

Supply chain optimization for a FMCG company

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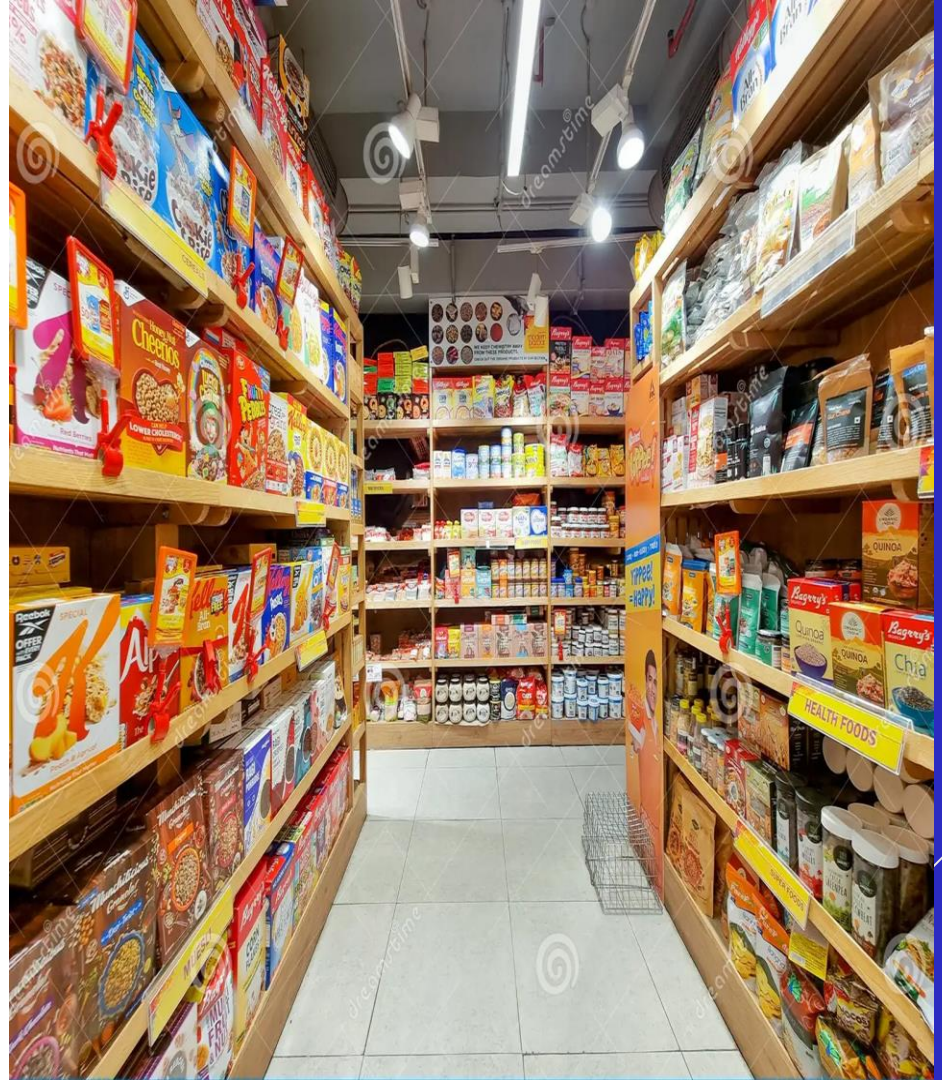
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01

FMCG
Company

FMCG means fast-moving consumer goods, most of the products are:

- / non-durable
- / consumed quickly
- / high-turnover
- / high in demand
- / at a low cost



02

Business Problem

Two years ago, the FMCG company has entered into the the instant noodles business, but it has a big deal between the demand and supply.



How to optimize the supply quantity in each warehouse?

