A PROJECT REPORT

ON

"SUPER STORE: DATA ANALYSIS & INSIGHTS"

COLLEGE OF ENGINEERING ROORKEE UNIVERSITY

ROORKEE UTTARAKHAND

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MASTER OF BUSINESS ADMINISTRATION

SEMESTER 1

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SUBMISSION DATE: 26/11/2024

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Acknowledgement

"I would like to express my sincere gratitude to the following individuals and organizations for their support and guidance throughout the completion of this project:

- [Superstore report], [COER University] for providing valuable guidance, feedback, and encouragement throughout the project.

- [Monika mavi

Ansh aggarwal

Harshit Choudhary

Prince kunal

Harsh Kashyap], [Coer University] for their contributions, support, and collaboration throughout the project.

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CERTIFICATION

We hereby certify that [

Monika mavi

Ansh aggarwal

Harshit Choudhary

Prince kunal

Harsh Kashyap]] has completed the project to the best of their abilities and has demonstrated a good understanding of the concepts and techniques involved in data analysis.

SIGNATURES

[MR. SOURABH POSWAL]

[Date 26/11/24]

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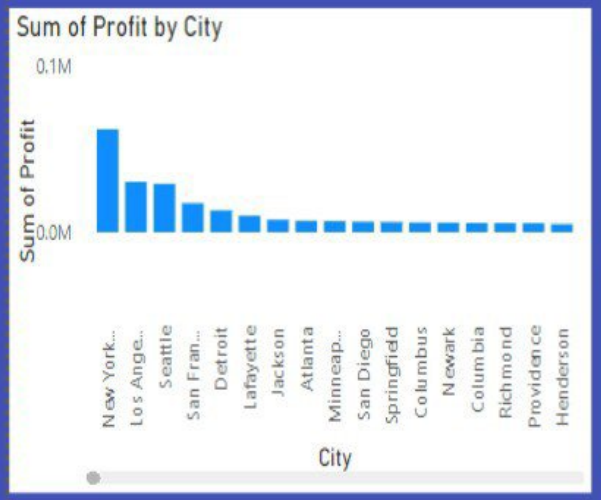
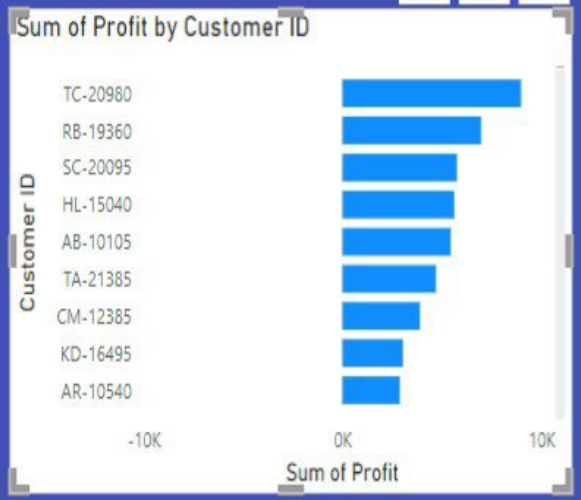
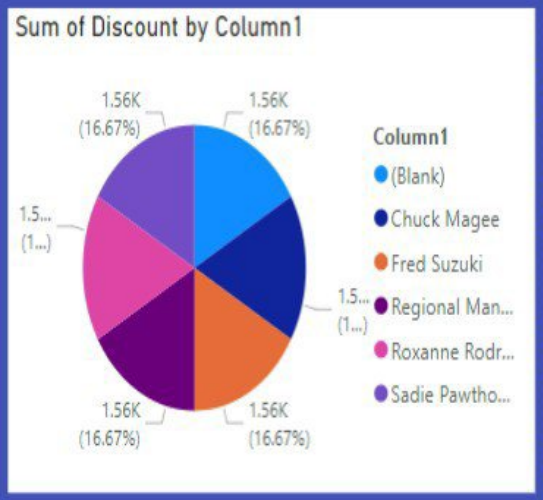
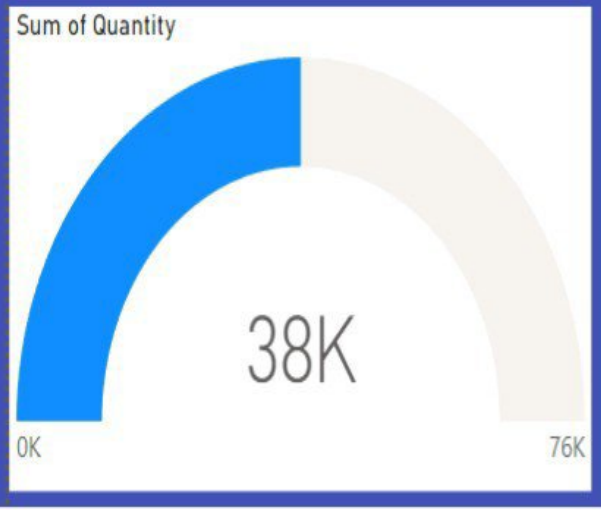
286.40K
Sum of Profit

