

Supply Chain and Cost Management for Economic Sustainability of Future Market

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Abstract— This paper presents the impact of applying the supply chain management (SCM) on the earning field to optimize productivity and decreasing cost which will have a direct impact on the income in the market. By developing out the measurement of future prospect, this research have used the future market value as a new indicator, where the accounting information have a significant effect on an investment decision. This moderated multiple regression has used the dividend policy, where played a critical role in signaling communication. Thus, the causal research have the samples, that ammounted 154 the listed companies in the industrial manufacturing sector for the period 2015 until 2017. The result indicated that supply chain system has specified the SCM with cost prediction and given a practical guideline for the investor to estimate the future return with high accuracy. This dividend policy has minimized the pattern of opportunistic behavior in providing a misleading bias in the performance reporting when the dividend has strengthened the SCM positively on the future market value. By developing a a mapping with the decision model, that combined with Bayes Theorem, empirical research provides a brief illustration, pointed out the high quality financial statements have the implication of the game theory. This research recommended that this dividend policy can be used as a mandatory obligation, and the regulators must issue public policies. These findings offer new insights into the benefits and uses of power in supply chain relationships, in a previously unexplored context.

Keywords— *Supply Chain management, Earnings, Costs, Future Market Value.*

1. Introduction

Essentially, a futures market is made up of buyers and sellers that are making trades related to the future price of something. Firm futures markets are fundamentally driven by supply and demand. Buyers and sellers use futures markets to mitigate risks. The earnings information have a critical effect on the quality of financial statements, which

reflects how the management run the accounting treatment on current firm's performance, particularly the pattern's usage of accruals [1]. The high or low level of using the SCM have a negative contribution on the investors' reactions and perceptions. This perception makes a volatile fluctuations of the firm's stock market value, finally a few investor have been capable of obtaining the abnormal return. [2] also revealed that a number of large companies in the United States had a low level of earnings quality, where there was a high level of accruals. This one related with the high equity costs. It reflects the management have proclivity to implement the SCM in reporting the current performance of company by doing infringement on the available accounting standard. The high level of earnings quality, which indicated by the low level of accruals could contribute positively to positive investor perceptions [3]. When the accounting information have the high earnings quality and low accruals, it could level up the accuracy for predicting the future prospect in SCM, absolutely in determining the expected return [4, 5].

The common motive for using the SCM can be grouped into the motivation of opportunistic and efficiency [6]. The opportunistic encourages management to disseminate the subjective preferences about the current company performance. In [7] found management have tendencies to cover up the accruals treatment. This opportunistic behavior reflects the freedom of management in determining accounting policies, causing the distortion or misleading indicators about the company performance [8]. The efficiency has been done through signaling and efficient contracting, where there is a communication process regarding the company's prospect estimation process.

The process of signaling encourages management to present the accounting information, which can reflect the actual performance and the minimum level of error. On the publication period, there was a signal in financial report, which one make a good or bad news for investor to predict the future prospect, it can give a fluctuation of market price for short time. By looking over the financial report, some investor could monitor the corporate policy, that reflected the pattern of treatment in recording of intangible assets, both the form of patents and goodwill. When the investor believes the management have reach out the better future prospect, it give a positive movement of market price, including the positive market reacts [9]. When the treatment of recording the intangible asset value have fulfilled the accounting standard precisely, this reflected the high level of obedience. Then, the investor take a strong push for management to implement high-quality financial statements (persistent) [10], it related with a signal about the company's prospects.

As the formal communication process, the dividend policy could be used as a pattern of sending the expected signals between investors and management regarding the company's future prospects [11]. Thus, [12] showed that a number of companies in Indonesia tended to use the dividend routinely, this policy had been supported by the existence of majority shareholder. (In [13, 14] indicated that dividend policy was carried out to reduce agency conflict between The majority and minority shareholders. This research found a dividend phenomena, where the dividend pay ratio is much more than the growth of earnings and sales. It means the high yielded dividend policy had been implemented, so absolutely the management have achieved some benefit, theoretically they get the low the cost of capital.

To understand the how the accounting information influences the investor's decision, this research provides the mapping of relationship the variable in figure number 1 can be arranged as follows:

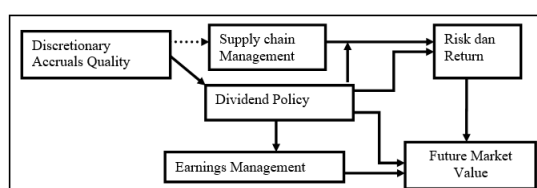


Figure 1. The Mapping of Variables on The estimated Future Market Value.

2. Research questions:

Does SCM influence the future market value of the manufacturing industry public company?

Does the dividend policy moderate the effect of SCM on the future market value of the manufacturing industry public company?

