JIMUPB Jurnal Ilmiah Manajemen
E-issn:2549-9491 P-issn:2337-3350

JIM UPB
Jurnal Program Studi Manajemen
Universitas Putera Batam Vol.11 No.2

ANALYZING THE IMPACT OF STOCK TURNOVER AND CASH FLOW ON THE NET PROFIT MARGIN OF PT INFINEON TECHNOLOGIES BATAM

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Abstract

The objective of this study is to investigate how the earnings of PT Infineon Technologies Batam were impacted by stock turnover and cash flow between 2018 and 2022. The R Square test findings indicate that 20.8% of the net profit margin can be attributed to the stock turnover and cash flow variables, while the remaining 29.2% is explained by other unexamined factors. The t-test results reveal that the number of inventories has a significant negative effect on the net profit margin, as evidenced by a value of less than -2.299 and a significant level of 0.002 < 0.05. Similarly, the cash flow variable had a significant negative effect on the net profit margin, as evidenced by a t-test value of 3.159 and a significant level of 0.001 < 0.05.

Keywords: stock turnover; cash flow; net profit margin

INTRODUCTION

To remain competitive in the fast-paced economy and technological advancements of today, businesses must continually enhance their product innovation, employee productivity, and company expansion. One of the primary goals of all manufacturing, trading, and service-oriented companies is to maximize their net profit margin and survive in the long run. However, several factors, such as sales, product stock, and efficient management, influence a company's net profit margin, and it's crucial for management to understand these factors to achieve optimal results.

Cash flow is a critical element that impacts a company's net profit margin as it reflects its ability to meet its existing commitments when they become due. Excessive current assets, including excess stock, can lead to cash flow issues. Hence, stock turnover is also a significant factor that affects a company's net profit margin. The financial statements of PT Infineon Technologies Batam for the years 2013 to 2017 reveal a declining trend in the company's earnings from 2013 to 2016, with a peak net profit margin in 2013 and the lowest in 2015.

The stock turnover period for the company varied between 23.71 times in 2017 and 35.48 times in 2014. The current ratio was highest in 2017 and lowest in 2013, indicating the company's cash flow was at its peak in 2017. Stock includes raw materials and finished products that meet consumer demand, and stock turnover rate reflects the stock that is replaced or sold within a year. High stock turnover rate indicates a company's high sales volume,

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reducing the risk of loss and stock costs. Cash flow represents the ability to obtain or convert assets into cash, and a company's ability to make immediate debt payments is dependent on its cash flow. Excess cash investment indicates poor cash management, while low cash flow indicates a high amount of cash flow.

According to Sari, Saragihi, Siregar, Effendi, and Inrawan (2016) Net profit margin is the profitability measure that shows the excess of income over expenses incurred in conducting business. In case the expenses exceed income, it results in a loss. The outcome of periodic calculations is net profit margin or loss, which represents the gain or loss that has not yet been realized, and can only be determined after the company has shut down and been wound up.

Stock turnover as defined by: (Sari et al., 2016) Stock turnover is a financial metric that indicates the frequency of stock turnover during a specific time period. This ratio reflects how quickly the money invested in stock is transferred or changed out each year.

Cash flow is the measure of a company's ability to meet its immediate or future financial obligations. It refers to the capacity of the company to pay off all existing debts using its own funds, and is a key factor that companies and investors use to assess the financial health of a business.

METHODS

According to Gunden et al.'s (2017) research, research design plays a crucial role in the planning and implementation of research. It involves developing a plan for conducting the study, including steps such as operationalizing variables, determining data sources and types, selecting data collection techniques like surveys, designing the study, analyzing data, and testing hypotheses. To effectively address a research problem and achieve the research objectives, researchers must employ a method, approach, or strategy as a framework for conducting their study. In this particular study, a quantitative methodology was utilized by the author.

To generate information that will support the creation of research reports, the author adopted this methodology to gather historical data and closely examine various aspects of the issue under investigation. The data collected were then processed and analyzed based on the relevant theory to gain a comprehensive understanding of the object and draw valid conclusions about the topic being studied.

Variable Actions

Operational variables in research are crucial components that help researchers translate abstract concepts and ideas into concrete and measurable terms. Essentially, these variables are specific measures or indicators that are used to operationalize or define the independent and dependent variables in a study, based on the research questions and hypotheses. For instance, if the research question is "What is the effect of social media use on self-esteem among teenagers?", the operational variables could be the frequency of social media use (independent variable) and the level of self-esteem (dependent variable).

