

# The Influence of Accounting Implementation to Return on Investment (ROI)

Vienda A. Kuntjoro

**Abstract**—In theory, the environment of accounting is both very complex and very challenging. The complex is because the product of accounting is information. The accounting indicators as the accounting information systems seem important in terms of increasing the future performance that could bring result of competition advantages. Accounting under the ideal condition helps the investors to see the real problem through return on investment (ROI) of the company and more important to take the decision carefully whether investors have to invest or not.

**Keywords**— financial statement indicators, ROI, accounting as information system.

## I. INTRODUCTION

Accounting subsystems process financial transactions and nonfinancial transactions that directly affect the processing of financial transactions.

The financial statements contains balance sheet, the income statement, the retained earnings statement and the statement cash flows are relevant and capable to make in difference decision, more, its reliability in giving unbiased information, accurate and verifiable. Heidhues and Patel provide a holistic insight into the role and utilization of accounting information in decision-making strategies and processes.

A number of studies found that after taking into account that the impact of market share, industry concentration has little, if any, role in explaining differences in the level of firm profitability (Gale and Branch (1982), Ravenscraft, 1983). Previous study formed eight groupings of firms based on their initial profit rates, and tests whether the probability of a firm remaining in its initial profitability grouping over time is independent of its initial grouping (Mueller, 1977).

### A. Problems

The motivation of investigate this problem is because of the necessity of reducing the information asymmetry among the managers who provide the information and the stakeholder who does the decision making in investment by presenting and providing accounting information implementation). Theoretical model shows that the value of an information system increases with investor wealth (Ohlson's, 1975).

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Here, we would like to find, what is accounting system implementation from financial statement (using accounting indicator) influence positively related to return on investment (ROI)?

### B. Purpose of the research

The CIO (IS executive) should also be assessing the IS function using many of the same factors as the CEO when measuring corporate performance, including market share, customer satisfaction, margin and return on investment (Plewa & Lyman, 1992).

This research purposed is to find out the accounting implementation from financial statement influence (using accounting indicator) positively related to return on investment (ROI) in Indonesia.

### C. Limitation of research

Limitation of the data may happen, however, this number of empirical studies may have opportunity to be developed into sustainability development report for future research. Using upgrade software from time to time may help the accuracy of accounting quicker in providing the accounting information for management

### D. Advantage of research

The firm with low ROI compared to firm with lagged ROI; this lower autocorrelation is consistent with finding of Branch (1980), who suggests that this is because a business will exert strenuous efforts to raise ROI when its ROI is low.

1. This research result hopefully will become reference for both firms and governments for stay in practice using accounting information for their decision making and concern with its sustainability report. The contributions of the research are as following
  - To increase the firm performance by applied good implementation in accounting system
2. To perform good decision making provide by accountant in order to invest for investors
3. To increase the firm reputation in product image in implementing accounting system
4. To know how big influences applying accounting system implementation (using accounting indicator) related to return on investment as evidence in manufacturers in Indonesia
5. To apply sustainability accounting report based on current accounting system implementation

## II. LITERATURE REVIEW

Without quantitative feedback, managers are dependant upon only experience, intuition, and judgment. As firms become more complex, global and fast-paced, relying on experience and intuition alone is increasingly problematic (Singleton, McLean & Altman, 1988).

Previous researcher stated that in one of their guidelines mentioned objective data will tend to be more reliable, more easily, quantifiable, and more representative of the official position (Cameron & Whetton, 1983). If a systematic analysis of task objectives can be made, the measurement problems will be substantially solved (Campbell, 1977, 49).

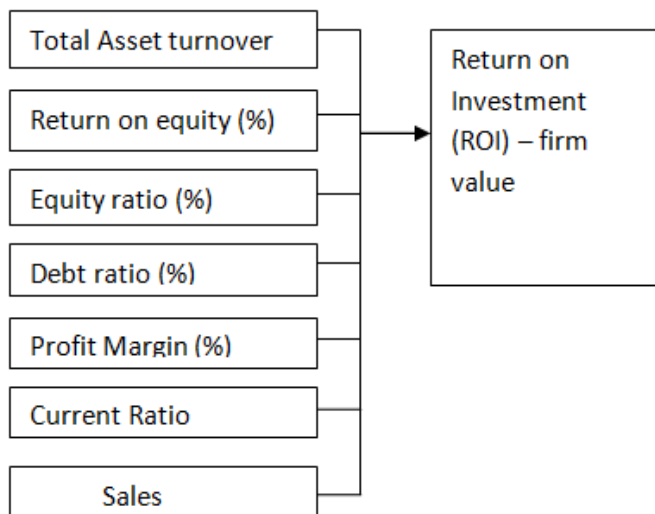
Transparency of accounting information system in Indonesia is low (Rahman, 1998);

On the other studies, Market share induces greater persistence in Return on investment (ROI). Previous researcher suggested ROI and market share both result from the influence of some common factor such as luck and management quality, higher market share allows the benefits of luck and management quality to be retained for a longer period of time. While it is not a direct effect of market share on ROI, this is an important affect that gives an additional incentive for implementing a market share strategy (Mancke, 1974 and Jacobson and Aaker, 1985).