3. Agency Theory

We do have to understand the fundamentals, monitor price trends and understand how regulations may influence pricing – all of which are critical to a sophisticated and holistic supply chain strategy. The agency theory explains about the separation between the management function by managers and the ownership function by shareholders in a company. The interest of agents to maximize their welfare creates agency costs. The agency costs can be divided into the monitoring costs, bonding costs, and residual losses. The monitoring costs are costs incurred and borne by the principal to monitor agent behavior, namely to measure, observe, and control agent behavior. The bonding costs are costs borne by the agent to establish and comply with mechanisms that guarantee that the agent will act in the interests of the principal [15]. Furthermore, the residual loss is a sacrifice in the form of reduced principal prosperity as a result of differences in agent decisions and principal decisions. In [16] said that the conflict of interest occurs when managers maximize the value of the company with external party funding, thereby causing the agency costs to use debt to increase in line with the increase in debt.

4. The Signaling Theory

The basis of this theory is that management and shareholders do not have access to the same company information or the existence of information asymmetry. There is certain information that is only controlled by management, while shareholders are unable to obtain equivalent information. When there is a change in the company's funding policy related to the decline and increase in the value of the company, this kind of information can be shared with shareholders. Evidence of management's responsibility in managing the company is the ability to provide a sign or signal (signaling) to shareholders regarding the company's future prospects [17, 18].

The signal theory explains the pattern of decision-making behavior of investors towards the prospects

of the company by the process of receiving messages or signals sent from management. In reality, management has better information than investors, related to capital costs and risk levels [19]. The signaling theory explains that companies have the urge to provide financial statement information to external parties. The encouragement of companies to provide information is because there is information asymmetry between the company and the investor as the company knows more about future prospects than outsiders (investors and creditors) [20-22]. The motivation of signaling encourages management to send specific messages through the presentation of financial statements [23]. In compiling these numbers, there is an element of using earnings management policies, where there is an influence of SCM on determining earnings.

5. Previous Research

In [24] found a positive relationship between earnings and earnings management, and beta was positively related to the level of leverage and debt financing, including the level of earnings. The relationship of management incentives to earnings management showed a positive effect, and there was a positive relationship between SCM and total accruals with earnings. It showed that the level of a tendency to use earnings management practices was high, as well as indicated a contribution to earnings distress. It was reflected in drastic changes in income, both an increase and a decrease. The more the risk level of the company, the higher the level of earnings distress, where the higher the use of low-quality SCM or not its existence in earning prediction. Furthermore, [25] discovered that company management was used to cover earnings management through funding policies and improving corporate image. This examination proved that earnings management was an opportunistic behavior. The tendency of corporate governance reduced opportunities for earnings management.

In [26] showed that SCM in earning and cost prediction represented the level of management consistency in determining earnings. Investors could react to low earnings quality, in which it was related to the estimated level of expectations in the coming period, including encouragement for management to perform high earnings quality. Accordingly, [27] revealed that investors focused on measuring earnings quality, including negative

perceptions of the use of SCM in cost prediction. The positive perception was seen in the positive price movements. Continuously, [28] indicated that high dividend payments made a positive contribution to future prospects, where there was a positive investor perception of a high level of conservatism use. When companies could carry out an increasingly high dividend policy, then the reporting of income had a level of conversion, and it provided positive news for an increase in stock market prices. When there was majority ownership, the management tended to run a high yielded dividend, thereby encouraging an increase in market value, where shareholders could obtain dividends and capital gains.

In [29] showed that the dividend was positively related to fluctuations in the stock market price, where this policy increased SCM quality. Dividends were conducted on companies that had a low level of SCM for prediction when the quality of earnings was high. Dividends reflected the quality of corporate earnings that when dividends were high, the relationship of dividends to the quality of performance reporting became higher.

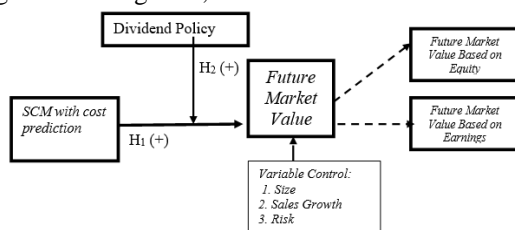
6. The Gap of Research

The previous research had been pointed out that the usage of SCM for prediction of costs influenced the investor's perception negatively, because of misleading information. It made the prediction the future prospect less accuracy. By developing out the novelty model, this research have used the highly improved SCM had the investor's perception positively by predicting actual cost and earnings. The method is to multiply the residual value with negative one, this reflected [30], so that this variable had been named as SCM with cost prediction. This indicator is used to measure how much the management's obedience on accounting standard, particularly the strong management effort to minimize the usage of cost in reporting the firm performance. The high level of obedience gave the positive contribution on the accuracy the future prospect.

7. Framework

Customers and consumers are increasingly value driven and consequently less brand or supplier loyal. In this challenging world, there is a growing recognition that creative pricing strategies combined with effective supply chain management provide opportunities for significant cost reduction

and increased profits. The research framework is organized in Figure 2, as follows:



Note: The researcher that based on the title and purpose of the study.

