



EXPLORATORY DATA ANALYSIS OF SUPERMARKET STORE BRANCHES

**A Python For Data Analytics Project
Presented By: Odinakachukwu Ugochukwu N.**

Contents

- **Key Data Information and Key Performance Indicators (KPIs)**
- **A Survey of The Top & Least Selling Supermarket Stores**
- **A Survey Of The Top & Least Stores With Most Sales By Store Area and Daily Customer Count**
- **A Survey of The Top & Least Stores With Most Daily Customer Count By Store Area and Item Sales**
- **A Survey of The Top & Least Stores With Most Store Area By Item Sales and Daily Customer Count**
- **Recommendations On Rectifying Defects In Store Branches Sales And On Making Them More Profitable**

Key Data Information and Key Performance Indicators (KPIs)

Below is a list of dataset column names and what they represent:

Store_ID:	(Index) ID of the particular store.
Store_Area:	Physical Area of the store in yard square.
Items_Available:	Number of different items available in the corresponding store.
Daily_Customer_Count:	Number of customers who visited stores on average over a month.
Store_Sales:	Sales in (US \$) that stores made.

Key Performance Indicators (KPIs):

\$53,178,770.00	897	1,596,704	704,570	1,330,927
Total Revenue From All Store Branches	Total No. of Store Branches	Total No. of Items In All Store Branches	Total No. Daily Customers In All Stores	Total Area of All Stores

A Survey of The Top & Least Selling Supermarket Stores

Key Insights

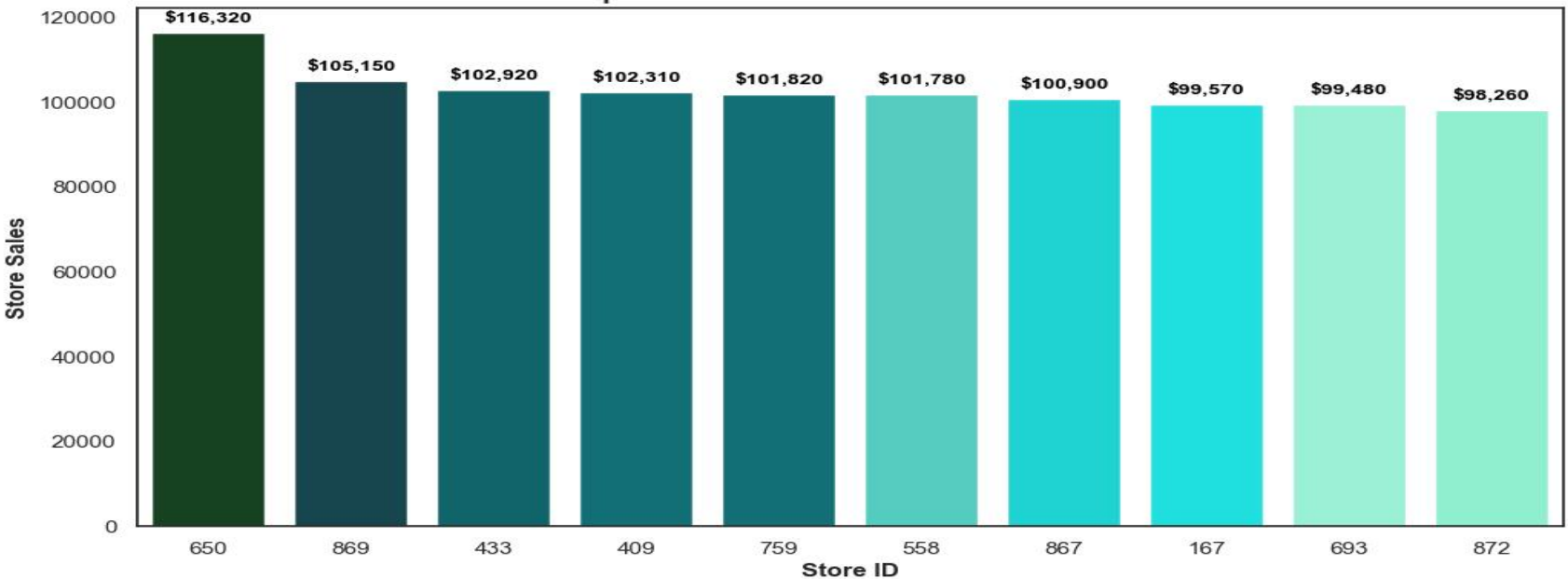
The top 10 stores with the most items sales represent the high-performing store branches based on sales. The store with Store_ID 650 leads with sales of \$116,320, followed by Store_ID 869 with sales of \$105,150 and Store_ID 433 with sales of \$102,520, down to Store_ID 872 with sales of \$98,260 which wraps-up the top 10 store branches with most item sales which indicates a strong customer demand and possibly, an effective sales strategy.

