



Zudio Retail Store Performance Analysis Report

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1. Executive Summary

This report presents key findings on Zudio's store and customer performance based on data analysis and visual explorations. The goal is to highlight actionable insights that can inform business decisions.

2. Project Objectives

Analyze core aspects of store operations, customer behavior, and product performance to uncover growth opportunities and efficiency improvements.

3. Dataset Overview

The analysis uses Zudio's retail sales, management, and customer data. This includes store attributes, sales transactions, staffing, product categories, and geographic information. Zudio_cleaned.csv

4. Key Analysis Questions & Visualizations

1. The Highest Revenue by location

```
[8]: dfz["Revenue"] = dfz["Price"] * dfz["Quantity"]

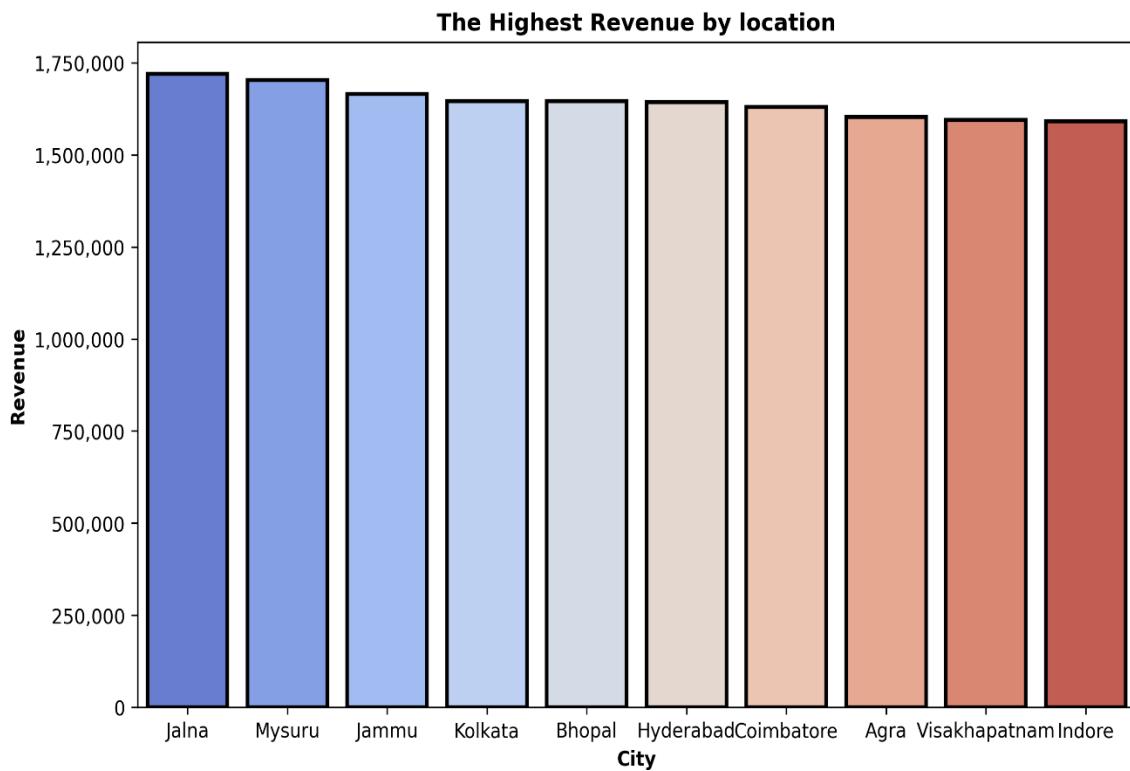
[9]: store_loc = zudio.groupby("City").agg({"Revenue":"sum"}).sort_values(by = "Revenue", ascending = False).reset_index()
store_loc = store_loc.head(10)

[10]: store_loc
```

	City	Revenue
0	Jalna	1719676
1	Mysuru	1703579
2	Jammu	1664596
3	Kolkata	1645961
4	Bhopal	1645597
5	Hyderabad	1642797
6	Coimbatore	1629608
7	Agra	1603054
8	Visakhapatnam	1594813
9	Indore	1590816

```
[45]: plt.figure(figsize = (10,6))
plt.style.use('default')
sns.barplot(data = store_loc, x = "City", y = "Revenue", palette = "coolwarm", edgecolor = "k", linewidth = 2)
plt.title("The Highest Revenue by location", fontsize = 12, fontweight = "bold")
plt.xlabel("City", fontsize = 10, fontweight = "bold")
plt.ylabel("Revenue", fontsize = 10, fontweight = "bold")
plt.gca().yaxis.set_major_formatter(plt.matplotlib.ticker.StrMethodFormatter('{x:, .0f}'))

plt.savefig("The Highest Revenue by location.png", dpi = 300, bbox_inches = "tight")
plt.tight_layout()
plt.show()
```



