# The Effect of Activity, Firm Growth, and Intellectual Capital to Predict Financial Distress (An Empirical Study on Companies Listed on the Indonesia Stock Exchange and Malaysia Stock Exchange in 2015-2017)

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*Abstract*— This research aimed to determine the effect of activity, sales growth and intellectual capital, to predict financial distress on manufacture company in Indonesia and Malaysia. Samples of the research were manufacture companies listed in Indonesia Stock Exchange and Malaysia Stock Exchange in 2015-2017. This research regarded secondary data which were collected using purposive sampling technique including 234 samples in Indonesia and 255 samples in Malaysia. SPSS version 21 was employed as data analysis tool. The results of the research showed that activity and sales growth had no effect on the prediction of financial distress, while intellectual capital had significantly negative effect to predict financial distress in Indonesia and Malaysia.

*Keywords*—*Activity, Sales Growth, Intellectual Capital, Financial Distress*

## I. BACKGROUND

Nowadays, companies are required to mobilize all of their resources to compete this digital era. Rapid development of technology demands companies to make harder efforts in order to attract shareholders. Financial statements published by companies are strongly influence the investment decisions among investors. Companies' financial statements depend on the corporate performance within a year, in which companies' profits, resources and assets are assessed.

Companies that are considered good in general might not be good inside or financially healthy neither can they be guaranteed to have good business continuity. This phenomenon occurred to a number of companies rated good by the Indonesia Stock Exchange (IDX), but eventually they failed to maintain their business continuity due to inability of predicting the signs of business bankruptcy. The role of company managers is very important in predicting financial difficulties (financial distress) in order to avoid bankruptcy. Platt in Luciana

(2004) stated that financial distress is defined as the decline in financial conditions before business bankruptcy or liquidation occur. Financial distress faced by companies will affect shareholders' trust, in which shareholders hold the main funding source for companies' operations. Lack of support from shareholders will make companies prone to bankruptcy.

Even though many researches on financial distress predictions in have been carried out, the results seem to be inversely proportional to the reality in which the number of companies that experience financial distress is also increasing. Recently, business players in Indonesia were shocked by the fact that a major franchise company went bankrupt and had to close its business. The Seven-Eleven, a USA-based company issued a bankruptcy statement. This phenomenon is quite shocking considering the fact that the company had been operating in Indonesia since 2009 had made one of the largest franchise companies in Indonesia. People start to wonder how could a company that had survived long enough failed to predict the signs that eventually caused business failure. Such phenomena make financial distress becomes a relevant to be further researched in order to prevent the occurrence of similar cases in Indonesia.

Some factors are believed to affect Financial Distress. Mustika et al (2018) conducted a research on mining and manufacture companies and found that intellectual capital had an effect on the prediction of financial distress. A similar research was also carried out by Nadeem et al (2016) in New Zeeland. The research involved an officially registered company in New Zeeland, which results showed that the combination of financial ratio factors and intellectual capital as independent variables on financial distress could increase the accuracy in predicting the signs of financial distress.

Utami (2015) proposed different findings from a research that involved manufacturing companies listed in the IDX in which company activity as measured by inventory turnover had no effect on the predictions of financial distress. This finding contradicted the results of previous research. Meanwhile, corporate growth was found to have a significant negative effect on predictions of financial distress.

The issues explained above have intrigued the researcher to conduct this research in orer to examine the influence of corporate activity, company growth and intellectual capital on financial distress. This research replicated a research carried out by Nadeem et al. (2018) in New Zeeland which research recommendation encouraged future researcher to combine financial ratios and intellectual capital in Indonesia which had never been conducted. However, in this research, samples were collected from two different countries which results were then compared.

## II. THEORETICAL BASIS

### A. Signaling Theory

The signaling theory was introduced by (Ross, 1977), stating that company executives who have better information about their company, will have higher motivation to share information to prospective investors in order to increase the company's stock price. The signaling theory is good as companies that provide good information will be distinguished from ones that do not have "good news" shared to the market regarding their business condition, signals about good performance in the future provided by companies which financial performance was considered inadequate or will not obtain the market trust (Wolk and Tearney in Dwiyanti, 2010).

### B. Stakeholder theory

The stakeholder theory states that all stakeholders have equal rights to obtain information about company activities as they expect. This theory asserts that the accountability of an organization is far more important than simple financial or economic performance (Widar, jo, 2011). This theory takes into account the position of stakeholders who are regarded to have strong influence. Stakeholders will become the main consideration for companies and managers in disclosing whether or not an information should be presented in financial performance report (Ulumm, 2007).