These top 10 stores sales valuation significantly contribute to the overall revenue of the business. Strategies to maintain and enhance the performance of these stores is crucial for sustained business success.

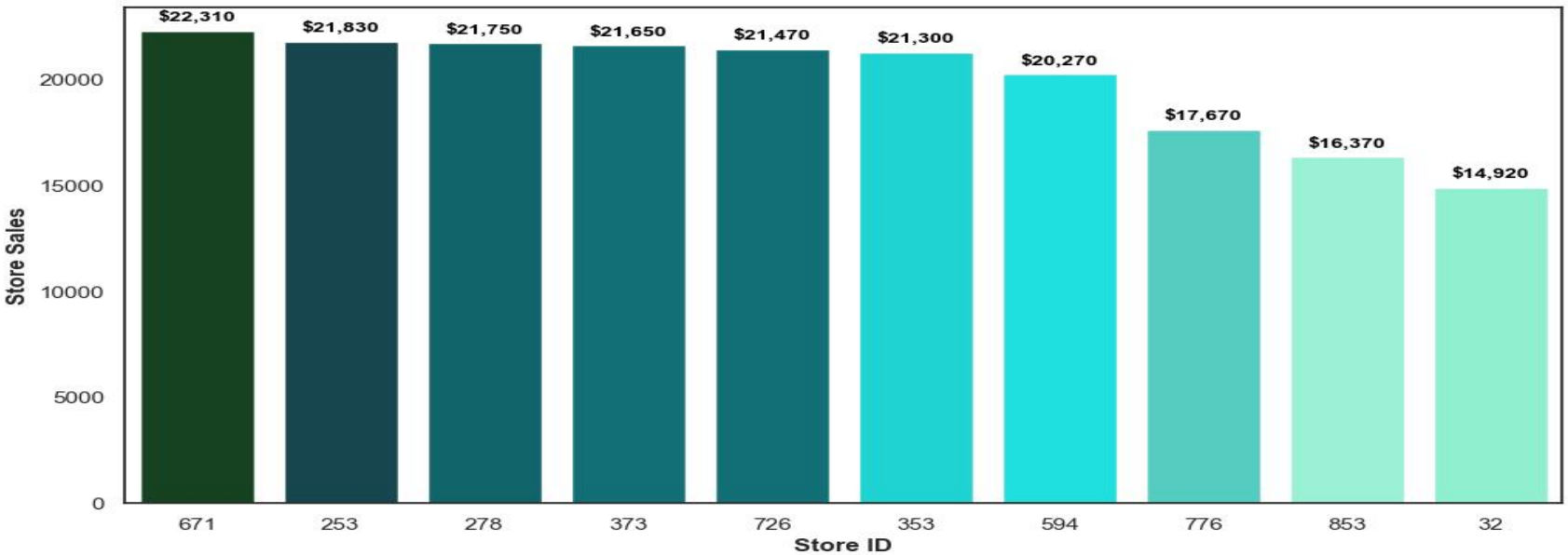
The least 10 Stores with most items sales exhibits a set of the stores with the least sales valuation. From bottom, Store_ID had sales worth \$14,920 which is recorded as the lowest sales followed by Store_ID 853 with sales worth \$16,370 and above them is Store_ID 776 with sales worth \$17,670. The lower sales in these stores highlights potential disparity in performance among store branches.