Many strategy research studies have sought to measure differences in firm performance to support the propositions (e.g Capon, Farley, and Hoenig, 1990; Cool and Dierickx, 1993; Davis and Kay, 1990; Hansen and Wernerfelt, 1989; Lenz, 1981; Chakravarthy, 1986; Porter, 1985; Ramanujam and Venkatraman, 1986; Venkatraman and Prescott, 1990; Woo, Willard and Daelenbach, 1992).

### A. Research Design

Previous researcher studied in one of their performance dimension mentioned that IS contribution to organization's financial performance (Saunders and Jones, 1992).



## III. RESEARCH METHODS

### A. Research Approach

Quality measures represent the most positive step taken to date in broadening the basis of business performance measurement (Eccles, 1991, p. 133). Relative perceived quality and profitability are strongly related and quality is also related to growth (Buzzel & Gale, 1987).

The secondary data based on documentation of Indonesian Capital Market and Prasetio, Utomo & Co. The data consist of balance sheet, income statement, retained earnings statement, and financial ratios. The perspective of using samples is because of The secondary data is using panel data, the precision disputed is from 1 (one) percent up to 10 (ten) percent. Thus, the service companies do not include in this research object, it is limited only from providing manufacturing data. The data started from year 2003 to year 2007 (5 years).

Regression model with panel data approach common effect, fixed effect, and random effect (using EVIEWS).

### B. Sample selection

Research object from total number of samples are 146 manufacturers; The sample choice is based on the manufacturers because of Indonesia is expected having the industry development internal and external so that can increase the firm value by presenting the accounting information for industries as the investor decision making for invest

### C. Data Analysis Method (Methodology Research)

Prediction measurement is used to know how big value of dependent variable based on expected future value from independent variables.

The empirical formula is following:

$$\ln Y = \beta_0 + \beta_1 \ln X_{11} + \beta_2 \ln X_{22} + \beta_3 \ln X_{33} + \beta_4 \ln X_{44} + \beta_5 \ln X_{55} + \beta_6 \ln X_{66} + \beta_7 \ln X_{77} + e$$

Dependent variable

Y = Return on Investment (ROI)

Independent variable

X11 = Total asset turnover

X22 = Return on Equity (ROE-%)

X33 = Equity ratio (%)

X44 = Debt Ratio (%)

X55 = Profit Margin (%)

X66 = Current ratio

X77 = Sales

The developing measurement of information asymmetry is model developed by Fama (1980).

I selected a series of variables to measure focusing on analyzing the return on investment. A number of studies in finance and accounting assessing the properties of return, e.g Ball and Brown (1968), based their analysis on unsystematic return instead of total return.

This investigation is to achieve the study goals of following:

- To examine the influence of accounting system

implementation from financial statement (using accounting indicator) related to Return on Investment

- To reduce the gap information between managers and stakeholders.

#### IV. RESULT

##### A. Common Effect

$\ln Y_{it} = \beta_0 + (0.81) \ln X_{1it} + (0.21) \ln X_{2it} + (0.43) \ln X_{3it} + (0.65) \ln X_{4it} + (0.78) \ln X_{5it} + (0.07) \ln X_{6it} + (-0.06) \ln X_{7it} + e_{it}$ .

##### Analysis

Regression result for X11 (Total Asset Turnover), X22 (ROE), X33 (Equity ratio), X44 (Debt Ratio), X55 (Profit margin), and X66 (current ratio) are giving influence positively related to Y1 (ROI) as expected theory, but not for X77 (sales). Sales does not influence positively related to ROI. When ROI increase 1% so that the total asset turnover will increase as much as 0.81%, ROE will increase as much as 0.21%, Equity ratio will increase as much as 0.43%, Debt ratio will increase as much as 0.65%, Profit margin will increase as much as 0.78%, and current ratio will increase as much as 0.07%. Statistic test for X11, X22, X33, X44, X55, and X77 show significant at level  $\alpha=1\%$ , but for X77 significant at level  $\alpha=10\%$ .