To select and define operational variables, researchers need to ensure that they capture the essence of the constructs they represent and that they are measurable in a reliable and valid way. This means that the operational variables should be based on existing theories and literature, and that they should be well-defined and consistently measured across participants and time points. For example, if the operational variable is the frequency of social media use, researchers need to specify the platform, the duration, and the purpose of use, and use a standardized measure to ensure consistency across participants.

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Overall, the choice and definition of operational variables have a significant impact on the quality and validity of research findings. By carefully selecting and defining operational variables, researchers can ensure that their study produces reliable and valid results that can contribute to the advancement of knowledge and the improvement of practice in their field.

Population and Sample

The authors of the research study have conducted thorough research related to the thesis title to determine the population for their study. In accordance with the earlier mentioned understanding, the population and sample size for this study includes the monthly financial reports of PT Infineon Technologies Batam from 2018 to 2022, totaling to 60 data points. This means that the authors will be analyzing and interpreting the financial data from 60 different reports over a period of 5 years. By doing so, the authors aim to draw meaningful conclusions and insights that can help in their research objectives.

Data Collection Method

Archival data gathering techniques refer to the process of collecting data from existing records or documents that have been previously created, rather than collecting new data through surveys, interviews, or other methods. In this case, the necessary departments were given original documents or copies of papers to gather data on the subject of the study. The collected information will then be analyzed through textual analysis, which involves systematically analyzing and interpreting the content of written or recorded material. This method is commonly used in research to examine historical, cultural, or social phenomena, as well as to analyze texts in literary or linguistic studies.

RESULTS AND DISCUSSION

Descriptive statistical analysis

Descriptive statistical analysis is employed to provide a depiction and visual representation of the data being examined without making any assessments. This type of analysis only includes data (mean), minimum and maximum values, and standard deviation. The results of the statistical analysis for the study are presented in Table 2.

Table 2. Descriptive statistics

Descriptive statistics

	N:	The minimum	The maximum	I mean	std. Deviation
X1_Stock	60:	1923	4838	3.76754	.748755
X2_Cash flow	60:	4312	228,453	64.66646	28.658387
Y_Net profit margin:	60:	165554771	187788563	176766798.42	4688155543
Valid N (with list)	60:				

The table presents the results of descriptive statistical analysis conducted on the data gathered for stock (X1), cash flow (X2), and net profit margin (Y) variables. The sample size for each variable was 60. For stock, the minimum value was 1923, the maximum value was 4838, and the mean was 3.76754 with a standard deviation of .748755. For cash flow, the minimum value was 4312, the maximum value was 228,453, the mean was 64.66646, and the standard deviation was 28.658387. For net profit margin, the minimum value was 154,876,895, the maximum value was 169,997,440, the

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E-issn:2549-9491 P-issn:2337-3350

mean was 164,567,589.20, and the standard deviation was 3,577,077,162. The valid sample size for each variable was 60.

Normality test

Table 3: Kolmogorov-Smirnov. Normality test

One sample Kolmogorov-Smirnov test

		Unstandardized balances
N:		60
Normal parameters, b	I mean	.0000000
	std. Deviation	3,183,668.584
The most extreme differences	absolute	.412
	Positive	. 766
	negative	-.412
Test statistics		.412
asymp. Siq (2-tailed)		. 384c

a. The test distribution is normal.
b. Based on calculated data.
c. Lilliefors Significance Correction.

The table presents the results of a one-sample Kolmogorov-Smirnov test on unstandardized balances with 60 observations. The test is used to determine if the sample distribution of the variable is significantly different from a normal distribution. The mean of the sample is zero, and the standard deviation is 3,183,668.584. The most extreme differences in the sample are 0.412, with a positive value of 0.766 and a negative value of -0.412. The test statistic is also 0.412, indicating the maximum distance between the sample distribution and the normal distribution. The p-value for the two-tailed test is 0.384 after Lilliefors significance correction. Since the p-value is greater than the significance level (usually 0.05), we fail to reject the null hypothesis that the sample distribution is not significantly different from a normal distribution.

Multicollinearity Test

Agreed (Ghozali, 2016: 103) Multicollinearity test is used to check if there is any correlation between the independent variables in a regression model. In a good regression model, there should be no correlation between the independent variables, and they should be orthogonal. If the independent variables are correlated with one another, they are not orthogonal. The multicollinearity test table provides the Variance Inflation Factor (VIF) value, which should be less than 10 or the Tolerance value should be greater than 0.1 to indicate that the research model did not exhibit symptoms of multicollinearity.; (Sudan, 2011). The multicollinearity test results after SPSS testing can be seen in Table 4 below.

