Project Design Phase-I
Proposed Solution Template

Date	26 September 2022
Team ID	PNT2022TMID45092
Project Name	AI powered Food Demand Forecaster
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Your client is a meal delivery company which operates in multiple cities. They have various fulfillment centres in these cities for dispatching meal orders to their customers. The client wants you to help these centres with demand forecasting for upcoming weeks so that these centres will plan the stock of raw materials accordingly. The replenishment of majority of raw materials is done on weekly basis and since the raw material is perishable, the procurement planning is of utmost importance. Secondly, staffing of the centres is also one area wherein accurate demand forecasts are really helpful.
2.	Idea / Solution description	The data set is related to a meal delivery company which operates in multiple cities. They have various fulfilment centres in these cities for dispatching meal orders to their customers. The dataset consists of historical data of demand for a product-centre combination for weeks 1 to 145. With the given data and information, the task is to predict the demand for the next 10 weeks (Weeks: 146-155) for the centre-meal combinations, so that these fulfilment centres stock the necessary raw materials accordingly.
3.	Novelty / Uniqueness	As an alternative to the traditional demand forecast format, there are opportunities to use market and AI data to assist managers in the S&OP (Sales & Operations Planning) process, as

		well as in the S&OE (Sales and Operations Execution) process. During the S&OP process, demand forecasting supported by AI facilitates the work of the marketing and sales areas, as well as reducing uncertainty and increasing predictability for the supply chain areas.
4.	Social Impact / Customer Satisfaction	When products are 'out of stock', this will decrease customer satisfaction, whereas customer satisfaction will increase when products are always available. This improves customer loyalty and brand perception.
5.	Business Model (Revenue Model)	Predict the future demand of each product over the next n days.
6.	Scalability of the Solution	Better forecasts will be made over time as machine learning algorithms learn from existing data. With demand forecasting, teams can focus on strategic issues instead of trying to reduce or increase inventories and staffing levels.