Figure 2. Conceptual Framework

8. Hypothesis Development

To test the SCM for cost prediction with Future Market Value

When the financial reporting has the high quality, it means the investor can predict the future prospect accurately. This research have developed out the future market value, separated by measurement on equity and earnings. The SCM with cost prediction has been used as the proxy of earnings quality, the high value of SCM reflects the higher level of prediction accuracy of future market value.

First: Hypothesis on Future Market Value On Equity

The pattern of SCM give a contribution on how the accounting treatment has been done. The high level of SCM with cost prediction shows the high level of management's obedience in fulfilling the accounting standard precisely, specialty calculating the net asset value. When the future market value on equity is high, there is a minimum error in determining the net asset value, particularly the consistent method of depreciation. So that, the formulation of hypothesis can be arranged, as follows:

H1a: SCM with cost prediction has a positive effect on future market value based on equity

Second: Hypothesis on Future Market Value On Earnings

The investor need the high accounting in formativeness value, the earnings depicts the actual performance that indicated as high quality financial report. When this information have a low level of future costs, it means there is no misleading information. This indicator reflects the higher the SCM with cost prediction, the higher the accuracy level of predicting the future prospect. The hypothesis formulation based on earnings level can be arranged, as follows:

H1b: SCM with cost prediction has a positive effect on future market value based on earnings.

To Test The Moderation between SCM with cost prediction and Dividend Policy

By doing moderation between the proxy of SCM with cost prediction and dividend policy, the hypothesis can be done by measurement on equity and earning. By focusing on the dividend phenomena, where the management have proclivity to implement the high yielded dividend, it can be concluded that it have the other advantages of this policy. This policy purely had the good reaction from investor, on the way it related with the liquidity level of cash flow. When the dividend policy could fulfill the expected return, the company have been capable of obtaining the low cost of capital and the high involvement of shareholder. This high level of involvement take a strong push on management to level up the SCM with cost prediction, directly the requirement of accounting standard can implemented on the maximum level.

First: Hypothesis on Future Market Value On Equity

The dividend policy has a positive influence on management behavior to improve the quality of SCM, it means the accounting standard have been implemented well and obtained the high compliance. The accounting treatment have been done consistently, it means the asset values have a little gap with the market price, where the minimum gap can be tolerated. The formulation of hypothesis is prepared, as follows:

H2a: Dividend policy had strengthened the positive influence of SCM with cost prediction on future market value based on earnings.

Second: Hypothesis on Future Market Value On Earnings

The dividend policy encourages investor involvement in controlling the corporate decision, that related with profit-loss calculation. Indirectly, this policy push management to obtain the high quality financial reporting, because of estimating the expected return in future. The hypothesis formulation can be done, as follows:

H2b: Dividend policy had strengthens the positive influence of SCM with cost prediction on future market value based on earnings.

9. Population, Sample, and Data Collection Model

The population was the manufacturing industry, that enlisted at Indonesia capital Market, this research have the purposive sampling. The criteria

of research objects could be arranged, as follows [31]:

The company made dividend payments within the observation period.

The company had a positive average annual growth rate.

This research period was in the period 2015-2017; however, the data needed were from 2011 to 2018. Population of this study are 154 companies by doing observed about 384, which have 204 valid observation. This secondary data had been

obtained through ICMD (Indonesia Market Capital Directory) and the Indonesia Stock Exchange website.

10. Dependent Variable: Future Market Value

This research provided a calculation schema by using H model approach (Two-Stage Model for Growth), which could be arranged, as follows:

The Estimated Price Prediction with Life Cycle and Multistage Growth Models

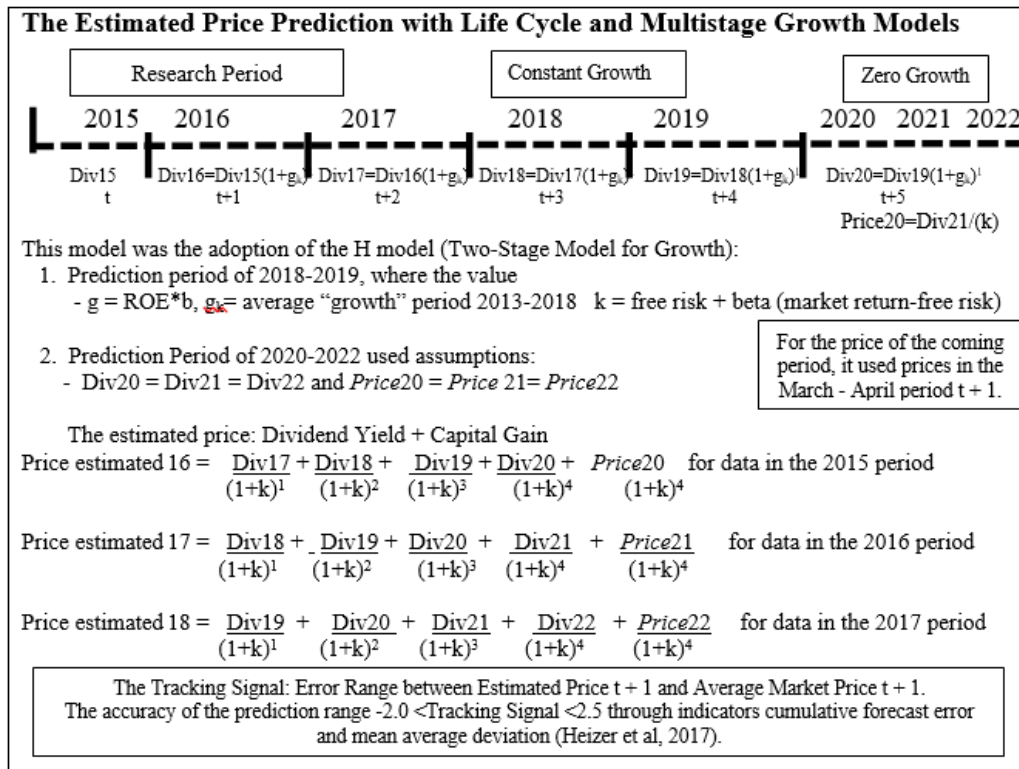


Figure 3. Stages of Estimated Market Price Calculation in the Period of 2015-2017.

Presentation of the measurement of a number of variables in Table 1 is as follows:

Table 1. The Basis for Measurement of Research

Variable	Measurement Formula	Scale
Dependent Variable, by using estimation indicator measurement of Future Market Value variable	The Estimated Price $t = \frac{Div_{t+1}}{(1+k)^{t+1}} + \frac{Div_{t+2}}{(1+k)^{t+2}} + \dots + \frac{Div_{t+5}}{(1+k)^{t+5}} + Price_{TV}$	Ratio
SCM with cost prediction = (absolute $\epsilon_{j,t}$) X -1	Total (TAC) = $NI_{j,t} - CFO_{j,t}$ $TAC_t = \beta_0 + \beta_1 A/R_{j,t} + \beta_2 A/P_{j,t} + \beta_3 INV_{j,t} + \beta_4 Profit\ Margin_{j,t} + \epsilon_{j,t}$	Ratio
Moderation Variable, by using the Dividend Policy indicator	$Dividend_t = \frac{Dividend_t}{Net\ Income_{t-1}}$ Measurement of Dividend Policy for period t and Net Income for period t-1	Ratio
First Control Variable with	Book Value = Value of Total Assets for the period	Ratio

Size	Size = Log (Natural Book Value)	
	$SGt = \frac{\text{Sales } t - \text{Sales } t-1}{\text{Sales } (t-1)}$	
Second Control Variable with Sales Growth Measurement	Delta Sales Growth (%) = Sales Value t period - Sales Value coming period	Ratio
Third Control Variable with Risk (Debt to Equity Ratio)	Total Debt = Short-term Debt + Long-term Debt Then, the formula was developed Debt to Equity Ratio = Total Debt Value/Equity Value	Ratio
Source: Data Management	Table 2 shows the coefficient values of each regression model, as follows	

11. Discussion of Main Models

Table 2. Regression Equation Coefficients in the Main Model

The Independent Variables	Future Market Value Based on Equity		Future Market Value Based on Earnings	
	Unstandardized Coefficient	Sig One Tail	Unstandardized Coefficient	Sig One Tail
1. Constant Coefficient Value	-0.012	0.155	-0.136	0.162
Dependent Variable				
2. SCM with cost prediction	0.018	0.024	0.286	0.006
3. Dividend Pay Out	0.105	0.009	0.347	0.001
4. SCM with cost prediction X DPR	0.116	0.021	0.134	0.010
Control Variable				
5. Log Total Asset	0.007	0.039	0.029	0.001
6. Growth Sales	0.001	0.013	0.025	0.006
7. Risk	-0.127	0.001	-0.248	0.001
F-Count Value	3.954		4.544	
Significant	0.000		0.000	
F Table	0.504		0.504	
Adjusted R Square	0.104		0.123	

Source: The Secondary Data

DPR= Dividend Pay Out Ratio

Table 2 shows F Count > F Table, it is high significant, where the independent variable had a simultaneous influence on the dependent variable, and the level of significance was high. This model has met the valid predictive modeling requirements.

First: SCM with cost prediction toward Future Market Value on Equity

The First Regression Multiple Model Equation can illustrated, as below:

$$\text{Future Market Value On Equity} = -0.012 + 0.018 \text{ DA} + 0.105 \text{ DIV} + 0.116 (\text{DA} * \text{DIV}) + 0.007 \text{ Asset} + 0.001 \text{ Growth} - 0.127 \text{ Risk}$$

Table 3 First Model shows the statistical analysis as follows:

The SCM with cost prediction had a Sig level of 0.024 < of the value of 0.05 and a coefficient of positive 0.018, then the H1a hypothesis was accepted. This result reflected that SCM with cost

prediction had a positive effect on future market value based on equity.

