

ABSTRACT

Demand represents a dynamic matter, therefore inventory management becomes the matter which must be considered by a company. There are lots of inventory model, one of them is single period model or more knowledgeable by newsvendor model. This indefinite Inventory model answers the problems faced by newspaper agent (newsvendor problems), that the newspaper agent has to determine how much ordering newspaper in one sales period, because the agent cannot reorder the newspaper. Besides, newsvendor agent has a short sale period, hence if newspaper is ordered too much the rest newspaper cannot be kept to be sold in the next day. On the contrary, if newspaper ordered is less than required, hence company loses its opportunity to sale (opportunity cost).

Affandi Agency is one of distributor of newspaper and magazine. Problem faced by the company is the number of salvage products at the end of the day because the number of order is not optimal. Affandi Agency has three sale periods in one day sale, those are morning, daytime and evening with different price and demand. Furthermore, Affandi Agency has an agreement to return the unsold newspaper at the end of the day for a certain newspaper.

In this research of final project, the newsvendor model adjusted to company condition. Model formulation used is non linear programming, then to get the optimal ordering number, writer use the software Lingo V.11. After that, some sensitivity analyses by changing two variables are done, considering of variable of price and demand.

Based on the optimal result, the number of optimal ordering in proposed model is less than the number of ordering by a company. This proves that usually company orders too much newspaper in every period. Optimal result improves the company profits, such as on normal sale (Monday-Friday), profit changes from Rp. 619.590 to Rp. 690.673 or increase about Rp. 71.083, on weekend sale (Saturday), the improvement profit about Rp. 386.627 or increase from Rp. 3.853.075 to Rp. 4.239.702 and on weekend sale (Sunday), profit changes from Rp 3.058.216 to Rp. 3.391.307 or increase about Rp. 333.091. The increasing company profit is around 10-11 %. Based on the sensitivity analysis, demand variable is more sensitive than price. So that the first thing that must be considered by a company is how to manage and predict demand accurately so the company profit could be increased.

Keywords: Optimize, Newsvendor model, Perishable product