272,897,742	37,793,260	7.22
2019	285,640,589	39,946,672	7.15

Source: Processed financial statements of PT PLN (Persero)

The development of cash turnover at PT PLN is presented in Figure 2.

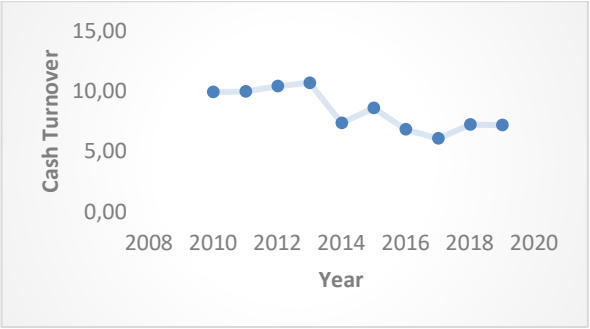

Figure 2. Cash turnover of PT PLN for 2010-2019
Source: Processed data

Data in Table 3 and Figure 2 show that the cash turnover of PT PLN (Persero) for the period of 2010-2019 fluctuated from year to year, with the highest account receivable turnover in 2013 at 10.68 times and the lowest in 2017 at 6.06 times a year.

Development of Liquidity at PT PLN

According to Riyanto (2011), one of the factors determining a company's success or failure is liquidity. The current ratio is used by the company to measure the effectiveness of the use of current assets used to pay the company's obligations in measuring the ability to pay short-term obligations. The liquidity ratio, according to Harahap (2015), describes the company's ability to meet its short-term obligations. The ratio is calculated by dividing current assets by current liabilities. The significance of the liquidity ratio for the company can show the extent to which a company is capable of overcoming trade debts and paying short-term debt on time so that there are no obstacles for the company to gain profits (Juliana & Tipa, 2020). Table 3 presents the results of processing the collected secondary data obtained from the description of the current ratio at PT PLN.

Table 4. Overview of data on the PT PLN (Persero) liquidity

Year	Current Assets (Million Rupiahs)	Current Debt (Million Rupiahs)	Liquidity (Current Ratio)
2010	44,773,286	54,949,838	81%
2011	66,922,542	63,550,433	105%
2012	77,310,156	84,837,180	91%
2013	84,837,180	88,315,046	96%
2014	85,423,738	87,558,279	97%
2015	79,344,793	120,138,893	66%
2016	98,569,077	121,623,355	81%
2017	93,797,251	139,074,243	67%
2018	113,415,251	157,895,742	71%
2019	151,366,673	159,298,153	95%

Source: Processed financial statements of PT PLN (Persero)

From the values of current assets and current liabilities, the liquidity value for 2010 – 2019 was obtained, as presented in Figure 3.

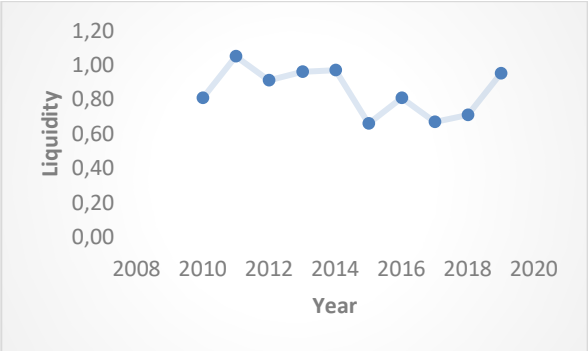

Figure 3. Data on the liquidity of PT PLN (Persero) for 2010-2019
Source: Processed data

Based on data presented in Table 4 and Figure 3, liquidity during the period 2015 to 2019 fluctuated every year. In 2011, the increase in liquidity with the highest value reached 105%, while in 2015, the lowest value was 66%.

Effect of Account Receivable Turnover and Cash Turnover on the Liquidity of PT PLN

Because there are two independent variables in this study, the multiple regression analysis was used. Table 5 presents the results of the multiple regression analysis.

