# Synopsis Report

On

"Store Sales Prediction"

**Submitted To**

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# ➢ Abstract

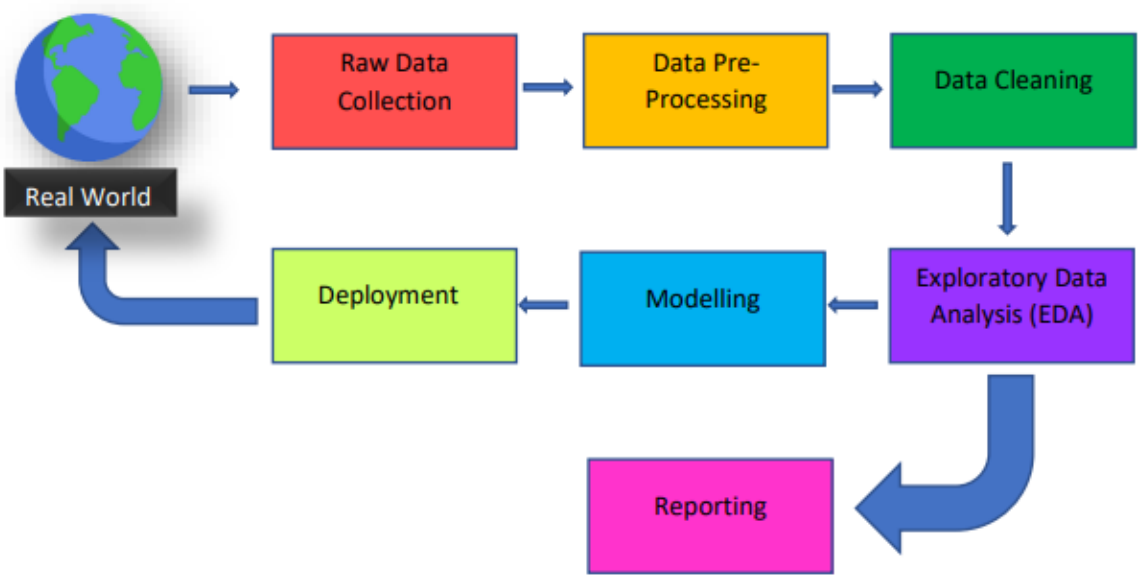
Nowadays shopping malls and Big Marts keep the track of their sales data of each and every individual item for predicting future demand of the customer and update the inventory management as well. These data stores basically contain a large number of customer data and individual item attributes in a data warehouse. Further, anomalies and frequent patterns are detected by mining the data store from the data warehouse. The resultant data can be used for predicting future sales volume with the help of different machine learning techniques for the retailers like Big Mart.

# ➢ Introduction

We all are very curious about our future! very excited to know what will happen with all of us the very next moment, tomorrow ,similarly the retailers also curious about their business, its progress, curtailing factors of it. By adopting certain steps the aspects that can cause damage or reduce the profit can be avoided. In this goal of forecasting the sales business the data from the various sectors is collected and the data analytics is done the efficient understanding of the observed data by common steps is not practically possible because the data is very huge the masses of data of organization is molded in such a way that its having meaning by understanding deeply the suitable actions can be taken.

The retail store sells the household products and obtains profit by that. There are different subsidiaries of the retail store network whose locations are variously located at various geographical locations most of the time retailers will not be successful in understanding the customer's needs because they will be able in the evaluation of market potential at that location ,during special occasions the rate of sales or shopping is more sometimes this may cause inefficiency of the products ,the relationship between the customers and the stores is analyzed and the changes that need to obtain more profit is done. The history of purchase of each product in each store and department is maintained by observing these sales are forecasted which enables the knowledge of profit and loss occurred during that year.

## ➢ Flow chart of application




## ➢ Dataset Information

**Dataset Link**: - [BigMart Sales Data | Kaggle]

We have train (8523) and test (5681) data set, train data set has both input and output variable(s). We need to predict the sales for test data set.

- **Item_Identifier**: Unique product ID 2
- **Item_Weight**: Weight of product
- **Item_Fat_Content**: Whether the product is low fat or not
- **Item_Visibility**: The % of total display area of all products in a store allocated to the particular product
- **Item_Type**: The category to which the product belongs
- **Item_MRP**: Maximum Retail Price (list price) of the product
- **Outlet_Identifier:** Unique store ID
- **Outlet_Establishment_Year**: The year in which store was established
- **Outlet_Size**: The size of the store in terms of ground area covered
- **Outlet_Location_Type**: The type of city in which the store is located
- **Outlet_Type**: Whether the outlet is just a grocery store or some sort of supermarket
- **Item_Outlet_Sales**: Sales of the product in the particular store. This is the outcome variable to be predicted.

## ➢ End User

End-user interactive machine learning is a promising tool for enhancing human productivity and capabilities with large unstructured data sets.

Our work has shown that we have create end-user interactive machine learning systems for prediction the sales forecast.

Facilities for end user:

1. On Button Click end user get the sales forecaste by just entering the required features.
2. Easy to operate because we deploy it and make it responsive.

## ➢ Advantages

Most of the shopping malls / shopping centers plan to attract the customers to the store and make profit to the maximum extent by them. Once the customers enter the stores they are attracted then definitely they shop more by the special offers and obtain the desired items which are available in the favorable cost and satisfy them. If the products as per the needs of the customers then it can make maximum profit the retailers can also make the changes in the operations, objectives of the store that cause loss and efficient methods can be applied to gain more profit by observing the history of data the existing stores a clear idea of sales can be known like seasonality trend and randomness. The advantage of forecasting is to know the number of employees should be appointed to meet the production level. Sales drop is bad thing forecasting sales helps to analyze it and it can overcome through the sales drop to remain in the competition forecast plays a vital role.

## ➢ Scope

Since this system provides solutions to small BigMart and is compatible to limited size of data there can be a wide range of scope possible

- With stronger device storage and proper ram management devices it can hold data of larger BigMart and can hold data for a longer duration
- Expanding the limitations will allow the user to directly access the data from the cash counter as the product is scanned from the barcode
- A system can be designed in which Using the history of the previous bills of the customer a new shopping list and list of recommendations can be provided for shopping next time, even the customer can manually edit the shopping list.

BigMart shopping can be digitalized and product review can be shown just by scanning the barcode , and same time the same product will pop in the recommendation for the user, this will help the market boost the economy from the medium of digital marketing.

# Reference


- BigMart Sales Data | Kaggle
- https://ineuron.ai/
- https://devdocs.io/scikit_learn/
- https://www.kite.com/python/docs/pandas
- https://www.kite.com/python/docs/seaborn