

# **INVENTORY MANAGEMENT AND STAKEHOLDER'S RETURN ANALYSIS IN HIGH TECHNOLOGY INDUSTRIES**

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## **Abstract**

High technology industry is one of the fastest growing industries in the world. The adequate and timely movement stocks are imperative for these companies to growth and achieve financial success. This study employs regression analysis to investigate the impact of inventory management on return to stakeholder of high technology industries. The population consisted of the seven technology industries listed under the manufacturing sector in the world stock exchange. Simple random sampling was employed in sample selection. Information for the study was taken from secondary sources, specifically, the audited financial statements of the high technology companies for the period 2011 to 2016 financial years with a total of 42 samples. Return on equity that related to return on stakeholder as dependent variable was used as a proxy for profitability, while independent variable of inventory turnover was used as a proxy for inventory management; and independent variable of quick ratio represented the control variable. Findings from the analysis revealed the existence of statistically significant relationship between stock management and profitability of technology industries and negative relation with financial quick ratio.

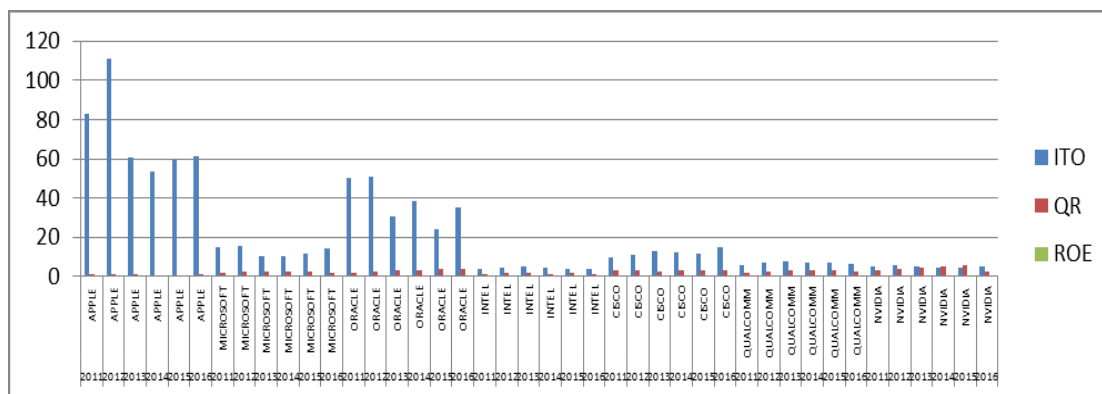
**Keywords:** High technology companies, inventory management, and return of stakeholders.

**Introduction**

High technology industry is one of the fastest growing industries currently. The rise of smartphones and other peripherals further help increase the growth. Information Technology (IT) has also reached other sectors; indeed, almost every other sector utilize IT in one way or another, be it in terms of websites, phone apps, devices, etc.

According to (Tarver, 2015), technology companies are unique in they often carry little or no inventory, are commonly not profitable and they might not even make revenue. Additionally, many technology companies employ a unique strategy: the goal is to be acquired rather than be profitable. Therefore, many of them often take large amount of money from venture capitals/investors or debts. Quick ratio can be used to analyze technology companies. It is a measure of a company’s short-term liquidity. To put it simply, it indicates a company’s ability to fulfill its short-term obligation such as debts. This research is interested in finding out the relationship of quick ratio, inventory turnover, in influencing return on stakeholder of technology companies.

(Kijewska, 2016) said that return on equity ratio is treated as an important measure of a company’s earnings performance. The return on equity tells common shareholders how effectively their money is being employed. With it, one can determine whether a firm is a profit-creator or a profit-burner and management’s profit-earnings efficiency.



Source: Annual report 2011-2016, www.stata.com

The term inventory refers to the stockpile of the products’ firm is offering for sale and various components that make up these products. As per accounting terminology, inventory includes the stock of raw materials, goods-in-process, finished goods and stores and spares. The present paper is an attempt to analyze the impact of inventory management on the return on equity as profitability ratio of the selected companies during the period under study..

