Supply Chain Weekly Blast

#057 : Perishable Products

Part 2 : Planning considerations

In case of perishable products, replenishment planning aims to maximize profits considering the decaying value of the concerned goods.

Two distinct cases may arise:

1

The planning horizon and shelf-life are comparable
(Critical to consider perishability).

2

Planning horizon is substantially shorter than the shelf-life.

Flow types

FIFO (First In First Out)

When the inventory dynamics/the firm ensures that the products that have lesser leftover shelf-life are consumed first. (e.g. Pharmaceutical)

LIFO (Last In First Out)

When the inventory dynamics ensures that the products that have higer leftover shelf-life (i.e. fresher products) are consumed first. (e.g. fruits, vegetables)

While the FIFO strategy can be more beneficial, it requires consistent monitoring of inventory to check for shelf-life and an active inventory control strategy.
The LIFO process is more of consumer driven. Firms opt for a differential pricing strategy to generate additional demand for “older” products.

Sustainability

Waste has an environmental impact as well. It can be food items, medicines or chemicals, etc.

Particularly in cold supply chains (i.e. frozen products), wastage has an additional energy cost.

24.4
Billions kg

Food waste in the US in retail stores in a year

40%

Worldwide agricultural produce is wasted

How to plan better?

The first thing is to actually **include perishability as a parameter** during planning. This can have two benefits,
1. Better service level and minimum waste.
2. A way forward towards more efficient planning.

Exploit digitization: Technologies such as RFID tags, point-of-sale data, allow firms to track the age of products and collect ample amounts of data that can be integrated into other decisions such as pricing.

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