Table 4: Multicollinearity Test

Coefficients

Model		Unstandardized coefficients		Standardized coefficients	Collinearity statistics	
		B:	std. Wrong	Betas	tolerance	VIF
1 :	(permanent)	154536666540	3414638.733			
	X1_Stock	-1353764.513	734682.335	0.473	.837	1288
	X2_Cash flow	-75325.452	36253.643	0.685	.837	1288

a. Dependent variable: Y_Net profit

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The table shows the coefficients, standardized coefficients, and collinearity statistics of a regression model. The dependent variable is Y_Net profit margin, and there are two independent variables, X1_Stock and X2_Cash flow.

The unstandardized coefficient for the intercept (or permanent term) is 154536666540, and the unstandardized coefficient for X1_Stock is -1353764.513, while the unstandardized coefficient for X2_Cash flow is -75325.452.

The standardized coefficients (Betas) for X1_Stock and X2_Cash flow are -0.284 and -0.450, respectively.

The collinearity statistics show that both independent variables have a tolerance of 0.837, and a variance inflation factor (VIF) of 1288, which suggests a high degree of multicollinearity between the independent variables.

Heteroscedasticity test

Agreed (Ghozali, 2016: 134) The goal of the heteroscedasticity test is to determine whether the regression model's variance is unequal from one observation residual to another. If the significance level is 0.05, the data are regarded as non-heteroskedastic. The dispersion test findings show that the residual data are randomly distributed, do not follow a specific pattern, and are dispersed over or below the value 0 on the Y-axis, proving that this study does not exhibit heteroscedasticity; However, a numerical test will be carried out as stated in Table 5 below to confirm its validity.

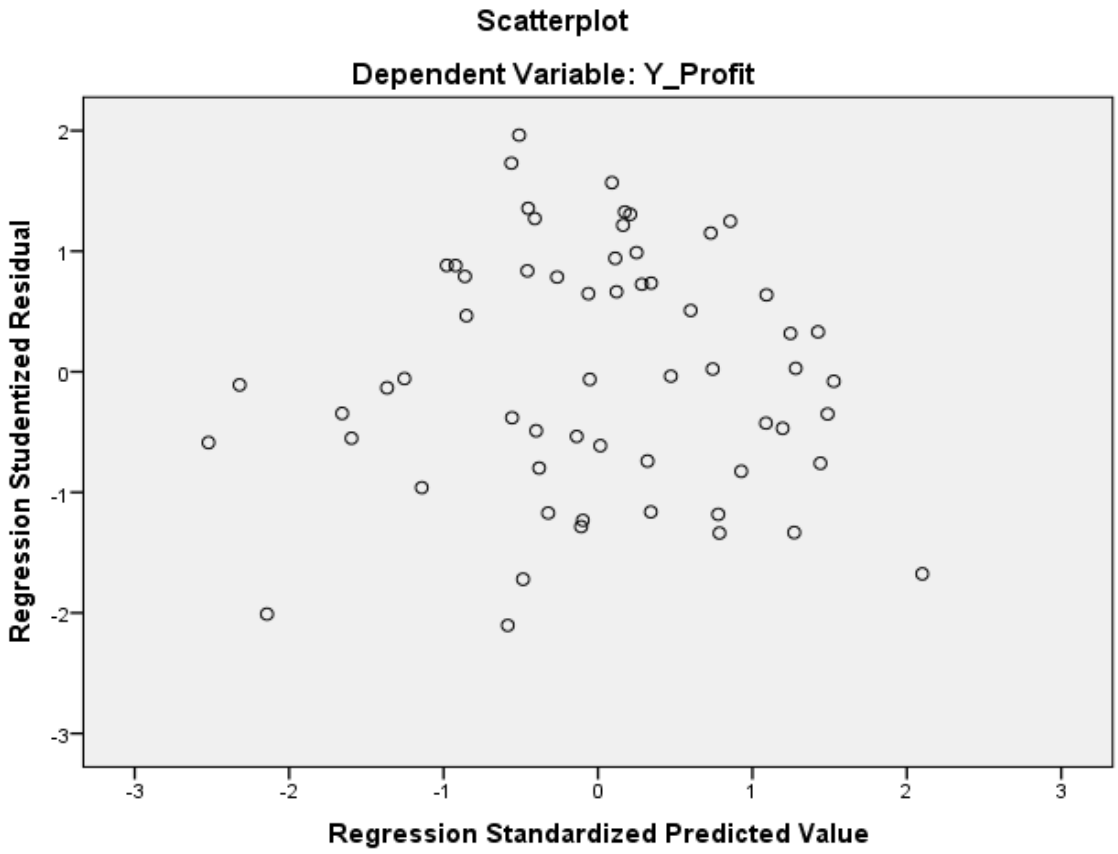

Figure 1: Scatterplot Heteroscedasticity Test

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Table 5: Heteroscedasticity test

Coefficients

Model		Unstandardized coefficients		Standardized coefficients	t:	Siq
		B:	std. Wrong	Betas		
1:	(permanent)	-1.397E-9	4679041.308		.000	1000
	X1_Stock	.000	1445619.265	.000	.000	1000
	X2_Cash flow	.000	576411.615	.000	.000	1000

a. Dependent variable: Y_Net profit margin

From the results of the above numerical test, it can be concluded that the significant value of the two independent variables is 1000; and this shows that the data is not heteroscedastic because the significant value of both variables is > 0.05.