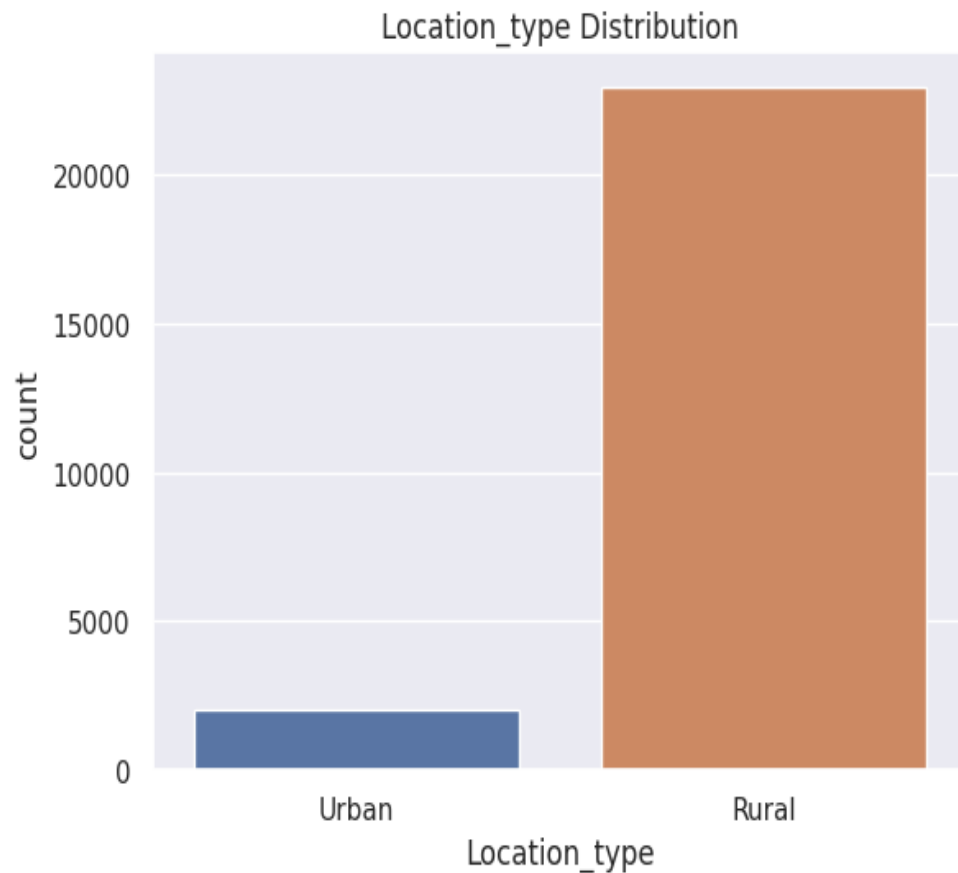
03

Data Analysis

Data Description:

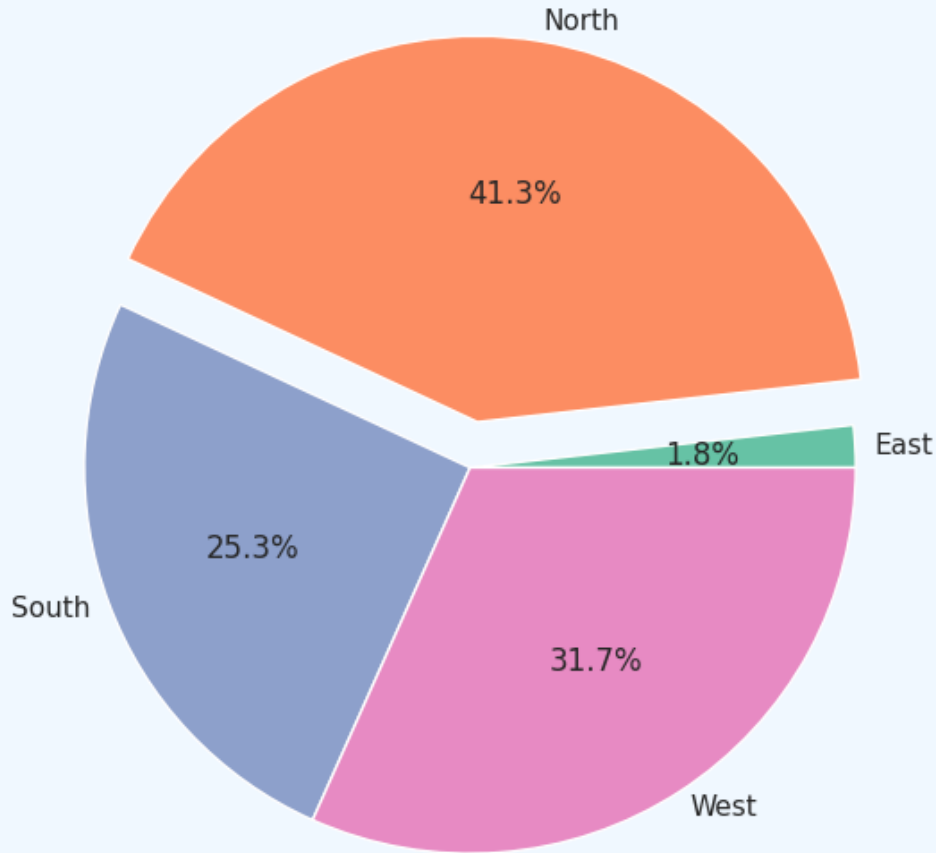
The dataset contains information about the noodles business of FMCG company like:

- / Warehouse capacity
- / Warehouse location
- / Products shipped in the last three months
- / Issues of storage and breakdowns in the last three months

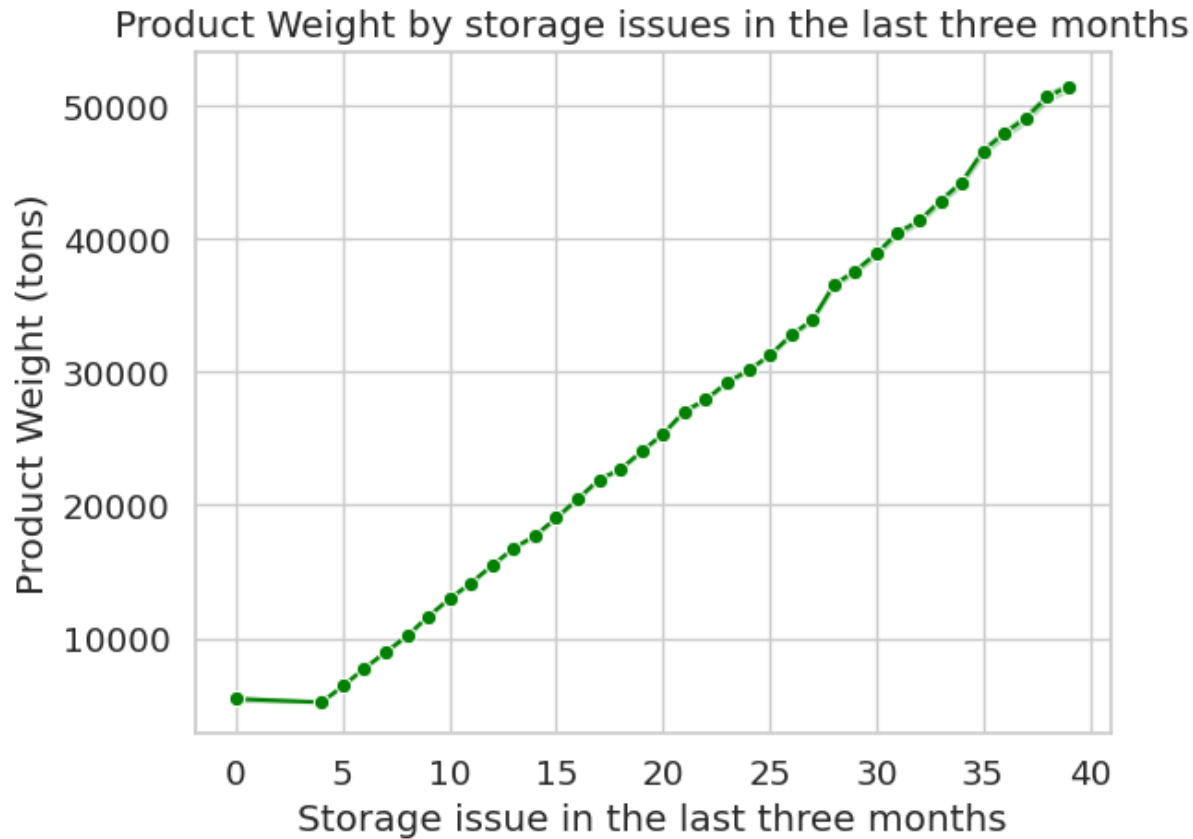


Most of the warehouses
are located in the Rural
zones!

Product weights by zone



- 41.3% of the products are in the North!
- Very low weight of products in the East with 1.8%!



More stored products lead to more storage issues!

04

ML

Modeling

Eight ML models:

Linear
Regression

Tuned
Decision Tree
Regressor

Tuned Random
Forest
Regressor

XGBoost
Regressor

Decision Tree
Regressor

Random
Forest
Regressor

Gradient
Boosting
Regressor

Neural
Network



Gradient Boosting Regressor:

- / This model is performant and prone to overfitting
- / The mean_absolute_error is high with 670.73 products, which means that there are some inefficiencies in the supply chain

05

Recommendations

01

Increase the number of
warehouses in urban
zones

02

Decrease the weight of
products shipped to the
North

03

Expand the number of
warehouses in the East

**Thank you for
your attention**