# Abstract

Tb. Dede Sagira. H, *Raw Material Planning and Controlling, A Case Study at PT. Krakatau Steel* (Supervised by Erman Munzir).

This study is done to find a better raw material planning and controlling system, since the current system still needs a lot of improvements. The current system is still based on security policy/purposes, there fore the inventory becomes very high, high costly, and the buying and ordering pattern are not in order. The improvement of the system includes required raw material calculation activities, calculation of raw material to be bought, calculation of optimal quantity to be bought on single order, and adeterminition of time les when to buying to fill inventory. With better planning and controlling, risk of raw material shortage could be avoided, inventory could be optimalized and cost could be reduced. In this study, the approach or method used are as follows:

1. Linear calculation to determine quantity of raw material needed: $Y = a + bX$

2. Optimal buying through: $EOQ = \sqrt{\dfrac{2SD}{iC}}$

3. Goods Reordering (Reorder Point) $RP = s + L$

4. Loss = Production Loss x (Selling Price − Cost Of Good Sold).

On this improvement of planning and controlling system, in making decision, sensitivity analysis also included in addition to main factors influencing the calculation. From the study, the calculation to determine quantity of raw material need resulted 2,789,433 MT, better than current system, signed by low error standard and high correlation coefficient. Hypothesis testing to indicated the production very significantly to influence raw materials consumption. Optimal buying of 302.299 MT can reduces cost as much as $ US. 2.516.165, compared to the usual buying and buying frequency can be reduced to nine times. Good reordering done on one level inventory of 451.295 MT, could maintain inventory level of 200.000 MT, in line with company policy. With good planning, daily loss of $ US. 120.010 could be avoided. By sensitivity analysis which changes buying system from seller storage Franco to buyer storage franco and lowering inventory level, company can save investment on inventory as much as 100.000 MT, whit value $ US 3.900.000, and from lower pellet price as much as $ US. 6.555.999. There fore, we can assume that raw material planning and controlling is indeed sensitive to buying system.