Analyzing the top and least-performing stores provides valuable insights into revenue distribution, opportunity for growth, and areas for improvement.

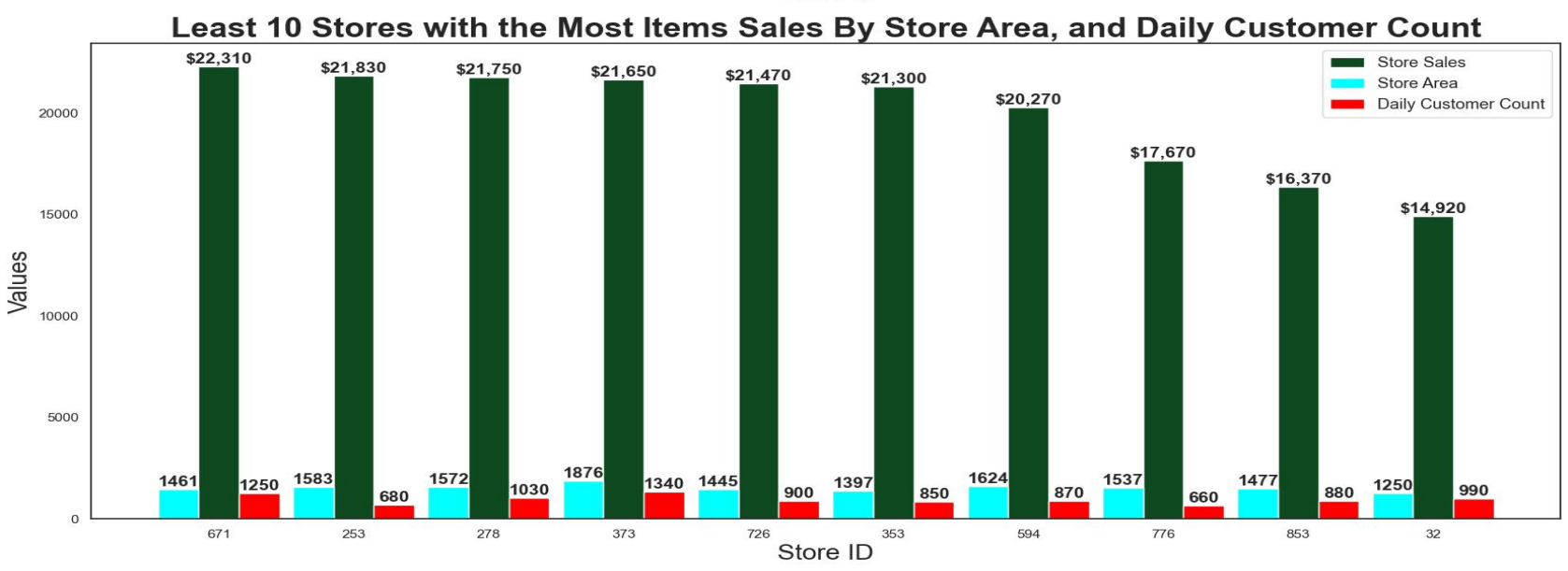
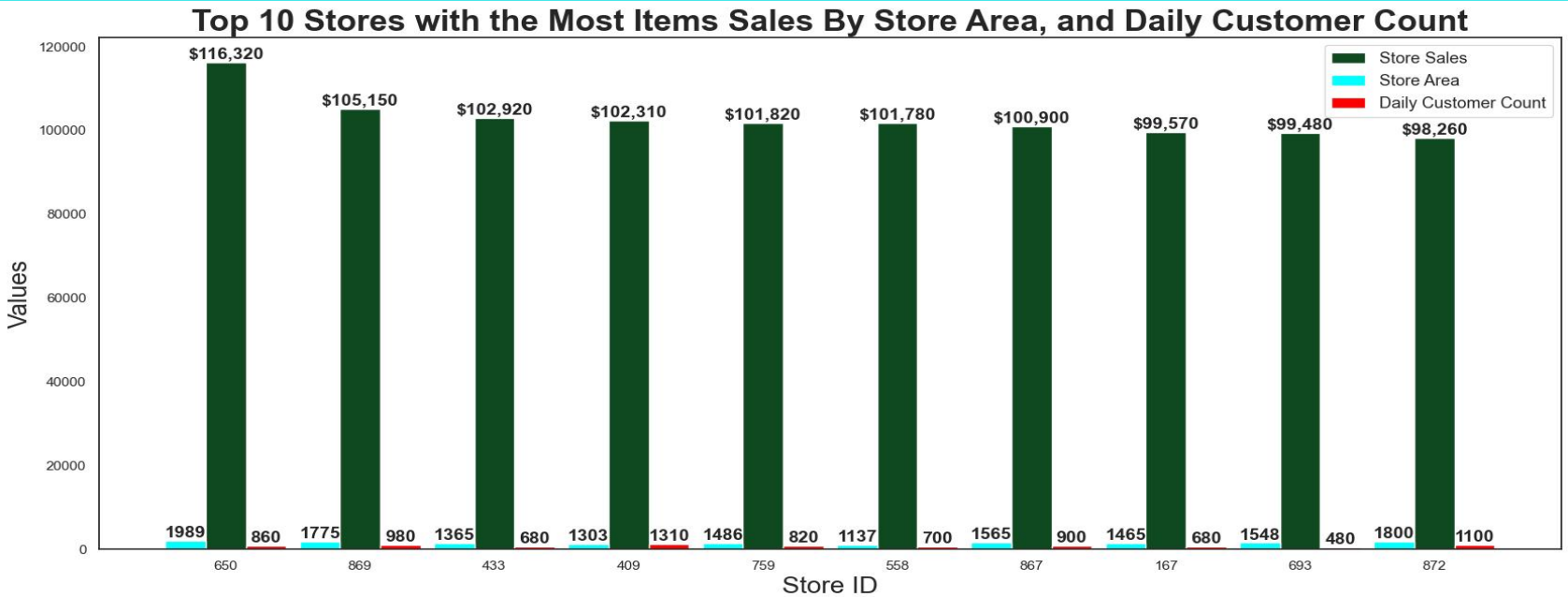
Top 10 Stores With The Most Item Sales



