

# Future Sales Prediction:

## Problem Definition:

The problem is to develop a predictive model that uses historical sales data to forecast future sales for a retail company. The objective is to create a tool that enables the company to optimize inventory management and make informed business decisions based on data driven sales predictions. This project involves data preprocessing, feature engineering, model selection, training, and evaluation

## Design Thinking:

### 1. Data Source:

1. This includes past sales, revenue, expenses, growth rates, and customer behavior. Historical data can help that identify patterns, trends, seasonality, and anomalies in sales revenue generation

2. This data can be used to see where the biggest profit margins lie and strategize accordingly and the loss.

### 2. Data Preprocessing:

1. Raw data often needs to be cleaned and prepared for analysis. This involves handling missing values, outliers, and converting data into a suitable format for machine learning algorithms. Time-series data may also require special treatment.

2. There is an we can converting the unformatted data to usable data format.

### 3. Feature Engineering:

1. It is the process of transforming raw data into features that are suitable for machine learning models. In other words, it is

the process of selecting, extracting, and transforming the most relevant features from the available data to build more accurate and efficient machine learning models.

#### 4. Model Selection:

1. It is the task of selecting *a model from among various candidates on the basis of performance criterion* to choose the best one

2. Choose suitable time series forecasting algorithms for predicting future sales

#### 5. Model Training:

1. It is the process in the data science development lifecycle where practitioners try to fit the best combination of weights and bias to a machine learning algorithm to minimize a loss function over the prediction range

2. It is the process was train the data set and selected model using the preprocessed data.

#### 6. Evaluation :

1. This process to us can evaluate the appropriate output of the prediction

2. It is the final step to finish the project...

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