

## ***ABSTRACT***

*Distribution refers to the steps taken to move and store tubes from the supplier stage to the customer stage in the supply chain. Distribution occurs among each pair of stages in the supply chain. Raw materials and components are transferred from supplier to manufacturer, while finished tubes are transferred from producer to final consumer. Distribution is a key driver of a company's overall profitability because it affects supply chain costs and customer value directly. PT. XYZ is a distributor company engaged in the distribution of fuel gas or LPG. LPG cylinders sold by the company are LPG with a tube size of 3kg. This company has a diverse consumer group ranging from household consumers, retailers, to businesses with coverage areas spread across Serang City. The distribution carried out by this company is based on sales orders and replenishment from each base. PT. XYZ has 14 bases that must be distributed by PT. XYZ. Of these 14 bases have different needs in each base which will later sell them to consumers or retailers.*

*The planning carried out by PT XYZ is still not well coordinated so that the average delivery by PT XYZ is 97.40% less than the service level at PT XYZ. This shows PT XYZ's inability to distribute tubes according to base needs that are not on time and in inappropriate quantities.*

*By planning and scheduling distribution with the Distribution Requirement Planning (DRP) method in order to solve these problems. With good activity planning and scheduling, success in fulfilling requests to the base will be optimal, sales performance increases in meeting the needs of the base on time and in the right quantity. With planning with DRP, from the results of designing distribution activity scheduling using the Distribution Requirement Planning (DRP) method, it can overcome the problem of meeting needs which minimizes the buildup and void of inventory at the base. In the design of the proposed distribution activity scheduling, it was found that the average fulfillment of each tube on each base from January 2022 to December 2022 on average delivery could reach an optimal service level of 99% to 100%. And for the coming period, a proposal was given to do demand forecasting in advance to prepare how much PT XYZ must prepare in meeting demand from each future base, as well as maintaining the availability of tubes at each base.*

*The results of this research can also provide information on procurement cost savings, the total procurement costs of each base from January 2022 to December 2022 is summed up to obtain a grand total proposed procurement cost using DRP method of Rp 40.337.671,- less than actual procurement cost using the company method of Rp 42.184.891,- with difference of Rp 1.847.220,- or a savings of 4% for 12 month*

**Keywords :** *Distribution Planning, DRP, Schedule*