# 9th International Conference on Operations and 5

stock on the rack is large, demand goes to be large. This stu fresh food crops in the last harvest season.

One marketing plan to appeal to consumers to use mo Customer willingness for having a product depends on the a called stock dependent demand. Research on stock dependent developed first by Gupta and Vrat (1986). Mandal and P economic production quantity model for deteriorating iter consumption rate. An inventory deteriorating item model developed by Baker and Urban (1988) and Pal et al. (1993) analyzed the effect of inflation and time discounting for de stock dependent demand. Lee and Dye (2012) developed a with stock dependent demand by controlling the deteriora technology. They evaluated technology investment yield an

Teng and Chang (2005) developed a production economic que They concluded that great goods displayed in a grocery store off, however a lot of stock should be considered since the ambecause too much stock gives a negative impression to developed dynamic pricing and periodic order quantity considering stock-dependent demand. Shortages and the backlist volatile and depends on the period for the next replenishmer

Although there is intensive research on deterioral dependent demand, only a few considering deteriorating involvement and unavailability supply. The unavailability supply deteriorating items such as fruits and vegetables is not state available. The lack of supply influenced by machine unavaresearch such as Sutapa and Widyadana (2014) and Al-Salamatis carbon emission since items delivery requires a truck that has This paper is divided into four sections. In the first section, so and the contribution of the paper is shown. Some mathematica and a numerical example and sensitivity analysis are premanagement insight into the model. In the last section, some e

## 2. MODEL DEVELOPMENT

In this study, a deteriorating inventory model with supply, vehicle capacity constraint, and carbon emission cost describes two conditions for products. When a firm orders Q the consumer's demand and deteriorated rate until reach zer reaches zero, Q units are bought and fulfill the stock. However supplier cannot fulfill the requirement and delay delivery date lost sales cost will arise.

## Notations:

```
I_t = Inventory level at t period
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 $\beta$  = stock sensitivity rate

d = demand rate

2

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