Least 10 Stores With Most Item Sales



A Survey Of The Top & Least Stores With Most Sales By Store Area and Daily Customer Count



Key Insights

Among the top 10 stores with the most sales by store area and daily customer count, Store_ID 650 has the highest Store_Sales of \$116,320 with a Daily_Customer_Count of 860, and also has the largest Store_Area of 1,989. Store_ID 869 with a Store_Sales of \$105,150 has a Store_Area of 1,775 and Daily_Customer_Count of 980. These 10 top-performing stores has a mix of store sizes, such as Store_ID 650 with a Store_Area of 1,989 and Store_ID 558 with Store_Area of. 1,137 .This suggests that successful sales strategies can be implemented across various store sizes. While some stores have a higher Daily_Customer_Count, others maintain strong sales performance with lower customer count, indicating effective sales strategies by these stores in engaging and converting customers.

The least-performing stores face challenges in attracting a substantial daily customer count. Store_ID 253, for example, has a Daily_Customer_Count of 680, suggesting potential opportunities for improvement in customer engagement. Store_ID 776 despite having a Store_Area of 1,537, faces challenges with a relatively low Daily_Customer_Count of 660, reflecting potential areas for improvement. Similar to the top performers, the least-performing stores also exhibit diversity in store sizes.

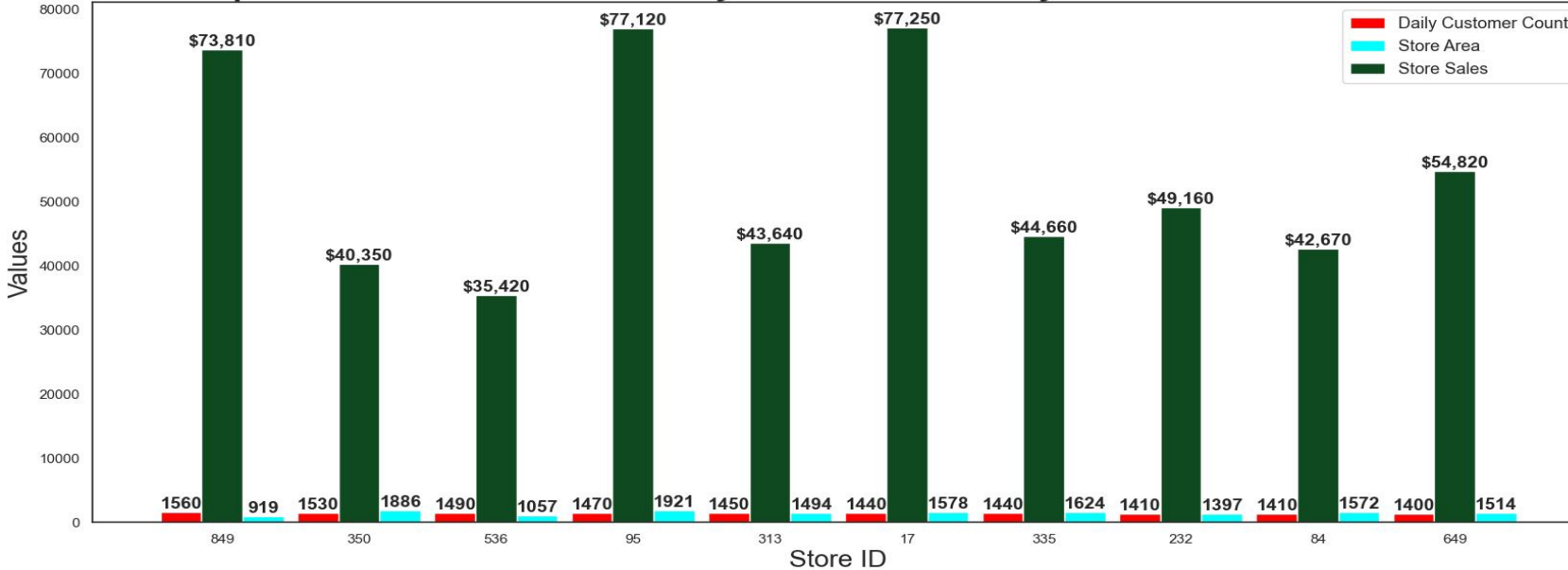
A Survey of The Top & Least Stores With Most Daily Customer Count By Store Area and Item Sales