### C. Financial Distress

Andrande (1998) described financial distress as a situation where a company becomes unable to pay off the obligations to third parties. This condition also makes it difficult for a caompny to cover its operational costs for certain period, leaving the company in financial difficulties. This condition is usually marked by company liquidation, which then leads to bankruptcy. According to Rodoni (2010) in Afriyeni (2012) seen from financial conditions, there are three factors that can lead to financial distress,

including capital inadequacy or lack of capital, the amount of debt and interest and losses.

### D. The effect of Company Operational Activities on Financial Distress

According to Kasnmir (2012: 172), company activity shows how effective and efficient a company runs uses its existing resources. The more effective and efficient use of resources, the better the company's activities. Ni Made Maya Hardiyanti's research (2012) in a research entitled "the effect of liquidity, activity, solvency, profitability, financial leverage, and growth in predicting financial distress" showed that these ratios could be used to predict the signs of financial distress. Regarding to the literature explained above, hypotheses of this research were proposed as follows.

H1a: Company activity has a significant negative effect on financial distress in Indonesia

H1b: Company activity has a significant negative effect on financial distress in Malaysia.

### E. The effect of corporate growth on Financial Distress

Ni Made (2012: 4) explained that corporate growth shows whether or not a company is able to maintain its position in the era of globalization and make progressive development. If a company manages to maintain its position under certain competition, the company will likely survive and avoid financial distress. Utami Research (2015) mentions that corporate growth has a significant negative effect on financial distress. Based on those views, the hypotheses of this research were formulated as follows.

H2a: corporate growth has a significant negative effect on financial distress in Indonesia.

H2b: corporate growth has a significant negative effect on financial distress in Malaysia.

### F. The Effect of Intellectual Capital on Financial Distress

Ulum (2007) defined intellectual capital as materials that are compiled, captured, and used to obtain greater asset values. Intellectual capital can be categorized into three, namely:

a) Human capital: All kinds of knowledge, information, expertise, and skills and thoughts that are controlled by company's human resources (employees, management, and directors) in providing solutions to customers, innovating for added value, and updating organization's structural and organizational aspects. Human capital basically sees that human element in an organization is not only a resource but also a capital that must be well-managed. As a form of capital, this view expects a return on investment in the future capital. All forms of expenditure by the organization to improve the quality and quantity of human resource in the organization are forms of organizational investment in human capital.

b) Structural capital: Structural capital is all forms of activities carried out by an organization with the aim of optimizing human capital performance. An organization provides technology, tools, knowledge, and procedures in the form of hardware, software, databases, patents, buildings, social facilities, information systems, and trademarks. This standardization and good management information systems will improve employee performance. A well-organized company can be assessed from how it applies the best concepts in documenting its strategic information.
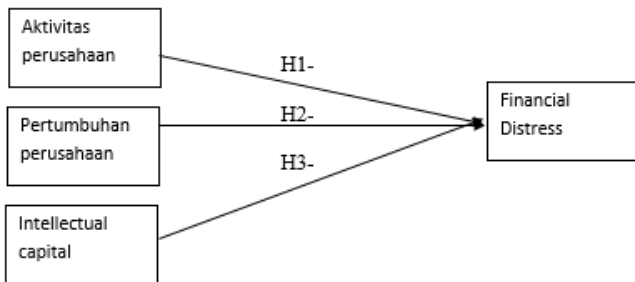
c) Customer Capital: Customer capital is a value obtained from maintaining good relationship between companies and customers, and vice versa, which efforts focus on enhancing customer satisfaction. Good companies believe that after sales service is a value that must be obtained by the company. All types of relationships between the organization and other parties in the context of business are counted as customer capital. Customer capital is usually evaluated regularly because it is a greater source of funding for the company compared to human capital and structural capital. One aspect of customer capital that gives significant contribution is the trademark. Trademark can be measured by how much customers are willing to pay for a brand of a product compared to other competitors' brand products.

Mustaki et al (2015) found those capitals significant in affecting the prediction of financial distress. Similar results were also found by Nadeem et al (2018) which said that intellectual capital significantly affects financial distress in a negative direction. Therefore, research hypotheses were formulated as follows.