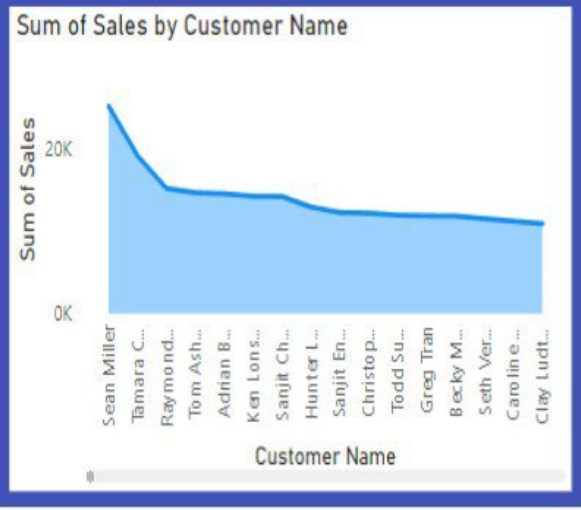
229.86
Average of Sales

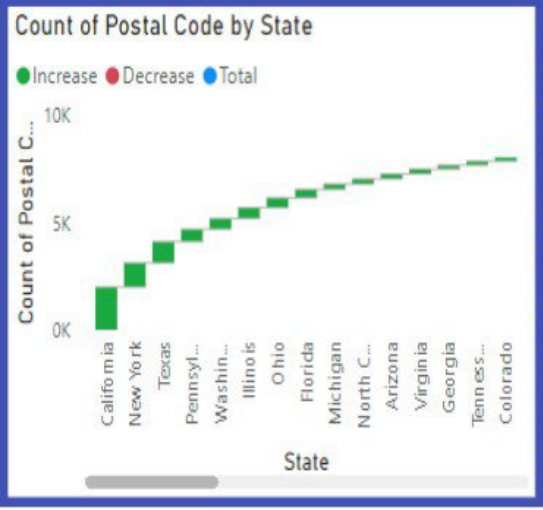












Superstore Dashboard Analysis

1. Executive Summary

The Superstore Dashboard Analysis provides a comprehensive overview of the retail store's performance based on its operational data. Using Power BI, the **project evaluates critical metrics like profitability, sales trends, discount** strategies, and geographic performance. This report identifies key drivers of revenue, high-performing customers, and regions with potential for expansion.

Key findings reveal that cities like New York and Los Angeles are top contributors to profitability, while California leads in geographic performance. The analysis highlights the importance of targeted discounts and customer engagement strategies to enhance sales and profit margins. These insights aim to support data-driven decision-making and optimize business operations.

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2. Introduction

In the retail industry, data-driven insights play a vital role in enhancing business performance. This project analyzes the Superstore’s data to uncover actionable insights into sales trends, profitability, and customer behavior. By leveraging Power BI, we aim to visualize and interpret the data to inform strategic decision-making and operational efficiency.

The focus of this project is to explore sales performance, identify high-value customers, assess the effectiveness of discounts, and examine geographic trends to identify growth opportunities. These insights will empower the Superstore to make informed decisions and maximize its potential in the competitive retail market.