Table 5. Multiple regression analysis outputs

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	52.874	23.238		2.275	0.057
Accounts Receivable_Turnover	-0.241	1.667	-0.058	-0.145	0.889
Cash_Turnover	4.053	3.241	0.499	1.25	0.251

Source: Processed financial statements of PT PLN

Based on the data presented in Table 5, the regression model was obtained:

$$\hat{y} = 52.874 - 0.241\ X_1 + 4.053X_2$$

The interpretations of the model are as follows.

1. When account receivable turnover and cash turnover are 0 times, the average liquidity level of PT PLN is 5,287.4%.
2. If the cash turnover variable is considered constant, the average liquidity level of PT PLN will decrease by 24.1% for every 1-time increase increase in acoount receivable turnover.
3. If the account receivable turnover variable is considered constant, the average liquidity level of PT PLN will decrease by 24.1% for every 1 additional cash turnover.

The F-test or ANOVA was performed to determine whether or not there was a relationship between account receivable turnover and cash turnover on the level of liquidity. The test results are presented in Table 6.

Table 6. Output or F-Test or ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	378.535	2	189.267	.992	.418
Residual	1335.465	7	190.781		
Total	1714.000	9			

Source: Processed financial statements of PT PLN

As detailed in Table 6, the F-value was 0.992 and the significance value was 0.418, both of which were greater than 0.05, implying no significant effect of account receivable turnover (X1) and cash turnover (X2) together (simultaneously) on the level of liquidity (Y).

The t-test determined whether there was a partial effect of accounts receivable turnover and cash turnover on the level of liquidity. The results of the test are presented in Table 5. The significance value of account receivable turnover was 0.889, which was greater than α (0.05), suggesting no significant relationship between account receivable turnover and liquidity. Meanwhile, the significance value of cash turnover was 0.251, which was greater than α (0.05), exemplifying no significant relationship between cash turnover and liquidity.

To ensure that no assumptions were violated, assumption testing was performed. The Kolmogorov-Smirnov test was used to determine normality. The significance value in the normality test was 0.896 (> 0.05), indicating that the assumption of normality was met. The Durbin-Watson test was used to examine the non-autocorrelation assumption. The value of D-W was 2.634, and the values of d1 and du based on the Durbin-Watson table for n = 10 were 0.6972 and 1.6413, respectively. Table 7 presents the test criteria that were used.

Table 7. Durbin-Watson criteria

Statistical Value d	Result
0 < D-W < 0.6972	Positive autocorrelation
0.6972 ≤ D-W ≤ 1.6413	Inconclusive
1.6413≤ D-W ≤ 2.3587	No positive/negative correlation
2.3587≤ D-W ≤ 3.3028	Inconclusive
3.3028≤ D-W ≤ 4	Negative correlation

Based on these criteria, the autocorrelation test fell into the fourth range, namely 22,3587≤ D-W ≤ 3,3028, putting it in the inconclusive category. The autocorrelation test was used to determine whether or not there was autocorrelation in the data. If the points on the graph are randomly distributed and do not form a certain pattern, there is no autocorrelation.