**Literature Review**

In manufacturing strategic model, (Suresh, et al., 2001) found the performance measure of inventory in just in time system is very much effective by the incorporation of flexibility in the system under probabilistic demand condition. Just in time of inventories system with high flexibility and low safety stock are very sensitive to manufacturing delay. Therefore, incorporation of flexibility is vital for company

performance. Moreover, (Surebh, et al., 2013) also found that Inventory Turnover as one of the independent variables which has a positive relationship with Return on equity. However, (Siminica, et al., 2012) analyzed the effect of some financial ratio such as fixed asset ratio and quick ratio between 2007 to 2010, indicated insignificant impact towards profitability. The return on equity decreased continuously in the four years analyzed, until it became negative in 2010.

It is clear that liquidity and asset turnover are an important part in determining return on stakeholder. This research wanted to find the impact of inventory management on return to stakeholder of high technology industries. According to (Gibson, 2013), return on equity shows the percentage of the ability of a company in generating revenue based on the value of shareholders' equity or stocks. Generally, it is a measure of how well a company uses the investment money to create revenue. Besides, quick ratio or acid test ratio is an indicator of a company's short-term liquidity. According to (James, 2005), the quick ratio measures a company's ability to meet its short-term obligations with its most liquid assets. For this reason, the ratio excludes inventories from current assets. Inventory turnover shows how many times a company's inventory is sold and replaced over a period.

## **Research Methodology**

This portion of article describes sample, variables, hypothesis development and statistical methods to investigate the dependent of profitability as return on stake holder on inventory management. Statistical analysis is to process the data with the assist of SPSS 23 as statistical tool to run the data, and the hypothesis that tested in this research can be stated as follow:

Hypothesis H1: There is a significant partial influence of quick ratio on return of stakeholders.

Hypothesis H2: There is a significant partial influence of inventory turnover on return of stakeholders.

Hypothesis H3: There is a significant simultaneous influence of quick ratio and inventory turnover on return of stakeholders.

A sample size of the seven technology industries listed under the manufacturing sector in the world stock exchange. Simple random sampling was employed in sample selection. Information for the study was taken from secondary sources, specifically, the audited financial statements of the high technology companies for the period 2011 to 2016 financial years with a total of 42 samples.

Keeping in view the scope of the study, it was decided to select seven large companies on the basis of total assets and whose financial information is available for the entire study period so as to meet our requirements. Editing, classification and tabulation of the financial data collected from the above mentioned-sources have been done as per requirements of the study.

In this research, we use multiple regression analysis as a the statistical methods to describe a relationship between a dependent variable and independent variables. The dependent variables is return on equity, and the independent variables are quick ratio and inventory turnover, then all the variables can be described in one equation as shown below:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + e$$

Where:

Y = Return on equity (dependent variable)

$\alpha$  = Constant

X1 = Quick ratio (independent variable)

X2 = Inventory turnover (independent variable)

$\beta_1, \beta_2$  = Regression coefficient

e = Error

**Result**

T-test and F-test are used in this research to conduct a hypothesis testing. The purpose of T test is to define whether each independent variable has partial significant influence toward dependent variable. The purpose of F-test is to define whether all independent variables have simultaneous influence toward dependent variable (Ghozali, 2013)

*Significant Simultaneous Test (F Test)*

Significant Simultaneous Test is taken by comparing the significance value of Ftable and Fcount. The results: if Fcount  $\leq$  Ftable then Ho accepted Ha rejected for  $\alpha \geq 0.05$ , and if Fcount  $\geq$  Ftable then Ho rejected Ha accepted, for  $\alpha < 0.05$ ,

Where:

Ho: there is no significant impact of independent variables toward dependent variable

Ha: there is significant impact of independent variables toward dependent variable

Table 1

Anova
F = 31,130
Sig = 0.000

Source: Adjusted by Authors, processing result on secondary data SPSS 23

Based on the table 1 result the Fcount 31.13 > Ftable with the sig. value of F test is 0.000 which is < 0.05. The researcher rejected Ho and accept Ha. It means all independent variables affect significantly toward dependent variable.