The moderation variable between the dividend policy and the SCM with cost prediction had a Sig level of 0.021 < 0.05, and a coefficient of positive 0.116, so that the H2a hypothesis was accepted. This result indicated that dividend policy strengthened the positive effect of SCM with cost prediction on future market value based on equity.

The analysis showed that SCM with cost prediction had a positive effect on future market value (FMV) on equity. This positive effect indicated that an increase in SCM with cost prediction provided an increase in the company's future value. When the value of SCM with cost prediction was high, the predicted level of future prospects of the company had a high degree of accuracy. In contrast, when SCM with cost prediction was low, this indicator showed a high form of deviation, which made it difficult to estimate future prospects. The high level

of SCM with cost prediction reflected the low level of SCM use, especially in reporting earnings. By having the ability of investors to calculate the rate of profit with a high value of informativeness, this study strengthened the results of [33], regarding the use of SCM.

This research supports [34], there is the negative perceptions of the investor on the use of cost prediction that related to the company's performance in the current period. The use of cost prediction gave a "bad" signal to investors, so this research supports [5] concerning on the high cost prediction treatment at bankrupt period. The negative perception from the investor happened, because of the difficulty handicap in predicting the prospect in future. The SCM with cost prediction is an indicator of the use of future cost and earnings, it depicts the accounting policies at a low level of accounting standard. The high quality of SCM was looked over by the pattern of recording the company book value, including the consistency level in implementing the depreciation model [35]. The high level of compliance gives a positive signal so that it provides a positive perception that can be seen on the positive market price movements.

By implementing a dividend policy, investors can calculate the market price of the coming period, so that the picture of the company's fundamental situation can be known precisely, including the better prospect in the following period. This primary role of dividends is to level reduce the cost of capital, so that positive perception became a trust, including reducing the level of risk. When the dividend policy could strengthen the positive influence the SCM with cost prediction on the future market value, then this result reinforces [36, 37], which states that dividend policy gives a contribution companies on obtaining funding in the context of business development through obtaining low capital costs, including the level of business risk. The dividend policy makes the investors able to trace the condition of the company in future period.

Second: Dividend Policy Moderates the Effect of SCM with cost prediction on Future Market Value on Earnings

The Second Multiple Regression Model Equation can illustrated, as below :

$$-0.136 + 0.286 \text{ DA} + 0.347 \text{ DIV} + 0.134 (\text{DA} * \text{DIV}) + 0.029 \text{ Asset} + 0.025 \text{ Growth} - 0.248 \text{ Risk} (2)$$

Table 2 Second Model shows the statistical analysis, as follows:

The SCM with cost prediction variable had a Sig $0.006 <$ of the value of 0.05, and a coefficient of positive 0.286; thus, the H1b hypothesis was accepted. This result reflected that SCM with cost prediction had a positive effect on future market value based on earnings.

The moderation variable between the dividend policy and the SCM with cost prediction had a Sig level of $0.010 < 0.05$, and a coefficient of positive 0.134 so that the H2b hypothesis was accepted. This result indicated that dividend policy strengthened the positive effect of SCM with cost prediction on future market value based on earnings.

This investigation showed that SCM with cost prediction had a positive effect on future market value (FMV) on earnings. This positive influence means that an increase of SCM with cost prediction provided an increase in the value of future companies, especially on reporting the company's ability to generate earnings. When the value of SCM with cost prediction was at a low level, this indicator showed a form of deviation, because there was a high bias in earnings reporting. The perception of improving the SCM with cost prediction received a positive signal from investors because it was an indicator of the value of earnings informative.

This analysis supports the research by (Lebert, 2019), regarding SCM with cost prediction that reflects the level of SCM use. The use of SCM contains an element of misdirection on company performance through opportunistic behavior, so SCM with cost prediction provides positive investor perceptions. This results are to support [38] regarding the negative investor perceptions on the SCM with cost prediction in reporting company performance, the implications of SCM lead to be a critical bias in estimating the accurate predictions for the future period.

The increase in SCM with cost prediction is a signaling pattern of management regarding the company's future prospects, so these empirical results strengthen [39], regarding the communication process through the accruals for the prospects in future. Also, these empirical results reinforce research done by [40] by revealing an increase in the ability of investors to detect the accruals. By having a positive perception of increasing SCM with cost prediction, many investors were able to provide positive encouragement to management to improve the

accounting information’s quality, this results is to support it [41].