Autocorrelation test

Agreed(Wibowo, 2012: 101)The autocorrelation test aims to see if there is a correlation between the residuals with other observations in the model. The autocorrelation test uses the simplest method, the Durbin-Watson method.

Table 6: Autocorrelation test

Summary model b

Model	R:	Square R	Adjusted R Square	std. Evaluation error	Durbin-Watson
1:	.456 a	.208	.180	3239040885	1571

a. Predictors: (Constant), X2_Cash flow, X1_Stock
b. Dependent variable: Y_Net profit margin

It is clear from Table 6 above that the Durbin-Watson test result is 1.571. If the DW value is more than 0.05, a model is said to be free of autocorrelation symptoms. In contrast, the DW value in the table above indicates > 0.05, indicating that there are no signs of autocorrelation in the data.

Multiple linear regression analysis

It is possible to forecast the size of the (non-independent/dependent) value of Y based on a certain value of X using the relationship between two variables given in a linear equation (the independent variable). Multiple linear regression analysis was utilized in this study to demonstrate the magnitude of the impact of the independent variable on the dependent variable. The results of the regression test are obtained as shown in Table 7 below.

Table 7: Multiple linear regression analysis

Coefficients

Model		Unstandardized coefficients		Standardized coefficients	t	Siq
		B:	std. Wrong	Betas		
1	(permanent)	154536666540	3414638.733		76,132	.000
:	X1_Stock	-1353764.513	734682.335	0.473	-1376	.002
	X2_Cash flow	-75325.452	36253.643	0.685	-1278	.001

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a. Dependent variable: Y_Net profit margin

From the above table, it can be formulated as follows.

The multiple linear regression analysis shows that Stock turnover (X1) and cash flow (X2) have a significant impact on PT Infineon Technologies Batam's net profit margin (Y) for the period of 2018-2022. The coefficient for Stock turnover (X1) is negative (-1353764.513), indicating that a decrease in Stock turnover leads to a decrease in net profit margin. The coefficient for cash flow (X2) is also negative (-75325.452), suggesting that a decrease in cash flow results in a decrease in net profit margin. Both coefficients are statistically significant with p-values of 0.002 and 0.001, respectively. Therefore, it can be concluded that managing Stock turnover and cash flow is crucial for maintaining a healthy net profit margin for PT Infineon Technologies Batam.

Hypothesis testing

Partial test (T Test)

Agreed (Sugiyono, 2010) The t statistic test serves the purpose of evaluating the significance of each independent variable's effect on the dependent variable in the model. Once the model has been tested and established, this test can be performed as a subsequent test. If the analysis yields a p-value of 0.05, the impact of the independent variable on the dependent variable is deemed statistically significant. On the other hand, if the analysis yields a p-value greater than 0.05, the relationship between the independent and dependent variables is not considered statistically significant.

Table 8: Partial tests

Coefficients

Model		Unstandardized coefficients B:	std. Wrong	Standardized coefficients Betas	t:	siq.
1	(permanent)	154536666540	3414638.733		76,132	.000
:	X1_Stock	-1353764.513	734682.335	0.473	-1376	.002
	X2_Cash flow	-75325.452	36253.643	0.685	-1278	.001

a. Dependent variable: Y_Net profit

Based on the above table, it can be concluded about the hypothesis testing of this research.

1. Hypothesis testing 1
   The first hypothesis, Stock turnover has a significant effect on the net profit margin of PT Infineon Technologies Batam. From Table 8 it can be seen that Stock turnover has a significant value of 0.001 <0.05. In order for the hypothesis proposed in this study to be accepted (H1 is accepted).
2. Hypothesis testing 2
   The second hypothesis, cash flow has a significant effect on the earnings of PT Infineon Technologies Batam. From Table 4.7 it can be seen that cash flow has a significant value of 0.001 <0.05. In order for the hypothesis proposed in this study to be accepted (H2 is accepted).

