Entri Software Pvt Limited
Kakkanad Kerala

Supply Chain Management

16th August 2023

OVERVIEW

A Fast Moving Consumer Goods (FMCG) company entered into the instant noodles business two years back. Their higher management has noticed that there is a mismatch in the demand and supply. Where the demand is high, supply is pretty low and vice-versa which results in a loss in inventory cost and ultimately loss to the company. Hence, the higher management wants to optimize the supply quantity in each and every warehouse in the entire country.
Create a model using : Train dataset

GOALS

The objective of this exercise is to build a model, using historical data that will determine an optimum weight of the product to be shipped each time from the respective warehouse.

1. Focus on all steps of data science (EDA, data processing, model, evaluation, charts)
2. Highlight any trend in data, deep insight, novel steps that you take
3. Highlight next steps and improvements.
4. Apply 5 to 6 machine learning algorithms and evaluate it using Test dataset .

Data Dictionary

variable	Description
Ware_house_ID	Unique Warehouse id where product is prepared for dispatch. dtype: Object
WH_Manager_ID	Manager Id present in the warehouse dtype: Object.
zone	Zone of the Warehouse, dtype: String`

WH_regional_zone	Regional Zone of the warehouse, dtype: Object
num_refill_req_l3m	Refilling request received by the warehouse in the last 3 months, dtype: integer.
transport_issue_l1y	No. of transport issued for warehouse in last 1 year, dtype: integer.
Competitor_in_mkt	No. of competitors in the market, dtype: integer.
retail_shop_num	Number of retail shops who sell noodles produced by the warehouse, dtype: integer.
wh_owner_type	The warehouse is owned by the company or it is on rent, dtype: String.
distributor_num	No. of distributor who works between warehouse and retail shops, dtype: integer.
flood_impacted	Is the warehouse in a flood impacted area or not, dtype: integer.
flood_proof	Flood_proof: Warehouse is having flood proof indicator, dtype: integer.
electric_supply	Does the warehouse have proper electric supply along with some power backup, dtype: integer.
dist_from_hub	distance from the warehouse to production

	hub, dtype: integer.
workers_num	no. workers in the warehouse, dtype: integer.
wh_est_year	warehouse establishment year, dtype: integer.
storage_issue_reported_l3m	storage issues reported by the warehouse in the last 3months.
temp_reg_mach	warehouse having temperature regulating machine indicator or not, dtype: integer.
approved_wh_govt_certificate	Type of approval warehouse having been issued by government, dtype: Object.
wh_breakdown_l3m	Number of times the warehouse faces the breakdown in the last 3 months, dtype: integer.
product_wg_ton	Product weight, dtype: integer.