H3a: Intellectual capital has a significant negative effect on financial distress in Indonesia

H3b: Intellectual capital has a significant negative effect on financial distress in Malaysia

*G. Research Model*



### III. RESEARCH METHOD

This research regarded secondary data obtained from the Indonesia Stock Exchange and the Malaysia Stock Exchange in the forms of financial statements published by manufacturing companies listed on the IDX and BEM in 2015-2017 which met the predetermined sampling criteria. Based on a purposive sampling approach, 234 Indonesian manufacturing companies and 255 Malaysian manufacturing companies were selected as research samples. The sampling criteria were; (1) Companies are still listed in the IDX and BEM in 2015-2017, (2) companies regularly report their financial statements for 2015-2017, (3) Companies that experienced negative operating profit for two consecutive years and companies that never experienced negative operating profit for two consecutive years, (4) companies published complete financial statement data related to the research variable, and (5) companies never conducted mergers or acquisitions.

*A. The Operational Definitions and Measurements of Research Variables*

| | |
|---|---|
| Financial Distress | measured by dummy variables. Companies that experienced negative profits for 2 years in a row were labelled 1 and were regarded as financially distressed companies.<br><br>Conversely, companies that did not experience negative profits for two years in a row were labelled 0.. |
| Intellectual Capital | was measured using the VAIC method that measured the efficiency of the three types of companies including human capital, structural capital, and employed capital. The formula of VAIC was: VAIC = VACA + VAHU + STVA. VACA was an indicator used to measure VA received from the use of a physical capital unit. The formula of VACA was: VACA = VA / CE, where VA was the value added and CE was the amount of equity. VAHU was an indicator of the added value efficiency of human capital (HC). The formula of VAHU was: VAHU = VA / HC, where HC was employee's burden and STVA was an indicator structural capital efficiency of the (SC) added value. The formula of STVA was: STVA = SC / VA.. |
| Company activity | was measured through the inventory turnover which referred to the basic product sales price divided by the average available supply. |
| Corporate growth | corporate growh was measured using this following formula.<br><br>$Sales\ Growth = \dfrac{sales_t\ -\ sales_{t-1}}{sales_{t-1}}$ |

## B. Hypothesis Testing and Data Analysis

An analytical method in the form of logistic regression was used to test the proposed hypotheses in this research. This analysis predicted the strength of the dependent variable in influencing each independent variable which value was already determined. The Logistic Regression analysis was conducted through these stages (1) Descriptive Statistics, an analysis used to collect quantitative data and transform the data into comprehensible data, (2) Feasibility Test of the Regression Model (Hosmer and Lemeshow Test) was administered to determine whether the regression model feasible (3) Overall Model Fit, a test which was conducted to find out whether the regression model hypothesized fit with existing data, and (4) Determination Test which determined the ability of independent variables in explaining the variability of the dependent variable.

## IV. RESULTS AND DISCUSSIONS

### A. Descriptive Statistical Analysis

There were 234 samples from Indonesia, 33 of which were classified in the financial distress category, while 201 companies were classified as non-financial distress companies. For company activity variables, the minimum value was 0.388 and the maximum value was 52.9975. The average of the company's activities was found at 5.260813 and with a standard deviation of 5.6870188. The company growth obtained a minimum value of -0.5430 and a maximum value of 1.3758, with an average value of 0.42195 and a standard deviation of 0.2053566. The last independent variable, Intellectual Capital, obtained a minimum value of -19.5370 and a maximum value of 30.7810, at an average of 5.089626 with a standard deviation of 6.0498080.

Whereas, there were 255 samples from Malaysia. There were 66 classified into financial distress category and 189 others were in the non-financial distress category. For company activity variables, the minimum value is 0.231 and the maximum value is 120.0161. The average of the company's activities is 7.494965 and with a standard deviation of 12.5638172

For company growth, the minimum value was obtained at -0.6741, maximum value of 1.9232, an average of 1.9232 and a standard deviation of 0.2643944. The last independent variable, Intellectual Capital, obtained a minimum value of -13.2633, maximum value of 9.5941, an average of 2.282646 and a standard deviation of 2.6829205

### B. Overall Model Fit Test

To ensure that the hypothesized model fit the data, an overall model fit test was carried out, taking into account the likelihood statistical values. The following Table shows that the value of -2 Likelihood Block number 0 in Indonesian companies is 190.392 and the value of -2 Likelihood block number 1 is 151.162. In Malaysian companies, the value of -2 Likelihood Block number 0 is 291.360 and -2 likelihood block number 1 is 240.417. From these data it is known that there was a significant decrease

in Indonesian company data and Malaysian company data, at 39.23 and 50.943, respectively. Therefore, the overall regression model proposed in this study has been regarded compatible with the data and a good regression.

