CHAPTER VI
CONCLUSIONS

This chapter contains conclusions from data processing and problem solving, as well as suggestions that can be given to the company and future research.

6.1 Conclusions

The conclusions that can be drawn based on the data processing that has been carried out are as follows:

1. The products at PT XYZ are classified using the ABC and FNS classification methods. Based on these methods, 6 categories are obtained, namely AF, BF, BN, CF, CN, and CS. The inventory planning used for category I, which consists of AF, BF, and BN classes, are the periodic review method (R, s, S). For category II, which includes CF and CN classes, the P (R, S) method is applied, and for category III, which includes CS class, the average sales method is used. Calculations with (R, s, S), (R, S), and average sales will result in the values of R and Q. The value of R varies, such as 8 days, 11 days, 32 days, to 365 days, with an order frequency of 46, 34, 12, and, to 1 times a year. The Q value also varies, such as 1, 105, 526, 1,636, to 2,952 units.
2. The order plan model aims to minimize unutilized truck capacity, but the demand for each product during the period must still be met, product orders are in accordance with the order interval of each product, and the order quantity does not exceed the maximum order quantity of each product. The order plan model is made by considering the limits for trucks so as not to violate the minimum and maximum capacity of the truck, not to exceed the tonnage of the truck, and the number of trucks per day does not exceed the specified limits.
3. The number of trucks delivering products to PT XYZ in 2023 was 332, while the product order planning based on inventory planning and linear

programming calculations required 278 trucks. The difference of 54 trucks indicates a 16% savings.

6.2 Suggestion

There are several suggestions to improve similar research in the future, as follows:

1. Future research should consider using historical data in longer period (minimum 2 years) to get more information about seasonal pattern or trend between years in the same month or quarter.
2. Future research should try to build an application to help determine model parameters if the data is changed and use the model with changed parameters for order planning according to current conditions.