R-squared value shows model has ability to explain return on investment (ROI) variations as much as 89.42%; the rest of 10.58% is explained by other variables. Adjusted R-squared may consider the additional independent variables that may be input in the samples. The Standard error of regression shows 0.20 closed to 0 shows the smaller of  $\sigma$  value, so that the prediction of regression model will close to actual value of Y1 (ROI). We can calculate

$$r^2 = 1 - \text{RSS}/\text{TSS}$$

Where

$r^2$  = determinant coefficient

RSS = residual sum of square

TSS = total sum of square

$$r^2 = 1 - (0.208/0.566)$$

$$r^2 = 1 - (0.36)$$

$$r^2 = \sqrt{0.64}$$

$$r = 0.8$$

The highest  $r^2$  is as much as 1,  $r^2$  shows approximately 64% (above 50%) total variation of Y1 (ROI) that is explained by regression model. We may say the sample regression gives the good data and there is strong relation between both Y variable and X variables. The Y prediction approach Y actual, so it will give the higher of  $r^2$  value.

$$\text{TSS} = \text{ESS} + \text{RSS}$$

Where

TSS = total sum of square

ESS = explained sum of squares

RSS = residual sum of square

$$0.566 = \text{ESS} + 0.208$$

$$\text{ESS} = 0.358$$

$\text{ESS} > \text{RSS}$  ( $0.358 > 0.208$ ) shows that X variables explained

variation of Y variable. In other word, FRS (sample regression sample) will explain mostly of Y variation.

The minimum value of -2 times log likelihood (-2LL) is 0. The lower the -2LL value the better fitting the model (showing the goodness of fit). The common effect shows the log likelihood of  $76.056 \times -2 = -152.112$  shows the minimum 0 means corresponds to perfect fit.

d Durbin Watson value is 1.6 closed to 2 shows that there is no autocorrelation (positive or negative)

$$p = 1 - (d/2)$$

$$p = 1 - (1.6/2)$$

$$p = 1 - 0.8$$

$p = 0.2$  closed to 0 shows there is no correlation.

Both Akaike information criterion (AIC) and Schwarz information criterion (SIC) has the small value -0.29 and -0.23 below 0. Low value of both AIC and SIC show good model

##### B. Fixed Effect

$\ln Y_{it} = 1.91 + (1.05) \ln X_{1it} + (0.20) \ln X_{2it} + (0.36) \ln X_{3it} + (0.64) \ln X_{4it} + (0.86) \ln X_{5it} + (0.24) \ln X_{6it} + (-0.34) \ln X_{7it} + e_{it}$

##### Analysis

Regression result for X11 (Total Asset Turnover), X22 (return on Equity), X33 (Equity ratio), X44 (Debt Ratio), X55 (Profit margin), and X66 (current ratio), are giving influence positively related to Y1 (ROI) as expected theory. Sales does not influence positively related to ROI. When ROI increase 1% so that the total asset turnover will increase as much as 1.05%, Return on equity will increase as much as 0.20%, Equity ratio will increase as much as 0.36%, Debt ratio will increase as much as 0.64%, Profit margin will increase as much as 0.86%, and current ratio will increase as much as 0.24%. Statistic test for X11, X33, X44, X55, X66 and X77 show significant at level  $\alpha=1\%$ , but for X22 significant at level  $\alpha=5\%$ .

R-squared value shows model has ability to explain return on investment (ROI) variations as much as 93.61%; the rest of 6.39% is explained by other variables. Adjusted R-squared may consider the additional independent variables that may be input in the samples. The Standard error of regression shows 0.25 closed to 0 shows the smaller of  $\sigma$  value, so that the prediction of regression model will close to actual value of Y1 (ROI). We can calculate

$$r^2 = 1 - \text{RSS}/\text{TSS}$$

Where

$r^2$  = determinant coefficient

RSS = residual sum of square

TSS = total sum of square

$$r^2 = 1 - (0.190/0.566)$$

$$r^2 = 1 - (0.3356)$$

$$r^2 = \sqrt{0.66}$$

$$r = 0.81$$

The highest  $r^2$  is as much as 1,  $r^2$  shows approximately 66% (above 50%) total variation of Y1 (ROI) that is explained by regression model. We may say the sample regression gives the good data and there is strong relation between both Y variable and X variables. The Y prediction approach Y actual, so it will give the higher of  $r^2$  value.

$$TSS = ESS + RSS$$

Where

TSS = total sum of square

ESS = explained sum of squares

RSS = residual sum of square

$$0.566 = ESS + 0.190$$

$$ESS = 0.376$$

ESS > RSS (0.376 > 0.208) shows that X variables explained Y variation. In other word, FRS (sample regression sample) will explain mostly of Y variation.

The minimum value of -2 times log likelihood (-2LL) is 0. The lower the -2LL value the better fitting the model (showing the goodness of fit). The common effect shows the log likelihood of  $66.5 * -2 = -133$  shows the minimum 0 means corresponds to perfect fit.

$$F_{0.05} (n=478, k=7) = 2.01 ; F_{\text{calculated}} = 22.17$$

$F_{\text{calculated}} > F_{0.05}$  (22.17 > 2.01) shows reject  $H_0$ , it means that there is linear relationship exist between X and Y.