This empirical research proved that dividend policy had a positive effect on increasing the accruals quality on encouraging the management to improve compliance with the principles of accounting standards. The level of compliance can be seen by increasing the accruals quality by reducing the low level of accruals. The dividend policy had a positive influence on the firm’s performance in the coming period. Besides, it strengthens (Baker & Powell, 2015), that dividend policy is an indicator of the firm’s ability to carry out the operational activities, including the sending a signal about the going concern of the company on the right track. It creates out an obstacle for the other party to gain over the control right from the current management, because of the positive signal. This one thing is to encourage the management to improve the SCM with cost prediction, this supported [33]. The investors could calculate the expected returns precisely by using the dividend payout ratio indicator to predict future market price movements, including the ability to develop strategic businesses. The results strengthened [11], concerning the dividend policy in reducing the level of risk.

This research confirms the previous research regarding the quality of performance reporting, as follows:

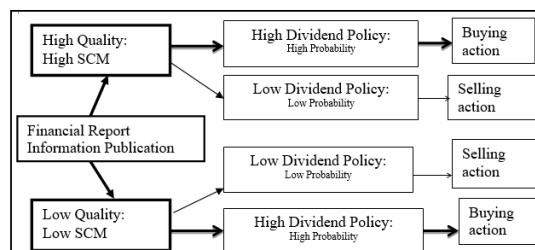
In [19] stated that investors reacted to the accruals quality and encouraged the management to improve the earnings quality, which is an indicator of the level of consistency in the use of SCM. The positive perceptions on the high level of consistency were reinforced by [19].

In [12, 24] presented the investors take a force demand on improving the accounting information quality. The research reported that the pattern of accruals can be the predictive variable for the future prospects.

In [11] showed that management was trying to cover up the pattern of accruals, so some disclosure about the accruals should be enlisted in financial reports as an additional notes. This study provided evidence that investors have demanded the management to improve the earnings information’s quality.

It supports [29] through investor pressure on management to improve the SCM.

This research provides a mapping of management behavior and investor reaction through the decision tree model in Figure 4 is arranged as follows:



Note: Researcher Management Results

Figure 4. Mapping of Earning Quality and Dividend Policy.

The development of predictive models was done through a decision tree model with the Bayes Theorem. When the management have proclivity to run the low level of accruals as “good news”, the prediction model could done with the formula below, as follows (Kaplan, 1996):

$$P(DT|A<) = P(A<|DT) . P(A<) / P(A<|DT) . P(A<) + P(A<|DR) . P(DR).....(3)$$

Explanation:

P(A<) is the Probability of the Low Level of prediction cost.

P(DT) is the Probability of the High Yielded Dividend .

P(DR) is the Probability of the Low Yielded Dividend

P(A<|DT) shows the Probability of Low predicted cost, if the Dividend is High.

P(A<|DR) shows the Probability of Low predicted cost, if the Dividend is Low.

P(DT|A<) shows the Probability of The High Dividend Opportunity, if the Low Level Of cost had been implemented.

When the management have proclivity to run the high level of accruals, there is the low probability of conducting a high yield dividend policy, so that it can give a "bad news" signal. The prediction model could be formulated, like this :

$$P(DT|A>) = P(A>|DT) . P(A>) / P(A>|DT) . P(A>) + P(A>|DR) . P(DR).....(4)$$

Explanation:

P(A>) is the Probability of the High Level of future cost.

P(DT) is the Probability of the High Yielded Dividend ..

P(DR) is the Probability of the Low Yielded Dividend.

$P(A>|DT)$ shows the Probability of High future cost, if the Dividend is High.

$P(A>|DR)$ shows the Probability of High future cost, if the Dividend is Low.

$P(DT|A>)$ shows the Probability of The High Dividend Opportunity, if the High Level Of future cost had been implemented.

By estimating $P(DT)$ and $P(DR)$, it predict how the management implement the high or low yielded dividend, when it based on the level of future cost. By calculating $P(A|DT)$ and $P(A|DR)$, it can predict the investor decision (to sell or to buy), when the high or low yielded dividend have been implemented. This model reflected the concept of decision usefulness information in accounting reports. Further, the indicator of $P(DT|A)$ indicated the probability of implementing the high yielded dividend is high (> 0.6), when the pressure for "selling" would be much higher than the pressure for "buying" on this company shares. The management have a proclivity to use the high level of earnings quality to level up a strong pressure for "selling", and level down pressure for "buying", including the communication way to change a "bad news" to "good news."

12. Conclusion

The formulation of conclusions in detail can be presented, as follows:

The SCM with prediction cost as a proxy for earning quality has confirmed a significantly positive effect on the future market value based on equity and earnings. The existence of this positive relationship reflected the positive perception of investors formed when there was a level of compliance with high accounting standards, including a none of misleading information.

The dividend policy has strengthened the positive influence discretionary accruals on the future market value based on equity and earnings significantly. By analyzing the moderation, this multiple regression model showed that dividend policy encouraged the management to minimize the opportunity behavior and level down the accruals level in obtaining the high quality accounting information. The dividend policy could reduce the management's willingness to violate the accounting standard by the high investor's involvement. The high level of compliance could encourage the low level of discretionary accruals by obtaining the high level of obedience on the available accounting standards.