TABLE 1
Overall Model Fit

| Iteration | -2 Log Likelihood Indonesia | -2 Log Likelihood Malaysia |
|---|---|---|
| Block number 0 | 190.392 | 291.360 |
| Block number 1 | 151.162 | 240.417 |

Source: Processed Data

### C. Goodness of Fit Model Test

To test the feasibility of the regression model, a goodness of fit test was carried out to measure the data based on the sig Hosmer and Lemsehow Test value in determining the suitability of the proposed model with the data from observations. As presented in the following Table, sig values of both Indonesia and Malaysia str greater than 0.05 at 0.27 and 0.26 respectively. There is no difference between the model and the data if the value of sig> 0.05. Therefore, regarding to this test, the proposed model could be used to predict the value.

TABLE 2
Hosmer and Lemeshow Test

| | Step | Chi-Square | Df. | Sig. |
|---|---|---|---|---|
| Indonesia | 1 | 17.278 | 8 | 0,27 |
| Malaysia | 1 | 17.469 | 8 | 0.26 |

Source: Processed Data

### D. Coefficient Determination Test

The coefficient of determination was measured based on the Negelkerke R Square value. Table 4.6 shows the Negelkerke R Square value in Indonesian companies is 0.277. The data shows that the independent variables can explain the variability of financial distress variables by 27.7% while the remaining 72.3% are explained by other variables that are not included in this research. While the value of Negelkerke R Square in Malaysia is 0.267, indicating that the independent variables can explain the variability of financial distress variables by 26.7%, while the remaining 73.3% can be explained by variables that are not mentioned in this research.

TABLE 3
Model Summary

| | Step | -2 Log Likelihood | Cox & Snell R Square | Nagelkerke R Square |
|---|---|---|---|---|
| Indonesia | 1 | 151,162 | 0,154 | 0,277 |
| Malaysia | 1 | 240,417 | 0.182 | 0.267 |

### E. Hypothesis Testing

Hypothesis testing was conducted to find out the effect of independent variable on the independent variable, with a significance level of 5%. From the logistic regression testing the following data were obtained.

TABLE 4
Variables in the Equation Indonesia

|  | B | SE | Wald | df | Sig. | Exp(B) |
|---|---|---|---|---|---|---|
| Step 1[a] |  |  |  |  |  |  |
| AKTV | -0.154 | 0.97 | 2.526 | 1 | 0.112 | 0.857 |
| PRTM | -1.097 | 1.185 | 0.857 | 1 | 0.355 | 0.334 |
| IC | -0.258 | 0.64 | 16.232 | 1 | 0.000 | 0.772 |
| CONSTANT | -0.330 | 0.452 | 0.535 | 1 | 0.465 | 0.719 |

TABLE 5
Variables in the Equation Malaysia

|  | B | SE | Wald | df | Sig. | Exp(B) |
|---|---|---|---|---|---|---|
| Step 1[a] |  |  |  |  |  |  |
| AKTV | 0.022 | 0.013 | 2.569 | 1 | 0.109 | 0.857 |
| PRTM | -0.593 | 0.692 | 1.003 | 1 | 0.317 | 0.334 |
| IC | -0.454 | 0.089 | 26.280 | 1 | 0.000 | 0.772 |
| CONSTANT | -0.356 | 0.235 | 2.285 | 1 | 0.131 | 0.719 |

The test on the first hypothesis as shown in Table 4, company activity has a regression coefficient of -0.154 and a significance value of 0.112. The value of sig> 0.05, which means that H1$_a$ which states that company activity has a significant negative effect on financial distress in Indonesia is rejected. Table 5 shows the data for Malaysian companies, in which company activity variable has a regression coefficient of 0.022, and has a significance value of 0.109. Significance value obtained > 0.05, rejecting the H1$_b$ hypothesis stating that company activity has a significant negative effect on financial distress.

The results of logistic regression showed that company activity did not negatively affect financial distress, both in Indonesia and Malaysia. Therefore, H1 is rejected. The results of this research support the one conducted by Utami (2015) concluding that company activities proxied by inventory ratio proxies have no effect in predicting whether a company is affected by financial distress or not. The results are also in line with Rahmy's research (2015) which states that company activity has no effect on predicting financial distress.