Akaike information criterion (AIC) has small value of -0.25 close to 0 and Schwarz information criterion (SIC) has value of 0.95 close to 1. Low value of both AIC shows good model and SIC show SIC is not as good model as AIC.

d Durbin Watson value is 2.0 closed to 2 shows that there is no autocorrelation (positive or negative)

$$p = 1 - (d/2)$$

$$p = 1 - (2.0/2)$$

$$p = 1 - 1$$

$$p = 0 \text{ shows there is no correlation}$$

### C. Random Effect

$$\ln Y_{it} = -0.30 + (0.78)\ln X_{1it} + (0.24)\ln X_{2it} + (0.49)\ln X_{3it} + (0.70)\ln X_{4it} + (0.75)\ln X_{5it} + (0.07)\ln X_{6it} + (-0.05)\ln X_{7it} + v_{it}$$

### Analysis

Regression result for X11 (Total Asset Turnover), X22 (return on Equity), X33 (Equity ratio), X44 (Debt Ratio), X55 (Profit margin), and X66 (current ratio), are giving influence positively related to Y1 (ROI) as expected theory. Sales does not influence positively related to ROI. When ROI increase 1% so that the total asset turnover will increase as much as 0.78%, Return on equity will increase as much as 0.24%, Equity ratio will increase as much as 0.50%, Debt ratio will increase as much as 0.70%, Profit margin will increase as much as 0.75%, and current ratio will increase as much as 0.07%. Statistic test for X11, X22, X33, X44, X55, and X77 show significant at level  $\alpha=1\%$ , but for X66 significant at level  $\alpha=10\%$ .

R-squared value shows model has ability to explain return on investment (ROI) variations as much as 89.42%; the rest of 10.58% is explained by other variables. Adjusted R-squared may consider the additional independent variables that may be input in the samples. The Standard error of regression shows 0.21 closed to 0 shows the smaller of  $\sigma$  value, so that the prediction of regression model will close to actual value of Y1 (ROI). We can calculate

$$r^2 = 1 - RSS/TSS$$

Where

$r^2$  = determinant coefficient

RSS = residual sum of square

TSS = total sum of square

$$r^2 = 1 - (0.208/0.566)$$

$$r^2 = 1 - (0.36)$$

$$r^2 = \sqrt{0.64}$$

$$r = 0.8$$

The highest  $r^2$  is as much as 1,  $r^2$  shows approximately 64% (above 50%) total variation of Y1 (ROI) that is explained by regression model. We may say the sample regression gives the good data and there is strong relation between both Y variable and X variables. The Y prediction approach Y actual, so it will give the higher of  $r^2$  value.

$$TSS = ESS + RSS$$

Where

TSS = total sum of square

ESS = explained sum of squares

RSS = residual sum of square

$$0.566 = ESS + 0.208$$

$$ESS = 0.358$$

ESS > RSS (0.358 > 0.208) shows that X variables explained Y variation. In other word, FRS (sample regression sample) will explain mostly of Y variation.

$$F_{0.05} (n=478, k=7) = 2.01 ; F_{\text{calculated}} = 568$$

between X and Y.

d Durbin Watson value is 1.6 closed to 2 shows that there is no autocorrelation (positive or negative)

$$p = 1 - (d/2)$$

$$p = 1 - (1.6/2)$$

$$p = 1 - 0.8$$

$$p = 0.2 \text{ closed to } 0 \text{ shows there is no correlation.}$$

Generally, common effect, fixed effect, and random effect have the good result related to each individual independent variable influenced positively related to dependent variables for giving organization performance

## V. CONCLUSION AND SUGGESTION

Result from Common effect and Fixed effect results have different result, but common effect result similar to random result. Only small percentage that considers to adding the additional independent variables related to influence the ROI for investors. The result from data is consistent, and it proven empirically that independent variables influence positively related to Returns on investment (ROI) (by rejecting  $H_0$  for F statistic in fixed effect and random effect).

All data show the significant value, only one independent variable (sales) does not influence positively related to ROI. Here, we recognize that accounting information is very useful for investor to make decision whether they would like to invest or not by reading the financial statement carefully.

In sales, even though the return on investment increase it does not mean that sales will increase. It maybe occur small number of sales but it will give contribution to high return on investment or vice versa so that this variable influence negatively related to ROI.

It is also suggested that for the future research to adopt Good corporate governance in term of reducing gap in asymmetry information and more accurate approach for accounting information system. Previous researcher

conducted an extensive review of the IS success literature (DeLone and McLean, 1992). The productivity of the information system function has proven difficult to define and measure (Scudder & Kucic, 1991).

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