12.1 Implication

Some theoretical implications can be presented as follows:

This research had contribution for the regulator in compiling and updating the available accounting standards, including the high involvement of investor in monitoring the accounting treatment and the pattern of accruals. It indirectly contributes to improving the quality of financial reporting when there is low level of accruals. It can be concluded that a relationship between the earning quality and market price had been an implication of the game theory.

This research contributes to the Financial Services Authority in preparing financial statement regulations, which can provide an impetus to improve the quality of reporting. On the other hand, some public policy regulator can encourage a number of companies to conduct dividend policy as mandatory obligation, which should be implemented regularly.

12.2 Research Limitations

Some limitations in conducting this research can be arranged as follows:

This study used a measurement of a constant growth rate with the calculation of the indicator g (growth) in the next five years period.

This research had secondary data abnormalities reflecting a very high level of variation in the use of accruals. As an implication of the data that were not normal, it caused considerable data trimming through outlier tests. In this analysis, 180 data were be rejected, where the amount of collected observations 384 samples.

15. Recommendations for Further Research

Some recommendations for future research can be formulated as follows:

In measuring earnings quality for future research, researchers suggest using approaches with probabilities, especially modeling the predictions of investor reactions on the high quality of financial statements. The future research can be developed by designing the nonlinear regression models.

In measuring risk levels, researchers are aware of a number of limitations of beta instruments. In future research, a more comprehensive risk level calculation can be used to estimate the company's existence in the long run. The future research could design the simple formulation in predicting the

probability of management behavior to reach out the better prospect in future.

References

- [1] Agustina, L., & Baroroh, N. (2016). The Relationship Between Enterprise Risk Management (ERM) And Firm Value Mediated Through The Financial Performance. *Review of Integrative Business and Economics Research Online*, 5(1), 128–138.
- [2] Alwi, S., & Rahim, R. A. (2009). Dividend and debt policy as corporate governance mechanism: Indonesian evidence. *Jurnal Pengurusan*, 29, 111–125.
- [3] Baker, H. K., & Powell, G. E. (2015). Dividend policy in Indonesia: Survey evidence from executives. *Journal of Asia Business Studies*, 6(1), 79–92.
- [4] Bassiouny, S. W., & Ragab, Mohamed Moustafa, Soliman, A. (2016). The impact of ownership structure on dividend payout policies: an empirical study of the listed companies in Egypt. *The Business and Management Review*, 7(2), 91–102.
- [5] Bhattacharya, N., Desai, H., & Venkataraman, K. (2012). Does earnings quality affect information asymmetry? Evidence from trading costs. *Contemporary Accounting Research*, 30(2), 482–516.
- [6] Brav, A, Graham, J, Harvey, C, Michaely, R. (2005). Payout Policy In The 21st Century. *Journal of Financial Economics*.
- [7] Brealey, Myres, A. (2008). *Principles of Corporate Finance*.
- [8] Chaudhary, G. M., Hashmi, S. H., & Younis, A. (2016). International Journal of Economics and Financial Issues Does Dividend Announcement Generate Market Signal? Evidence from Pakistan. *International Journal of Economics and Financial Issues*, 6(1), 65–72.
- [9] Damodaran, A. (2012). *Investment Valuation: Second Edition*. Wiley Finance.
- [10] Dempster, G. M., & Oliver, N. T. (2019). Financial Market Pricing of Earnings Quality: Evidence from a Multi-Factor Return Model. 312–329.
- [11] Desai, H., Rajgopal, S., & Venkatachalam, M. (2004). Value-glamour and accruals mispricing: One anomaly or two? *Accounting Review*, 79(2), 355–385.
- [12] Deshmukh, S. (2005). The Effect of Asymmetric Information and Dividend Policy. *Journal of Business and Economics*, 44(1 & 2), 107-127.
- [13] Dichev, I., Graham, J., Harvey, C. R., & Rajgopal, S. (2016). The misrepresentation of earnings. *Financial Analysts Journal*, 72(1), 22–35.
- [14] Elayan, F. A., Li, J., Liu, Z. F., Meyer, T. O., & Felton, S. (2016). Changes in the Covalence Ethical Quote, Financial Performance and Financial Reporting Quality. *Journal of Business Ethics*, 134(3), 369–395.
- [15] Emeka Nwaaze. (2011). Are Incentives For Earnings Management Reflect In The ERC: Large Sample Evidence. *Advance in Accounting Incorporating Advances in International Accounting*, 27, 26-38.
- [16] Francis, J., LaFond, R., Olsson, P., & Schipper, K. (2005). The market pricing of accruals quality. *Journal of Accounting and Economics*, 39(2), 295–327.
- [17] Fransisca Fortunata Gunawan, Felizia Arni Rudiawarni, A., & Sutanto, C. (2014). Hubungan Antara Financial Distress Dengan Earnings Management Pada Badan usaha Sektor Manufaktur Yang Terdaftar Pada BEI Periode 2010-2012. *Jurnal Ilmiah Mahasiswa Universitas Surabaya*, 3(1).
- [18] Hu, N., Cao, Q., & Zheng, L. (2015). Listed companies' income tax planning and earnings management: Based on China's capital market. *Journal of Industrial Engineering and Management*, 8(2), 417–434.
- [19] Ibrahim, S. S. (2005). An Alternative Measure to Detect Intentional Earnings Management through Discretionary Accruals. *Disertasi*, 6(2), 103.
- [20] Jonathan, & Machdar, N. M. (2018). Pengaruh Kualitas Laba terhadap Nilai Perusahaan dengan Reaksi Pasar Sebagai Variabel Intervening. *Jurnal Riset Manajemen Dan Bisnis (JRMB) Fakultas Ekonomi UNIAT*, 3(1), 67–76.
- [21] Kaplan. (1996). *Decision Theory as Philosophy*. Cambridge University Press.
- [22] Khotari, S. . (2001). Capital Markets Research In Accounting. *Journal of Accounting and Economics*, 31, 105–231.
- [23] Lasdi, L. (2008). Perilaku Manajemen Laba Perusahaan dan Konservatisme Akuntansi: Berbeda Atau Sama? *Jurnal Manajemen Teori Dan Terapan*, 1(2), 109–125.
- [24] Lebert, S. (2019). Rounding up performance measures in German firms: Earnings cosmetics or earnings management on a larger scale? Rounding up performance measures in German firms: Earnings cosmetics or earnings management on a larger scale?.
- [25] Lee, H. A. (2016). The usefulness of the tax avoidance proxy: Evidence from Korea. *Journal of Applied Business Research*, 32(2), 607–620.
- [26] Mahdiye Ebrahimpour, Salteh, H. M. Z., & Rasoul Baradarane Hasan Zadeh. (2013). The

