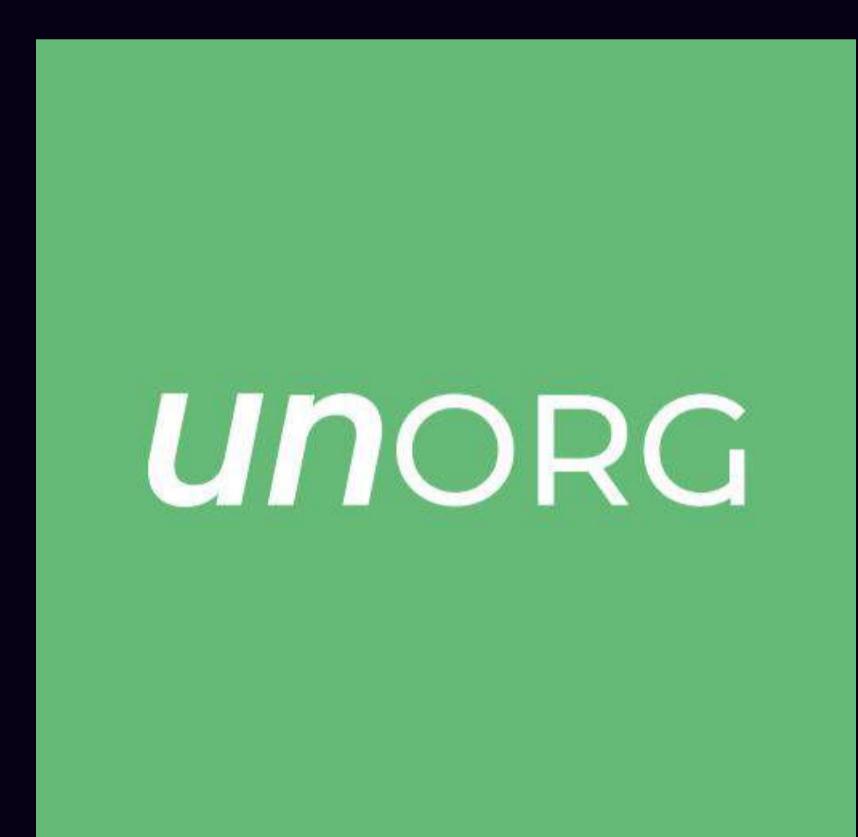




UnORG

Supply chain + Data Science



**MID
PREP**

audited by:





Introduction

UNORG is a fast-growing B2B grocery delivery platform that connects manufacturers, eateries, and retail establishments with essential goods. Our client base includes traditional manufacturers such as Petha, Daalmoth, and Revdi producers, as well as modern-day restaurants, dhabas, hotels, cafés, and general stores. We are committed to revolutionizing the B2B grocery supply chain with data-driven insights and streamlined logistics. By leveraging technology, UNORG ensures timely deliveries, reduced wastage, and better alignment between supply and demand. As we expand, it becomes increasingly critical to anticipate client needs, manage inventory efficiently, and ensure consistent service quality across diverse client segments.

Background

In the B2B grocery ecosystem, understanding customer behavior is a powerful asset. However, unlike B2C platforms, where orders are often smaller and more frequent, B2B demand is typically bulk-based, irregular, and highly dependent on external factors like seasonality, footfall, and vendor type.

Efficiently managing such a supply chain requires predictive intelligence—especially when catering to a wide range of clients with varying consumption patterns and product preferences. With a mission to reduce operational inefficiencies and improve service reliability, UNORG aims to develop a smart predictive system that can anticipate customer behavior over the next two weeks. These insights will help the company plan its inventory, logistics, and procurement more effectively.



Problem Description

UNORG is looking for innovative solutions to develop a predictive framework that addresses the following core challenges in order prediction and inventory planning:

1. Order Identification

Predict the probability of each customer placing an order on a daily basis for the upcoming 14 days.

2. Order Composition & Quantity

Forecast the specific SKUs (Stock Keeping Units) each customer is likely to order, along with the expected quantity.

3. Inventory Planning

Aggregate the predicted demand across all customers to generate an optimal inventory stocking plan for the next two weeks.

These predictions should help UNORG minimize stockouts and overstocking, reduce waste, and ensure high service levels.

Key Deliverables

- Customer Order Prediction Model

A data-driven model capable of predicting daily order probability for each customer.

- SKU-Level Demand Forecasting

A solution to forecast which products each customer is likely to order and in what quantity.

- Inventory Planning Engine

A tool to estimate the overall inventory requirement across all products for the next 14 days.

Expected outcomes

- Improved order predictability for diverse customer segments.
- Better alignment between supply and demand through informed inventory planning.
- Reduction in wastage due to overstocking and missed sales due to stockouts.
- Enhanced customer satisfaction through timely order fulfilment.

Expected outcomes

- Problem Understanding & Background (**10%**)
Clarity in identifying the operational complexity and diversity of clients in B2B grocery logistics.
- Predictive Modeling Accuracy (**20%**)
Precision and robustness of models for order probability, SKU demand, and inventory forecasting.
- Data Handling & Feature Engineering (**10%**)
Ability to handle sparse, seasonal, or irregular data. Use of creative and meaningful features in the models.
- Inventory Planning Logic (**10%**)
Effectiveness of the proposed logic or model for aggregating customer-level predictions into a consolidated inventory plan.
- Business Impact & Scalability (**10%**)
Feasibility and scalability of the solution in real-world operations. Anticipated impact on UNORG's KPIs such as fulfillment rate, waste reduction, and service SLA.
- Technical Innovation (**10%**)
Use of advanced techniques (e.g., time-series models, ML pipelines, optimization algorithms) to enhance prediction and planning.

- **Presentation & Communication (10%)**

Clarity, visualization, and interpretability of the approach and results.

- **Cost-Benefit Analysis (10%)**

Understanding the ROI of the solution—cost to implement vs. benefits in reduced waste, better planning, etc.

- **Practical Implementation Plan (10%)**

Roadmap for implementation in a live setting with potential limitations and next steps outlined.

Dataset

- Order Data
- Associated Order Item Data