

ABSTRACT

PT Grow Commerce Indonesia is a technology driven company which focuses on the digital branding of partner brands, mostly local brands. They also help in the warehouse and distribution activities of the partner brand's products. The warehouses that are used by Grow Commerce are the partner brands. The problem faced by PT. Grow Commerce Indonesia is that each year, their warehouse always has overstock left, with increase of quantity each year. The author intends to analyze the problem and design a solution using the Newsvendor Model.

The newsvendor model is fundamental for stochastic inventory management theories, which has been studied and applied in various business settings (e.g., Erlebacher, 2000; Mieghem, 2007; Olivares et al., 2008; Petruzzi et al., 2009; Krishnan et al., 2010). Consider a typical single period newsvendor model. An optimal inventory level is determined to minimize the expected cost, usually including the ordering cost, and the expected overstocking and shortage costs. Ordering too many items can incur overstocking costs, while ordering too few can cause shortage costs. In this typical model, it is often assumed that the decision variable, i.e., order-up-to level, has no impacts on the holding cost for the average inventory consumed in a specific period, which is the difference between beginning and ending inventory levels at hand in that period.

The Newsvendor model helps in determining the optimum quantity of products that should be manufactured/ordered to avoid overstocking (supply is more than demand) and or understocking (demand is more than supply) which overall avoids the loss of profit. By analyzing the forecast of demands, the Newsvendor model can calculate the optimum number of stocks to minimize loss of profit.

Keywords ---- **PT. Grow Commerce Indonesia, Overstock, Newsvendor Model**