- Study Of The Effect Of Dividend Earnings On The Quality Of Earnings With Emphasis On The Industry Type. *European Online Journal of Natural and Social Sciences*, 2(3), 1034-1042.
- [27] Mao, C. X. (2003). Interaction of Debt Agency Problems and Optimal Capital Structure: Theory and Evidence. *Journal of Financial and Quantitative Analysis*, 38(2), 399-423.
- [28] Martínez-Ferrero, J., Banerjee, S., & García-Sánchez, I. M. (2016). Corporate Social Responsibility as a Strategic Shield Against Costs of Earnings Management Practices. *Journal of Business Ethics*, 133(2), 305–324.
- [29] Myers, S. C., & Myers, S. C. (2007). Capital Structure.
- [30] Perotti, P., & Wagenhofer, A. (2014). Earnings quality measures and excess returns. *Journal of Business Finance and Accounting*, 41(5–6), 545–571.
- [31] Ping, K. (2016). Do Investors Price Accruals Quality for Firms Charged with Poor Reporting 2 . *Literature Review and Hypothesis Development*. 7(1), 2–23.
- [32] Povolotskaya, Y. (2014). Does the quality of accruals affect company performance?.
- [33] Ratnadi, N. M. D., Sutrisno, Achsin, M., & Mulawarman, A. D. (2013). The Effect of Shareholders Conflict over Dividend Policy on Accounting Conservatism : Evidence from Public Firms in Indonesia. *Research Journal of Finance and Accounting*, 4(6), 146–155.
- [34] Riwayati, H. E., Markonah, & Siladjaja, M. (2016). Implementation of Corporate Governance Influence to Earnings Management. *Procedia - Social and Behavioral Sciences*, 219, 632–638.
- [35] Scott, W. R. (2015). *Financial Accounting Theory*.
- [36] Sekaran, U., & Bougie, R. (2016). *Research Methods for Business: A Skill Building Approach*.
- [37] Shin, H., & Kim, S. (2019). The Effect of Corporate Governance on Earnings Quality and Market Reaction to Low Quality Earnings : Korean Evidence.
- [38] Taleb, G. Al. (2012). Measurement of Impact Agency Costs Level of Firms on Dividend and Leverage Policy : An Empirical Study. *Institute of Interdisciplinary Business Research*, 3(10), 234–244.
- [39] Wardhana, L., Tandelilin, E., Lantara, I. W. N., & Junarsin, E. (2014). Dividend Policy in Indonesia: A Life-Cycle Explanation. *Ssrn*.
- [40] Yeye Susilowati. (2006). *Pendanaan, Konsekuensi Signal Subtitusi dan Komplemen Dalam Keputusan Keputusan*.
- [41] Zarowin, P. (2015). Estimation of Discretionary Accruals and the Detection of Earnings Management. *Oxford Handbooks Online*.