

# SUPERMART GROCERY RETAIL SALES ANALYSIS

## Introduction:

Supermart Grocery orders data is a dataset of orders placed by customers on a grocery delivery application. The dataset can be used to analyse customer behaviour, identify trends, and make informed decisions about marketing, sales, and inventory management.

## About the Supermart:

This Supermart was open in 2012 and is located in state of Tamil Nadu, India. The shop area is 120m<sup>2</sup>. They offer general food, bakery products, snack and sweets, local vegetables, dairy products, beverages, basic meat etc. The store is open every Monday-Saturday from 06:00 to 22:00 and Sunday from 10:00 to 20:00. The store has 4 employees. Work in the store takes place on 3 shifts. First: 06:00- 12:00, second: 10:00-16: 00/18:00 and third: 16: 00-22: 00.

## Challenges:

The shop is facing challenges with sales, competition, marketing, customer service, and security.

## Hypothesis:

1. The orders are placed by customers living throughout the state of Tamil Nadu, India.
2. There are other grocery shops and big supermarkets located within a 20-30-minute radius.
3. The shop owner and employees are unable to assess the situation and take actions to adapt the business profile to market changes.
4. The inventory levels are not accurately tracked, which can lead to stockouts and overstocks.
5. There is a lack of awareness of cyber and data security.

## Role of AI:

Artificial intelligence (AI) can be used to analyse data to identify issues and offer strategic advantages. AI can help to enhance customer service, strengthen marketing and sales, and drive growth.

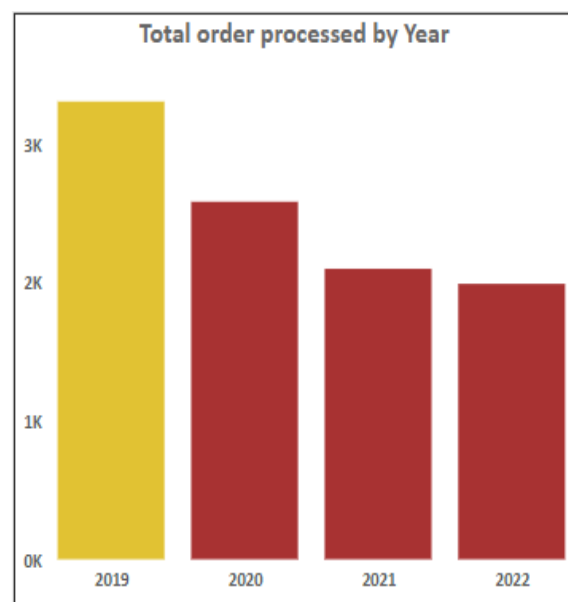
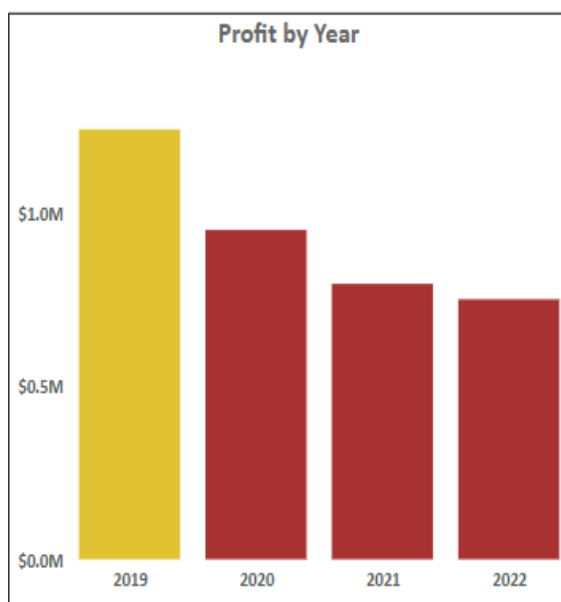
## Data Analysis:

The collected data sets include: Order ID, Order Date, Customer Name (First Name), City and Region of order location, Sales, Discount Rate, characteristics of products sold from January 2019 to December 2022.

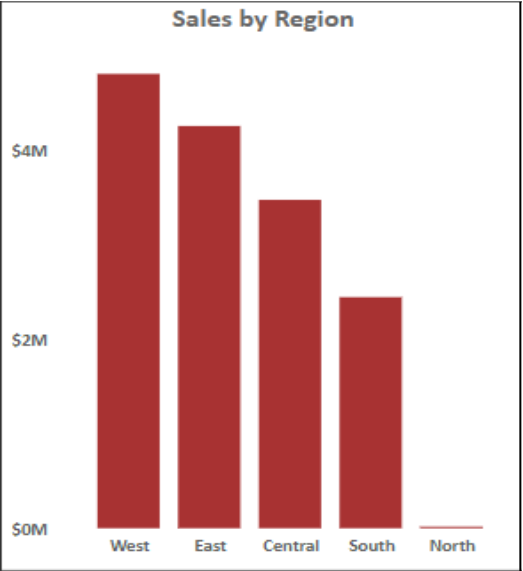
### The following insights were gained from reviewing this data:

1. Sales and profit have been declining year-over-year for the past four years, according to data analysis.

Year of Sale	Total Sale	Total Orders
2019	\$4,977,512.00	3312
2020	\$3,871,912.00	2587
2021	\$3,131,959.00	2102
2022	\$2,975,599.00	1993

