Abstract

Logistics problems that often occur in retail companies is the lack of supply of goods available in the warehouse compared to the number of requests. In addition to the short-term impact of a decrease in sales of goods, the long-term impact of this problem is reduced customer. One study estimated that the goods are out of stock (OOS) in the average retail cost of 4% of their total annual sales, while for producers reached $23 million for every $1 billion sale of their. Both sides between manufacturers and retailers should begin to understand how and why this could happen OOS, so it can be prevented or minimized. Inventory planning becomes one of the things that are important and need to be considered in a company because of increased competition requires companies to manage all its resources optimally, effective, and efficient so that the company can produce and offer products that consumers want and need to maintain a business continuity and growing.

By utilizing the method of dynamic system simulation problems Out of stock, especially in the retail enterprise can be modeled views of the various factors that affect such as the lack of factory production, distribution delay, surge in consumer demand, and so forth. Making dynamic system modeling method
is used to see the relationship between the factors that influence and analyze improvements using scenarios to see the impact.

With the modeling analysis, it can be done to prevent or minimize the occurrence of out of stock by having a proper inventory planning that is expected to reduce the losses suffered by the company. And can perform repair and workflow distribution systems using the scenarios.

**Keywords:** retail, system dynamics, simulation, out of stock, inventory