*Significant Partial Test (T Test)*

Table 2. Multiple Regression

Mpdel	Unstandardized Coefficients		t	Sig
	B	Std Error		
(constant)	0,197	.024	8.100	0.000
Inventory turnover	0,002	.000	6.620	0.000
Quick ratio	-0.016	.008	-2.153	0.038

Dependent Variable ROE

Source: Adjusted by Author, processing by SPSS 23

The first hypothesis stated inventory turnover has significant toward return on equity. It can be seen from table 2 that the sig. value  $0.00 < 0.05$  which means  $H_a$  was accepted and  $H_o$  was rejected. Therefore, the higher number of inventory turnover will increase the return on stakeholder of the company so the higher ratio is the better performance of the company. The second hypothesis indicated the sig. value of quick ratio  $0.038 < 0.05$  which the quick ratio has negative significant impact toward return on equity. This result found that  $H_o$  was rejected and  $H_a$  was accepted. Therefore, the higher quick ratio of high technology industries, the faster company will fulfill its short term obligations, and it implied that the return on stakeholder decreases with increase in financial quick ratio.

The results showed that high technology industries are keeping little inventory on hand, because technology manufacturers cannot afford to hold too many products in stock. Increase the inventory it will cause the decrease of quick ratio. It is in line with Sures, et al. that stated the performance measure of inventory in just in time system is very much effective

This strategy allows it quickly increase production capacity to respond changes in consumer demand, and encourage lower supply cost as multiple suppliers compete for its business. The reason is a sudden announcement from a competitor or a new innovation could change everything and suddenly bring down the value of products in inventory.

*Coefficient Multiple Determination Test (R2)*

R2 is adopted to show how far the independent variables used in the regression equation which is able to interpret a dependent variable, and r square that has been corrected called adjusted r square will adjust if there is an additional independent variable (Gozhali, 2013).

Table3. Auto correlation Model

R	R Square	Adjusted R Square	Std. Error of the Estimate
.808 <sup>a</sup>	.653	.635	.048

a. Predictors: (Constant): ITO, QR  
 b. Dependent Variable Return on stakeholder  
 Source: Adjusted by Author, processing by SPSS 23

For the coefficient of determination, the R Square show 0.653 that means that all independent variables which are inventory turnover and quick ratio, 65.3% influence simultaneously toward return on equity. The rest is influenced by other variables which are not examined in this research.

**Conclusion and Recommendation**

Inventory management is provided to obtain the effectiveness of a company's management on the stakeholder return of the manufacturing firms. Previous research, Suresh et.al (2001) found inventories system with high flexibility is important for

company performance, and (Saurebh, et al., 2013) found that inventory turnover as one of the independent variables which has a positive relationship with return on equity. However, (Siminica, et al., 2012) found that quick ratio has insignificant impact to profitability in 2007 to 2010. The results of this research are not in line with Siminica, et al. It could be the decreasing of return to stakeholder which is started before the crisis was impacted by the economic downturn of the national economy in 2007 to 2010.

In this research, the findings indicated that inventory turnover has a positive impact to return on stakeholder meanwhile quick ratio has negative impact relationship. It means, the higher quick ratio the faster company will fulfill its short term obligations, and it implied that the return on stakeholder decreases with increase in financial quick ratio. However, it increases with the increase in inventory turnover. It can be concluded that financial inventory turnover is a major variable that has significant positive relationship on stakeholder return of the high tech manufacturing firms. Management of inventory is an important factor to be considered in enhancing or boosting the performance of manufacturers. The excessive inventory for new product will affect negative for the company profit, because new product that has been launched does not get positive response. In addition, too many inventory at the time sales are not in accordance with the predictions, will make profit down. Therefore, strategic of thinking system is very important for a company to manage supply chain management. Therefore, the adequate inventory is necessary to be pursued by manufacturing firms. This can be achieved by encouraging large scale mechanized production of the major raw materials in high technology firms and training of staff from time to time to update their knowledge and skills in modern manufacturing techniques.

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