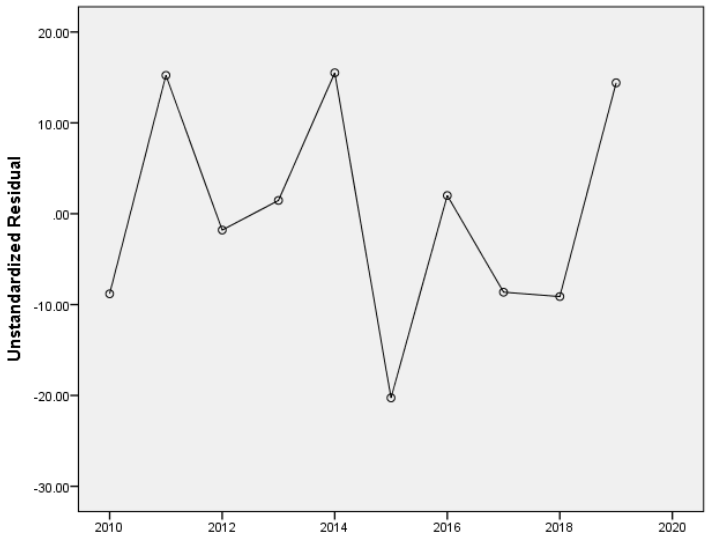

Figure 4. Autocorrelation test graph

Figure 4 shows that the dots in the graph did not form a specific pattern, indicating the absence of autocorrelation. Multicollinearity was the next assumption test. The goal of multicollinearity testing was to investigate if the regression model discovered a correlation between the independent variables. The value of the variance inflation factor was used to determine the presence or absence of multicollinearity in the regression model (VIF). If the VIF value is greater than 10, it is assumed that there is multicollinearity. The VIF value of the regression model in this study was 1.431 for the account receivable turnover and cash turnover variables, indicating that multicollinearity did not exist. The final assumption was non-heteroscedasticity. This assumption was tested by making a scatter-plot between Studentized Residual (ZRESID) and Standardized Predicted Value (Y cap). If the plot tends to form a pattern, it indicates the presence of heteroscedasticity; if the plot tends to be random (does not form any specific pattern), there is no heteroscedasticity.

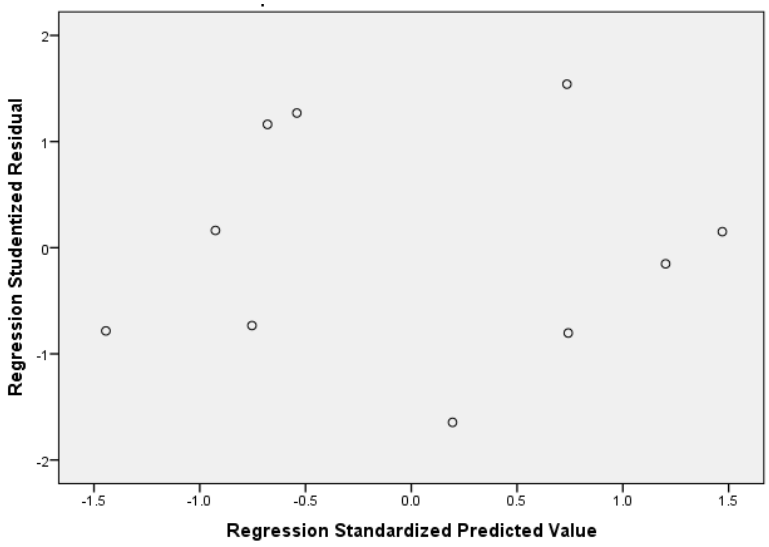

Figure 5. Non-heteroscedasticity test plot

Figure 5 shows that the plot was random and did not follow a pattern, indicating that the non-heteroscedasticity assumption was met. Correlation analysis was used to discover and validate the hypothesis of a relationship between two variables when the data of the two variables was in the form

of intervals or ratios and the data sources of the two or more variables were the same. The correlation between receivables turnover and liquidity was 0.216, signifying that the two had a very weak relationship, whereas the correlation between cash turnover and liquidity was 0.467, indicating that the two had a weak relationship.

The coefficient of determination was performed as a measure to determine how much variation exists in the Y variable described by X1 and X2 in the model to determine the suitability or accuracy of the estimated value or regression line with the sample data. The coefficient of determination was calculated using SPSS 21, and it is detailed in Table 8.

Table 8. Coefficient of determination testing

Model	R	R Squared	Adjusted R Square	Std. Error of the Estimate
1	.470[a]	.221	-.002	13.81234

Source: Processed financial statements of PT PLN

This indicates that account receivable turnover and cash turnover explained 22.1% of the liquidity, while the rest was explained by other variables.

CONCLUSION

Based on the findings and discussions, the following conclusions are drawn from research on the effect of account receivable turnover and cash turnover on liquidity at PT PLN Persero from 2010 to 2019: (a) account receivable turnover has no significant effect on liquidity; (b) cash turnover has no significant effect on liquidity; and (c) account receivable turnover and cash turnover have no simultaneously significant effect.

This study has a limitation, which is the inability of researchers to access financial statements for 2020 and 2021, limiting them to samples from 2010 to 2019. It is expected that future research includes the two financial reporting periods to obtain more accurate results. In addition, it is suggested that independent variables, such as inventory turnover and working capital turnover, are included.

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