Key Insights

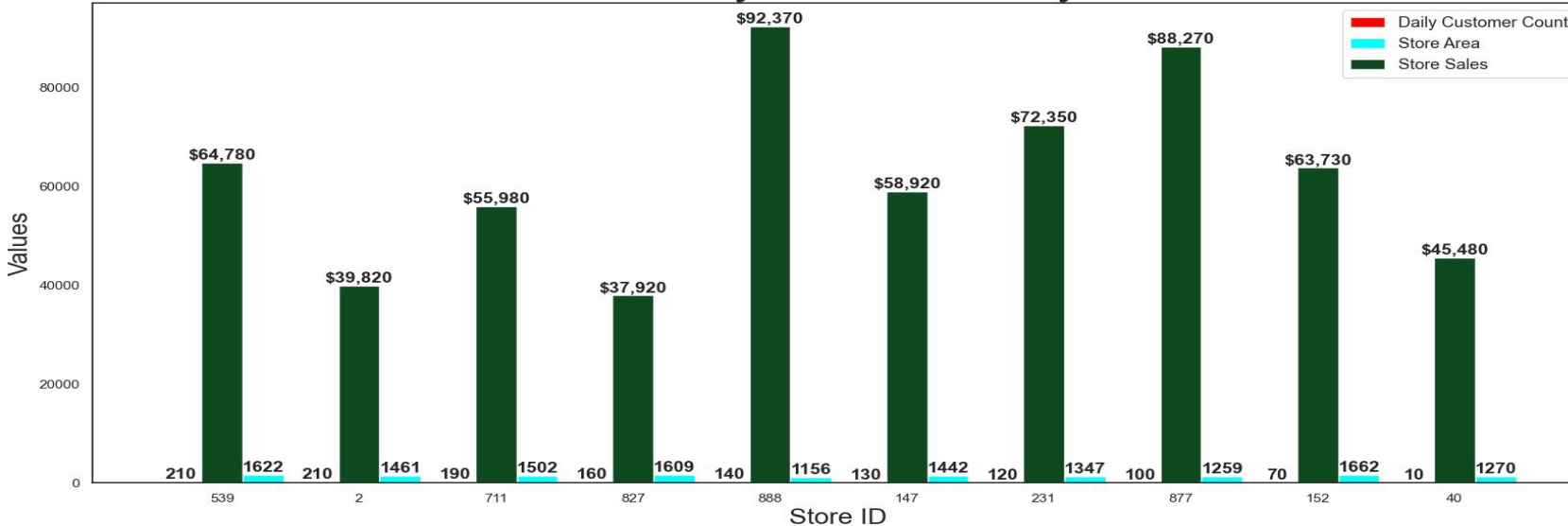
Store_ID 849 with a Store_Area of 919 leads the top 10 stores with a high with Daily_Customer_Count of 1,560 and a significant Store_Sales of \$73,810. It demonstrates effective strategies in both customer engagement and sales. The top stores with most daily customer count include a combination of varying store sizes, such as Store_ID 849 with Store_Area of 919 and Store_ID 95 with Store_Area of 1,921. This suggests that customer engagement strategies can be successful across various stores. The top stores consistently attract a high Daily_Customer_Count, ranging from 1,400 to 1,560. This indicates the effectiveness of these stores in drawing foot traffic.

The least-performing stores struggle to attract substantial daily customer count. Store_ID 827 and Store_ID 2, for example, have Daily_Customer_Count of 160 and 210 respectively, indicating challenges in customer attraction strategies. Store_ID 40 faces significant challenges with a Daily_Customer_Count of 10, the lowest among the listed stores. Despite having a Store_Area of 1,270, their sales performance is limited, which suggests opportunities for improvement. Similar to the top performers, the least-performing stores also exhibit diversity in store sizes. Both the top and least-performing stores highlights the critical role of daily customer count in determining overall sales performance.

