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# Exploratory and Predictive Analysis for Supermarket with Data Science

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**ABSTRACT:** The Growth of supermarket in the most populated cities are increasing an exploratory analysis is the process of collecting and analyzing the data in order to discern pattern and trends. The project aims to analyze supermarket sales across different branches and provide insight to understand the customer better. In this project we have use different techniques to analyze the sales that is mean, standard deviation, regression, hypothesis testing, sample size determination. After data visualization we will use predictive analysis for predict future trends and events.

**KEYWORDS:** Algorithm- linear regression, naïve bayes, K-Neighbors, SVC, Decision tree classifier ,Random forest classifier.

## I. INTRODUCTION

Exploratory data analysis refers to the critical process of performing initial investigations on data so as to discover patterns, to spot anomalies, to test hypothesis and to check assumptions with the help of summary statistics and graphical representations. A supermarket is self-service shop offering a wide variety of food, beverages, and household products, organized into sections. It is larger and has a wider selection than earlier grocery stores, but is smaller and more limited in the range of merchandise than a hypermarket or big-box market. What we will discover from this analysis-relation of customer with supermarket, payment method used in supermarket, product relation with quantities, types of products and their sales, product, and their rating.

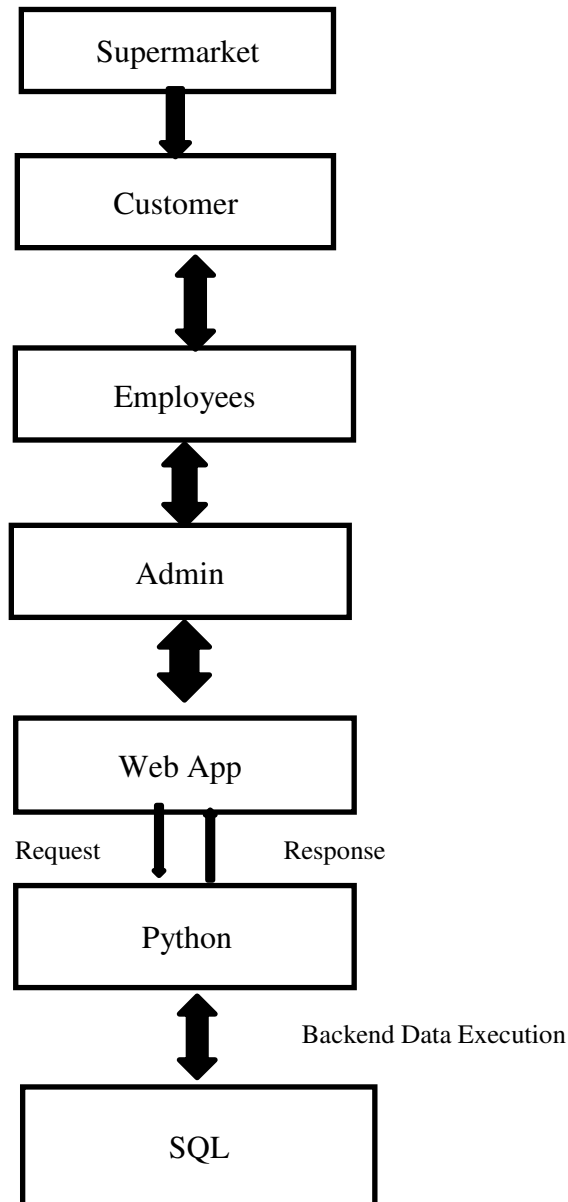
## II. LITERATURE SURVEY

- 1. Collecting Store- level data on Retail Supermarket sales:** Author Aaron Johnson Published This Paper. In this Paper that covers the tools and strategies used to collect weekly data in retail environment. The use of traditional statical method to forecast super market sales has left a lot of challenges unaddressed and mostly result in the creation of predictive model that performed poorly. The Era of big data couple with accessed massive computer power has made machine learning to go for sales forecast.[2]
- 2. Applied Machine Learning For Supermarket Sales Prediction:** Author rising odegua published this paper .In this paper that investigates forecasting sales for supermarket .The developed data collection and entry process has proven to be an effective way of tracking primary data currently , the data collection and entry process this paper provides a brief description of the data collected , an explanation of the tools and strategies that were used , and suggestion for future researchers when developing a data collection process for tracking rules in a retails environment.[1]
- 3. Predictive Analytics:** A review trends and techniques. Author Vaibhav Kumar published this paper in this paper that present a review of process techniques and application of predictive analysis is a term mainly used in statical and analytics techniques this term is drawn from statistics, machine learning, database techniques and optimization techniques.[4]



### III. METHODOLOGY

We present an Exploratory and Predictive analysis for supermarket. The below flow diagram is best describing the workflows of the system. The customer goes to the supermarket. for buying products and how customers pay the bill through the credit card ,debit card or cash. Then employees manage all data related to the supermarket and customers in data set i.e., excel sheet and then all analysis handled by admin department with the help of python and this all data stored in MySQL database.





#### IV. CONCLUSION

In conclusion, Supermarket Management System has to do with making appropriate efforts to stop the rising problem to all manual supermarket operation in order to enhance the operation of such supermarket. In this Project the software or system that can be used to aids all supermarkets that is sell operating manually have been successfully developed. The software can be implementing in all types of supermarkets.

#### REFERENCES

- [1]. Suresh Kumar Mukhiya, Usman Ahmed, Hands on Exploratory data analysis with Python (2020) [2].  
Meni Kozlowski, Univariate and Multivariate Analysis of Categorical Variables, -(1979), Springer
- [3]. Shaun McQuitty, The Purposes of Multivariate Data Analysis Method; an Applied Commentary (13 Sep2017),  
Journal of African Business
- [4]. Chris Chatfield, Exploratory data analysis, (Jan 1986), European Journal of Operation Research, Volume 23,  
Issue 1
- [5]. Aaron Johnson covers the tools and strategies used to collect weekly data in reraill environment (2020)[6].  
Rising Odegua investigate forecasting Sales for supermarket (2019)
- [7]. Vaibhav Kumar Present a review of Process, techniques, and application of predictive analysis (2018)



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