2. Order Volume by Parking Availability

```
[23]: parking = dfz.groupby("Parking_Availability")["Quantity"].count().reset_index()
parking = parking.rename(columns = {"Quantity":"Number_of_orders"})
```

```
[24]: parking
```

	Parking_Availability	Number_of_orders
0	Available	3933
1	Not Available	3966

```
⟳ ⌂ ⌄ ⌅ ⌆ ⌇ ⌈ ⌉
```

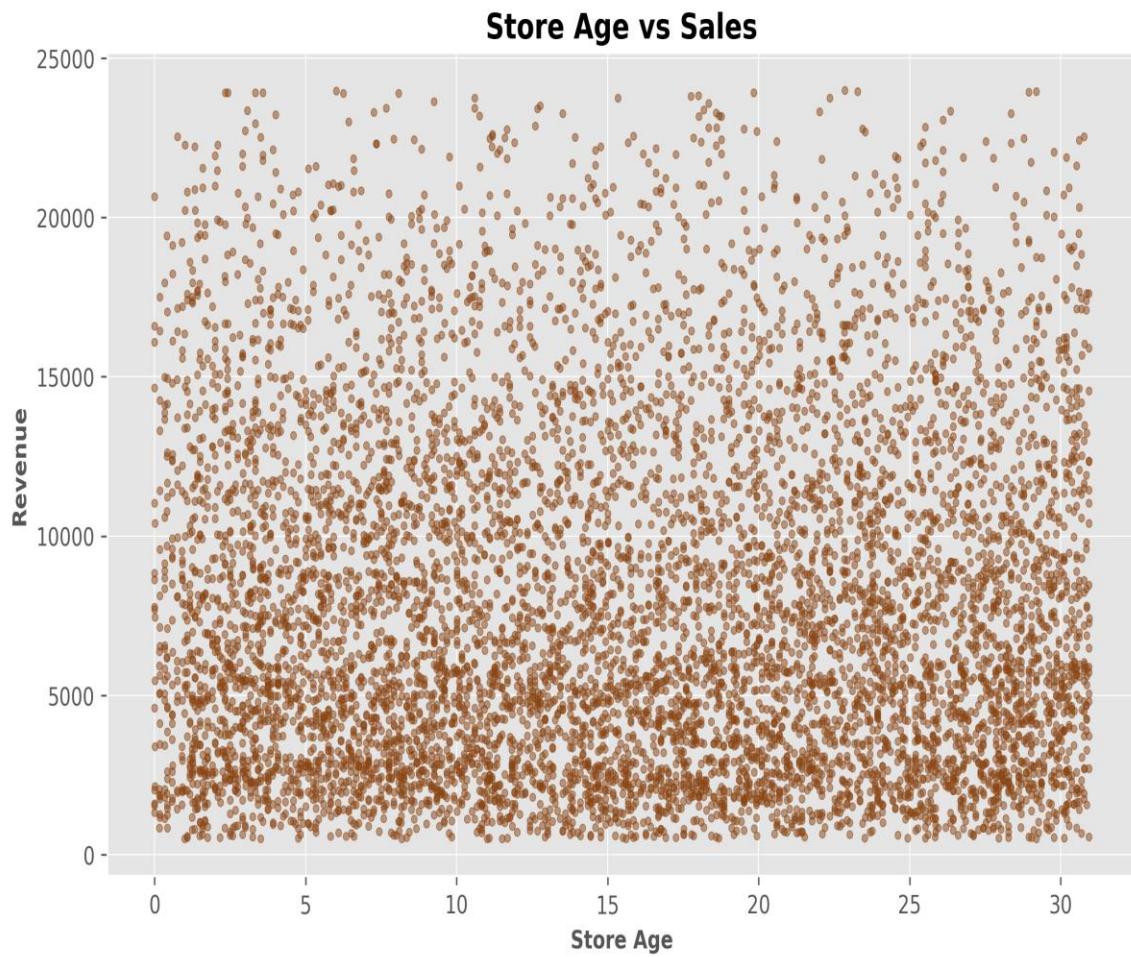
```
[48]: plt.figure(figsize = (10,6))
plt.style.use('ggplot')
rank = sns.barplot(data = parking, x = "Parking_Availability", y = "Number_of_orders", width = 0.3 ,edgecolor = "k", linewidth = 2, palette = 'colorblind'
plt.title("Order Volume by Parking Availability", fontsize = 12, fontweight = "bold")
plt.xlabel("Parking Availability", fontsize = 10, fontweight = "bold")
plt.ylabel("Number of orders", fontsize = 10, fontweight = "bold")

for bar in rank.containers:
    rank.bar_label(bar)

plt.savefig("Order_Volume_by_Parking_Availability.png", dpi = 300, bbox_inches = "tight")
plt.gca().yaxis.set_major_formatter(plt.matplotlib.ticker.StrMethodFormatter('{x:, .0f}'))
plt.show()
```