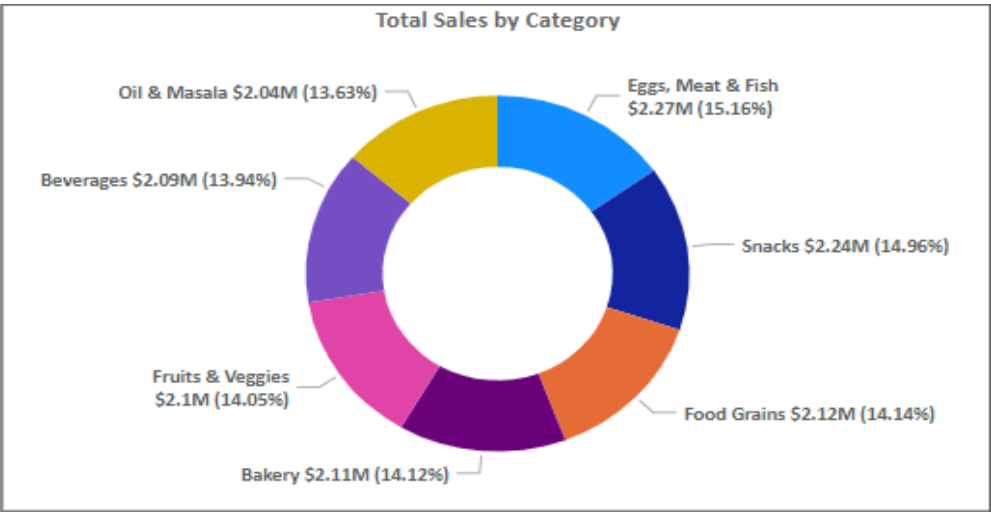


2. The majority of orders are placed by customers living in the west, east, and central regions of Tamil Nadu, India. However, there has only been one order from the north in the past four years.

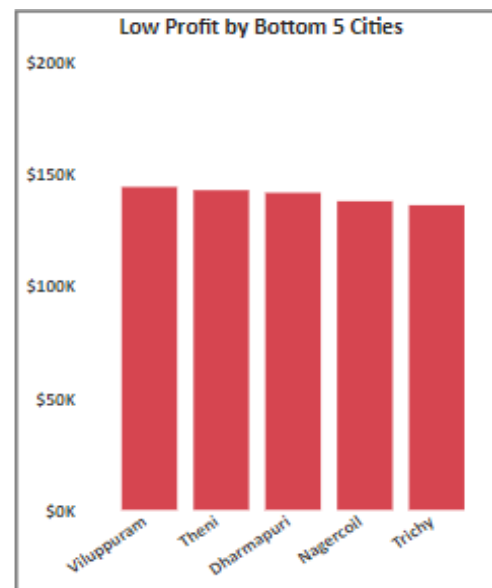
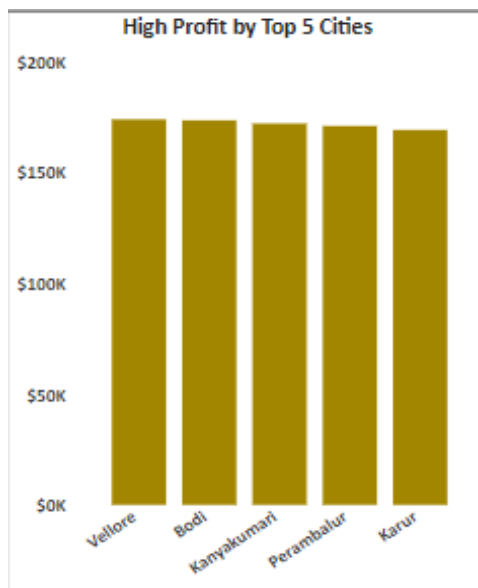


Year	Region	Count of Order ID
2020	North	1
2021	South	340
2022	South	349
2020	South	412
2022	Central	466
2021	Central	476
2022	East	517
2019	South	518
2020	Central	603
2021	West	642
2021	East	644
2022	West	661
2020	East	766
2019	Central	778
2020	West	805
2019	East	921
2019	West	1095
Total		9994

3. Total sales by category show that the inventory levels are accurately maintained, which can lead to stock outs and overstocks. Profit gained from each category of product sales is approximately equal.



4. The charts show the top 5 and bottom 5 cities in Tamil Nadu where stores generate the highest and lowest profits, respectively.



### **Solution /Suggestions:**

To consider all points of data visualization, store need to:

1. Focus on customer insights:
  - a. Understand customer requirements in the north region and lowest profit cities.
  - b. Focus on product availability, quality, order delivery service and time, product exchange, return and refund policies.
  - c. Focus on festival season sales and new launched products demand in the market.
2. Maintain customer data:
  - a. Collect customer data, such as full name, contact number, location, purchase history, demographics and browsing behaviour.
  - b. Use this information to create targeted marketing campaigns, improve product assortment, and optimize customer experience.
3. Cyber Security:
  - a. Create a security awareness program to educate employees about cyber threats.
  - b. Implement strong security measures, such as using strong passwords and encrypting data.
  - c. Monitor your network for suspicious activity.
  - d. Have a plan in place in case of a breach.