

## ABSTRACT

*PT SIMNU as a one manufacturing company that produce synthetic leather. Raw material that will be studied are various chemicals that compose plastisol which its demand are uncertain and there is no good planning in determining the raw material lot size order. The impact is high number of chemical raw materials inventory in the warehouse. The warehouse capacity is limited even raw materials that are stored outside the warehouse. Therefore, required good inventory management in raw material handling.*

*Researcher propose wagner-within algorithm to solve problems that occur at PT SIMNU. Wagner-within algorithm using an approach to test all the ways of feasible order to fulfill net requirements in each production period by minimizing total setting up cost and holding cost.*

*According to the calculation result, wagner-within algorithm outcome total inventory cost Rp 227.483.294 in 2011 and save 11,19% of total existing inventory cost. Moreover, acquired the sum of planning and interval order in 2012 for each chemical raw materials which be the focus of research.*

*To help chemical raw materials handling at PT SIMNU, based on wagner-within algorithm calculation then application system is made by using Macro tools Microsoft Excel 2007.*

***Keywords: Inventory, Wagner-Within Algorithm, Macro Microsoft Excel 2007, Sum of Order, Interval of Order***