Simultaneous test (F test)

Agreed (Sudan, 2015) To determine whether there is a simultaneous effect between the dependent and independent variables, a simultaneous test is conducted. If the significance probability value is greater than 0.05 and the study hypothesis (Ha) is accepted, the

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simultaneous test is considered significant. On the other hand, if the value is less than or equal to 0.05, the simultaneous test is considered insignificant. The results of the simultaneous test are presented in the table below.

Table 9 Concurrent tests

ANOVAa

Model		The sum of squares	D F:	Middle square	F:	Siq
1:	Retrograde	1569243866.000	2:	865621933.000	8479	.000b
	residual	6780089937.000	57:	2049138585.000		
	That's all	8649333802.000	59:			

a. Dependent variable: Y_Net profit margin
b. Predictors: (Constant), X2_Cash flow, X1_Stock

3. Hypothesis testing 3
   The third hypothesis: the effect of Stock turnover and cash flow on net profit margin in PT Infineon Technologies Batam. Table 4.8 shows that the significance value is 0.000 < 0.05. Thus, it can be concluded that the hypothesis proposed in this study is accepted (H3 is accepted).

Coefficient of determination test (R2)

The capacity of all independent variables to account for the variation of the dependent variable is known as the coefficient of determination. The coefficient of determination essentially assesses how well the model can account for variation in the dependent variable. Table 10 below shows the coefficient of determination (R2) results.

Table 10: Coefficient of determination

Summary model b

Model	R:	Square R	Adjusted R Square	std. Evaluation error	Durbin-Watson
1:	.762a	.726	.776	3148151776	1362

a. Predictors: (Constant), X2_Cash flow, X1_Stock
b. Dependent variable: Y_Net profit margin

From the table above, it can be seen that the R2 value is 0.762 or 76.2%. This shows that the percentage of Stock turnover and cash flow to net profit margin is 77.6%, while the remaining 22.4% is affected by other factors not discussed in this study.

DISCUSSION

The effect of Stock turnover on net profit margin

The first hypothesis suggests that there is a significant correlation between the variables affecting Stock turnover and net profit margin. The t-test results show a t-score value of -2.299, a table value of -2.002, and a significance level of 0.002 < 0.05. Since the Tcount value is negative (-2.299), it can be concluded that the Stock turnover variable has a significant impact on PT Infineon Technologies Batam's earnings from 2018 to 2022, thus accepting H1. This indicates that higher Stock turnover leads to lower earnings. The Stock turnover ratio is used to measure how frequently inventory items are replaced over time, and a faster Stock turnover is desirable because it indicates increasing sales activity.

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E-issn:2549-9491 P-issn:2337-3350

The effect of cash flow (CR) on earnings

Based on the second theory, cash flow (CR) has an impact on earnings. The t-test results show that the tcount, table, and significant value are -2.299, -2.002, and 0.002, respectively. With a negative Tcount value (-2.299), it can be concluded that the CR variable has a significant negative effect on PT Infineon Technologies Batam's net profit margin from 2018 to 2022 (H2 is accepted). This suggests that increasing CR will lead to a decrease in net profit margins. The CR ratio measures a company's ability to repay its current obligations with current assets over time. If the CR level is high, it can be assumed that the company can pay its current debts. However, current assets increase in proportion to CR.

Effect of Stock turnover and Cash flow (CR) on Net profit margin

The third hypothesis suggests that the net profit margin is influenced by Stock turnover and cash flow (CR). The F-test results indicate that Fcount is 7.479, which is greater than the Ftable of 3.159, and the significance level of 0.001 is less than 0.05. Therefore, the positive value of 7.479 for Fcount indicates that both Stock turnover and CR have a significant impact on PT Infineon Technologies Batam's net profit margin during the period from 2013 to 2017, and thus, hypothesis H3 is accepted. This suggests that the net profit margin of PT Infineon Technologies Batam between 2018 and 2022 was significantly influenced by both Stock turnover and cash flow.

CONCLUSION

The objective of this research is to examine how Stock turnover and cash flow affect PT Infineon Technologies Batam's net profit margin from 2018 to 2022. After conducting data analysis and hypothesis testing in the previous section, the following conclusions can be drawn:

a) Based on the results, it can be concluded that the Stock turnover variable has a significant negative impact on the net profit margin, supporting the first hypothesis.
b) The second hypothesis can be accepted as the cash flow variable also has a significant negative impact on the net profit margin.
c) The third hypothesis can be supported as both Stock turnover and cash flow variables have significant partial effects on the net profit margin.
d) The R squared value for the stock turnover and cash flow variables is 0.776 or 77.6%, indicating that these variables explain a portion of the net profit margin. The remaining 22.4% is influenced by other factors not covered in this study.

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