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3. Project Objectives

The primary objectives of this project are as follows:

1. **Profitability Analysis**: Assess profit trends by city, customer, and product category to identify key drivers.
2. **Sales Insights**: Evaluate sales distribution across customers and regions to uncover growth opportunities.
3. **Discount Evaluation**: Analyze the impact of discount strategies on profitability and sales volume.
4. **Customer Engagement**: Understand customer behavior to improve retention and acquisition strategies.
5. **Geographic Analysis**: Examine regional performance and identify areas for potential expansion.

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4. Methodology

4.1 Data Collection

The data for this project was sourced from the Superstore database, including orders, customers, returns, and sales information.

4.2 Data Preparation

Data cleaning and transformation were performed to ensure accuracy and consistency. Missing values and duplicates were addressed, and calculated fields such as total profit and average sales were created using DAX formulas.

4.3 Data Integration

Relationships were defined between key datasets (Orders, Customers, and Returns) to enable seamless analysis in Power BI.

4.4 Visualization and Analysis

Visualizations were created to represent data trends, using charts and graphs such as bar charts, pie charts, line graphs, and gauge charts.

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5. Data Overview

5.1 Data Description

The dataset consists of:

- **Orders**: Contains information on sales, profit, and discounts.
- **Customers**: Includes customer demographics and geographic data.
- **Returns**: Tracks product returns and their impact on profitability.

5.2 Key Metrics

- **Total Sales**: $286.40K
- **Average Sales Per Transaction**: $229.86
- **Total Quantity Sold**: 38,000 units
- **Sum of Discounts**: Equally distributed among sales representatives.

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6. Data Preparation

6.1 Cleaning and Transformation

- Removed incomplete and duplicate entries.
- Transformed raw data into usable formats using Power BI's Power Query Editor.

6.2 Calculations

- Created calculated fields for:
    - Total Profit = Sales - Cost
    - Average Sales = Total Sales / Number of Transactions

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7. Power BI Process

7.1 Data Modeling

- Relationships were defined between datasets to allow for dynamic filtering.

- Measures were created using DAX, such as “Sum of Profit” and “Average Sales per Customer.”

7.2 Visualization Development

- **Bar Charts**: Profit by city and customer ID.
- **Pie Charts**: Distribution of discounts among sales representatives.
- **Gauge Chart**: Comparison of quantities sold to maximum capacity.
- **Line Graphs**: Sales trends across customers and geographic regions.

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8. Key Findings

8.1 Profitability Analysis

- **Top Cities**: New York, Los Angeles, and Seattle contribute the most to profitability.
- **High-Profit Customers**: Specific customer IDs such as TC-20930 and RB-19860 drive significant revenue.

8.2 Sales Trends

- Total sales of $286.40K indicate strong performance in specific regions.
- Average sales per transaction of $229.86 highlight moderate customer spending.

8.3 Discounts

- Discounts are evenly distributed, but their impact on profitability needs optimization.

8.4 Geographic Insights

- California leads in sales and customer engagement, while states like Texas and Florida show untapped potential.

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9. Price Analysis

The analysis reveals that:

- Discounts contribute to increased sales volume but can negatively impact profit margins.
- The average sales per transaction is consistent, suggesting stable pricing.

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10. Outcomes

Key Results

1. Identification of high-profit customers and regions.
2. Insights into the impact of discounts on profitability.
3. Opportunities for geographic expansion and customer engagement.

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11. Insights and Analysis

Profitability Drivers

High-performing cities and customer segments are essential for growth.

Sales Trends

Focusing on retaining high-value customers will enhance revenue consistency.

Discount Optimization

Tailored discount strategies can improve profitability without sacrificing sales volume.

Geographic Opportunities

Investing in marketing and logistics in underperforming states can expand the Superstore's reach.

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12. Potential Impact on Business Decision-Making

The insights provided by this report can influence:

1. **Marketing Strategies**: Focus on high-value customers and regions.

2. **Operational Efficiency**: Address gaps in sales volume and underperforming areas.
3. **Revenue Growth**: Increase engagement with low-performing customers.

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13. Conclusion

This analysis highlights key drivers of profitability, sales trends, and geographic performance. By leveraging these insights, the Superstore can implement targeted strategies to enhance profitability, expand into new regions, and optimize operational efficiency.