Top 10 Stores With The Most Daily Customer Count By Store Area And Item Sales



Least 10 Stores With The Most Daily Customer Count By Store Area and Item Sales



A Survey of The Top & Least Stores With Most Store Area

By Item Sales and Daily Customer Count

Key Insights

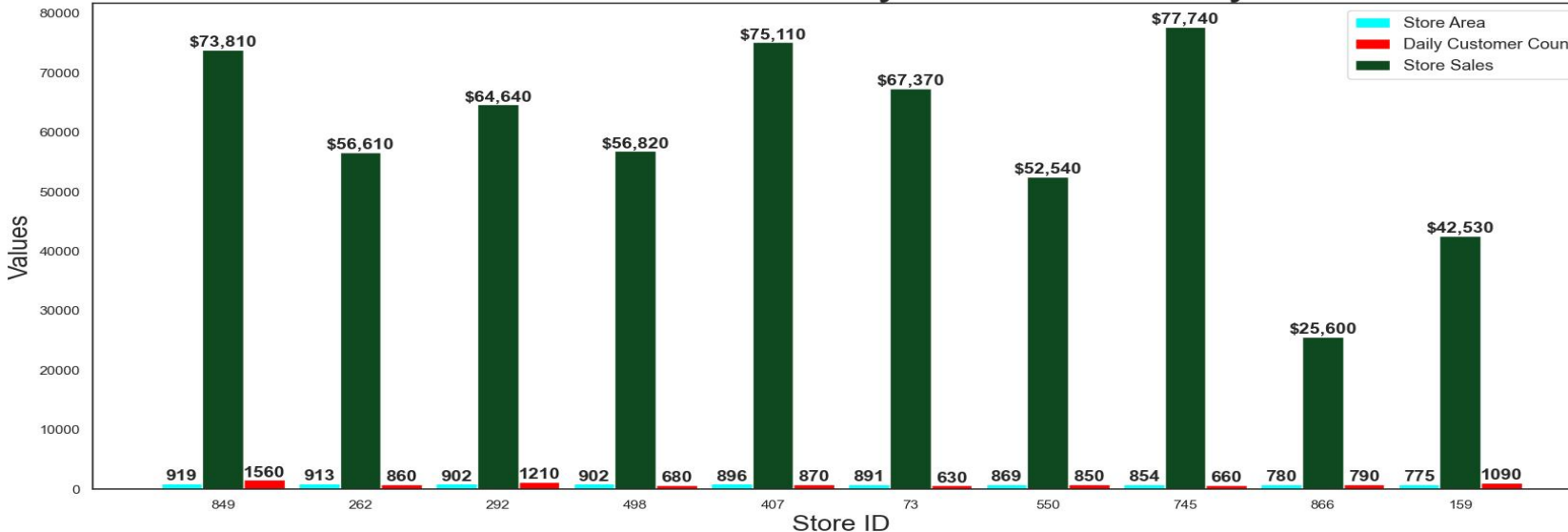
Store_ID 467 has the largest Store_Area of 2,229 among the top stores with most store area. Despite Daily_Customer_Count of 660, the high Store_Sales of \$87,410 suggests efficient space utilization and effective sales strategies. The top-performing stores displays diversity in Store_Area, with varying sizes ranging from Store_ID 541 with Store_Area 2,214 to Store_ID 313 with Store-Area of 2,019. This diversity indicates successful strategies across different store sizes. Store_ID 629 despite having a smaller store size, achieved an impressive Store_Sales of \$82,020 with a relatively lower Daily_Customer_Count of 380, indicating a high sales efficiency.

The least-performing stores with most store area such as Store_ID 849 that realized \$73,810 with Store_Area of 919, face challenges in translating a large store size into high sales efficiency like Store_ID 745 that made \$77,740 with a smaller Store_Area of 854. The least-performing stores also demonstrate diversity in Store_Area just like the top performers. Store_ID 866 with a Store_Area of 780, but with a poor Store_Sales of \$25,500 and Daily_Customer_Count of 790 suggests opportunities for optimizing sales efficiency and improving customer engagement. This analysis highlights that store areas may not always directly correlate with high sales or customer counts. Effective utilization of space and effective sales strategies plays crucial roles.

Top 10 Stores With The Most Stores Area By Store Sales and Daily Customer Count



Least 10 Stores With The Most Stores Area By Store Sales and Daily Customer Count



Recommendations On Rectifying Defects In Store Branches Sales And On Making Them More Profitable

- ✓ The Store branches that are experiencing low sales have opportunities to improve. Strategies such as targeted marketing, inventory adjustments, or operational enhancements can boost sales.
- ✓ Stakeholders may need to evaluate the allocation of resources to these stores. They should consider whether additional staff support, staff training, improvement of staff salaries, or improvement in marketing efforts are needed to improve the performance of these stores.
- ✓ Some of the least performing stores exhibit low customer counts, this indicates that stakeholders need to look into potential areas for improvement in customer attraction and engagement possibly through targeted marketing, promotions, or store layout enhancements and re-organization.
- ✓ There are stores with high store sizes but with lower daily customer counts and sales output, stakeholders should look at ways of improving sales strategies, ways of optimizing sales efficiency and ways of enhancing customer engagement.
- ✓ The stakeholders should also look for means of improving their systems and processes by leveraging technology in their stores day-to-day operations. A strong online presence in form of a good branding of the business online, digital marketing, an e-commerce store, a platform to interact with customers through which they can analyze customer behavioural trend, understand their needs and design a strategy for customer retention online and offline, could improve sales.

**LET'S IMPROVE
OUR STORES
REVENUE**

