CHAPTER 6 – CONCLUSION AND SUGGESTION

6.1 Conclusion

Conclusion of research at PT. XYZ as follow:

a. From eleven spare parts that proposed to be categorized using ABC Analysis, it come out with four spare parts for truck i hydraulic cylinder that are classified in A Class which categorized as critical spare parts: IU-91182 11P-1 Kit Derrick UNIC, IU-01571 201-0 Tube Outrigger UNIC, IU-91885 13P-0 Kit Outrigger UNIC, IU-08851 101-0 Tube Derrick UNIC.

b. The others hydraulic cylinder spare parts that categorized in B and C class is reclassify using FMEA method to determine the criticality based on the failure risk by considering the failure occurrence, severity and failure detection. It came out with five spare parts categorized as critical spare parts based on FMEA method. Then the combination of spare parts categorized as critical parts based on ABC analysis and FMEA becoming nine hydraulic cylinder spare parts.

c. Calculation of s value (Reorder Point) and S Max (Maximum Stock) calculated based on both demand forecasting result, which are Single Exponential Smoothing and Croston method. After being implemented from the last 5 years historical demand, can be concluded that Croston demand forecasting method produced the lowest total order and the lowest inventory stock. It is align with the total inventory cost analysis where the total inventory cost from Croston demand forecasting method is lower than the Single Exponential Smoothing one.

d. Based on the analysis of the total cost of inventory spare parts critical for truck crane cylinder parts above, it can be concluded that the suggested method demand forecasting and s, S inventory control is proven to
improve the company inventory cost from existing condition of service level by 89% with critical materials invested in the inventory stock.

6.2 Suggestion

There are several suggestion based on the research of case study in PT. XYZ regarding demand forecasting and inventory for hydraulic cylinder spare parts.

i. To forecast the other spare parts regarding to other spare parts of truck crane’s hydraulic system instead only considering the spare parts for hydraulic cylinder.

ii. To consider the actual truck crane’s availability report and breakdown time so the production and rental loss are well measured.

iii. To consider service level in the decision making for selecting the best forecasting method not only from the total inventory cost side.