

## **ABSTRACT**

*CV Indah Jaya Rattan is a manufacturing company who produces varied shape of furniture. This company uses rattan as their basic element. As for supporting elements, they use framework or draft, nails, sandpapers, clear, melamine, foam, fabrics, glue and screws. This company hasn't been yet applying a good controlling inventory system. As a result, they have experienced having pile of product composer elements and stock out for quite often, which will led to their total inventory cost.*

*Because of high of uncertainty, the relationship between each element and the other and the variety of elements that is being used, it will be difficult to apply a simple controlling stock method in this company. To overcome this situation, Material Requirement Planning (MRP) is applied to rattan furniture products from CV Indah Jaya Rattan with lot sizing Wagner-Within.*

*MRP system is assuring the availability of each material that is needed for producing furniture. Lot sizing Wagner-Within is the most optimum lot determining model in order to minimize total inventory cost by looking at ordering expense, set up expense and saving expense. With using this kind of lotting, size of lot and difference order between one elements and the other, will be acquired.*

*Using combination of MRP system and lot sizing Wagner-Within will reduce total inventory cost that this company should take responsibility of. With the old system this company has been used, the company gained total inventory cost Rp 174.829.211,82. But with MRP system, the company will gain Rp 169.492.970,28, so that with MRP system, the company will saved Rp 5.336.241,54 during three months horizon.*

*Keyword : MRP (Material Requirement Planning), lot sizing Wagner-Within, total inventory cost*