Company activities become insignificant in this research since many samples had increases in activity without being accompanied by a decrease in financial distress. As S. William (1997) in Kieso (2008: 401) said if inventory grows faster than sales, profits will fall. The main point is that when sales slowdown, while inventories continue to grow, there will be a decline in prices that will cause profits to continue declining.

The second hypothesis testing is presented in Table 4, showing that company growth has a regression coefficient of -1.097 and a significance value of 0.355. A value of sig> 0.05 indicates that H2a which states that company growth has a significant negative effect on financial distress in Indonesia is rejected. Table 5 shows that company growth variable has a regression coefficient of -0.593 and a significance value of 0.317. A value of sig> 0.05 indicates that H2b which states that company growth has a significant negative effect on financial distress in Malaysia is rejected.

The logistic regression test showed that the effect of company growth had no effect on predicting financial distress, both in Indonesia and Malaysia, therefore H2 is rejected. Thus, not all companies that experience increased sales are free from financial distress. Sales is one of the most important activities in a company, yet it cannot be used as a benchmark in finding out whether the company faces financial distress. The ineffectiveness of company growth in this study went in line with the large number of samples found to negatively affect the company growth. However, in this research, the cash flow operation were adequate, providing the company the strength to get out from the financial distress category, Rahmy (2015).

The results of this research are in line with the ones of previous research, including Rahmy (2015), Amalia and Kristijadi (2003) and Widarjo and Setiawan (2009) which state that sales growth cannot be used as a predictor of financial distress. Research in line with

The testing of the last hypothesis as seen in Table 4 shows that the intellectual capital variable has a regression coefficient of -0.258 which has a negative direction and a significance value of 0,000. A value of sig <0.05 indicates that H3a stating that intellectual capital has a significant negative effect on financial distress in Indonesia is accepted. Table 5 shows that the intellectual capital variable has a regression coefficient of -0.454 which has a negative direction and a significance value of 0,000. A value of sig <0.05, accepting the H3b which states that intellectual capital has a significant negative effect on financial distress in Malaysia.

The logistic regression test shows that Intellectual Capital has a significant negative effect on the prediction of financial distress in both Indonesia and Malaysia. Therefore, H3 is accepted. This finding is consistent with the hypothesis proposed in this research that the better the company manages its intellectual capital; the company is less likely to experience financial distress. These results also support Febri (2017).

A research conducted by Nadeem et al (2017) in New Zeeland also confirmed the negative influence of intellectual capital on financial distress. Deny's research (2014) also mentioned that Intellectual capital has a negative effect on financial distress. Regarding to the results of this research, financial distress can occur due to inadequate utilization of all the potentials owned by the company, making the stakeholders unable to influence the performance of company management in optimizing the company's potential. Inadequate company management leads to smaller the value added of the company which view goes in line with the stakeholder theory.

## V. RESEARCH CONCLUSIONS, SUGGESTIONS, AND LIMITATIONS

Regarding to the results of tests and analysis carried out in this research, conclusions were drawn as follows. (1) Company activity does not have any negative influence on financial distress in both Indonesia and Malaysia, (2) Company growth does not negatively influence the financial distress both in Indonesia and Malaysia, and (3) Intellectual capital negatively influence the financial distress in Indonesia and Malaysia.

In regard to the research findings, suggestions are directed to future researchers and company managers to obtain better outcome as follows.

A. The object of this research was limited to manufacture companies. Hence, this research cannot be completely used as general indicator since there are other types of companies such as non-financial companies. Future researchers are encouraged to expand the object of this research to other sectors and to involve companies from other countries such as The Philippines, Thailand and other Asian countries.

B. Companies that spot the signs of financial distress are expected to improve their company performance, especially in the utilization of intellectual capital.

C. Future researchers are suggested to use different proxies for independent and dependent variables, particularly for variables which hypotheses were rejected in this research including company activity which was proxied by inventory turnover. Other proxy can be used such as asset turnover.

D. Future researchers are also recommended to add more independent variables such as corporate governance, leverage, debt ratio and other financial ratios.

This research suffered from several limitations that can be improved in future research in order to obtain better research findings. The limitations included the selection of research object, which was limited to only manufacture companies, making the results of this research cannot be generalized for other contexts. Some companies could not meet the predetermined criteria for the purposive sampling, and some companies did not provide consistent information regarding to the variables in this research. Based on the results of the coefficient determination test, the independent variables in this research only described the dependent variable by less than 30%. This indicates that there are other factors that describe the dependent variable.

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