3. Store Age vs Sales



4. Sales By Region By Per Manager

```
[51]: manager_avg = dfz.groupby([("State"),("Store_Manager")]).agg({"Revenue" : "mean"}).sort_values(by = "Revenue", ascending = False).reset_index()
manager_avg.head(5)
```

```
[51]:
```

	State	Store_Manager	Revenue
0	Gujarat	Jason Gates	23992.0
1	Karnataka	Jessica Bailey	23976.0
2	Karnataka	Richard Mendez	23960.0
3	Maharashtra	Jonathan Allen	23952.0
4	Uttar Pradesh	Joseph Barajas	23936.0

```
[50]: plt.figure(figsize = (13,8))

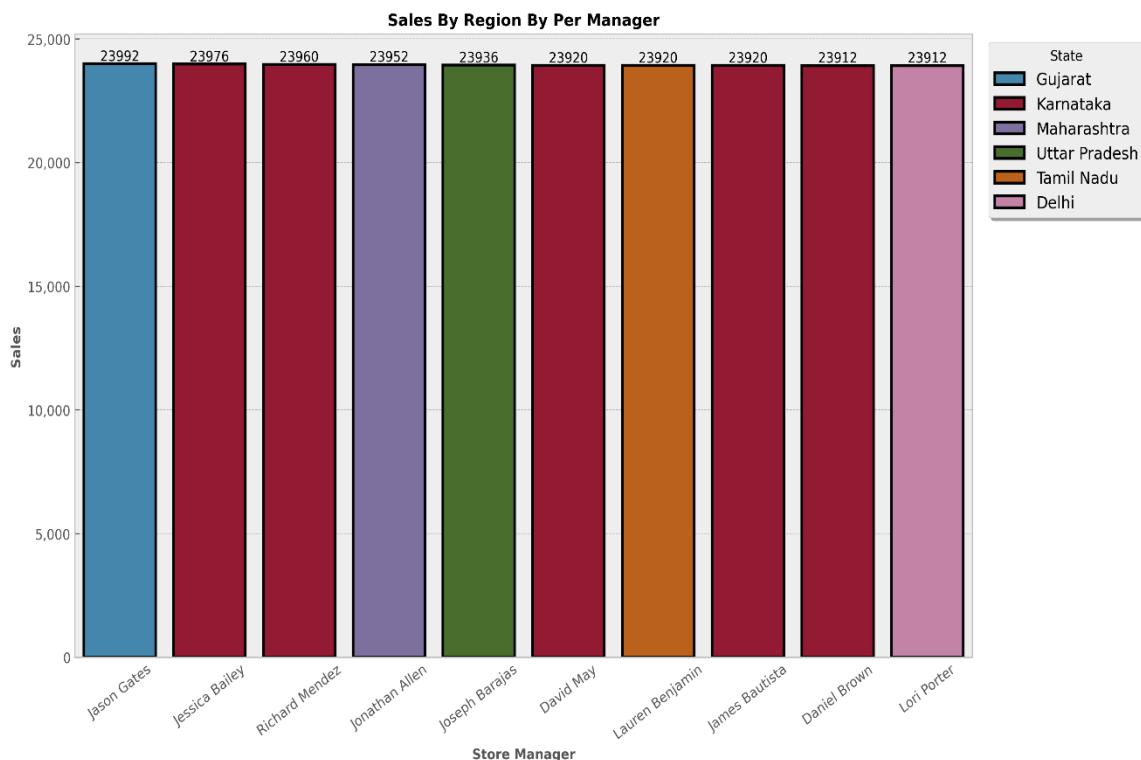
avg_sale_manager = manager_avg.head(10)

plt.style.use('bmh')
rank = sns.barplot(data = avg_sale_manager, x = "Store_Manager", y = "Revenue", edgecolor = "k", linewidth = 2, hue = "State")
plt.title("Sales By Region By Per Manager", fontsize = 12, fontweight = "bold")
plt.xlabel("Store Manager", fontsize = 10, fontweight = "bold")
plt.ylabel("Sales", fontsize = 10, fontweight = "bold")
plt.xticks(rotation = 35)
plt.legend(title = "State", frameon = True, bbox_to_anchor = (1.01,1), shadow = True, fontsize = 12)

for bar in rank.containers:
    rank.bar_label(bar)

plt.gca().yaxis.set_major_formatter(plt.matplotlib.ticker.StrMethodFormatter('{x:, .0f}'))

plt.savefig("Sales By Region By Per Manager.png", dpi = 300, bbox_inches = 'tight')
plt.tight_layout()
plt.show()
```



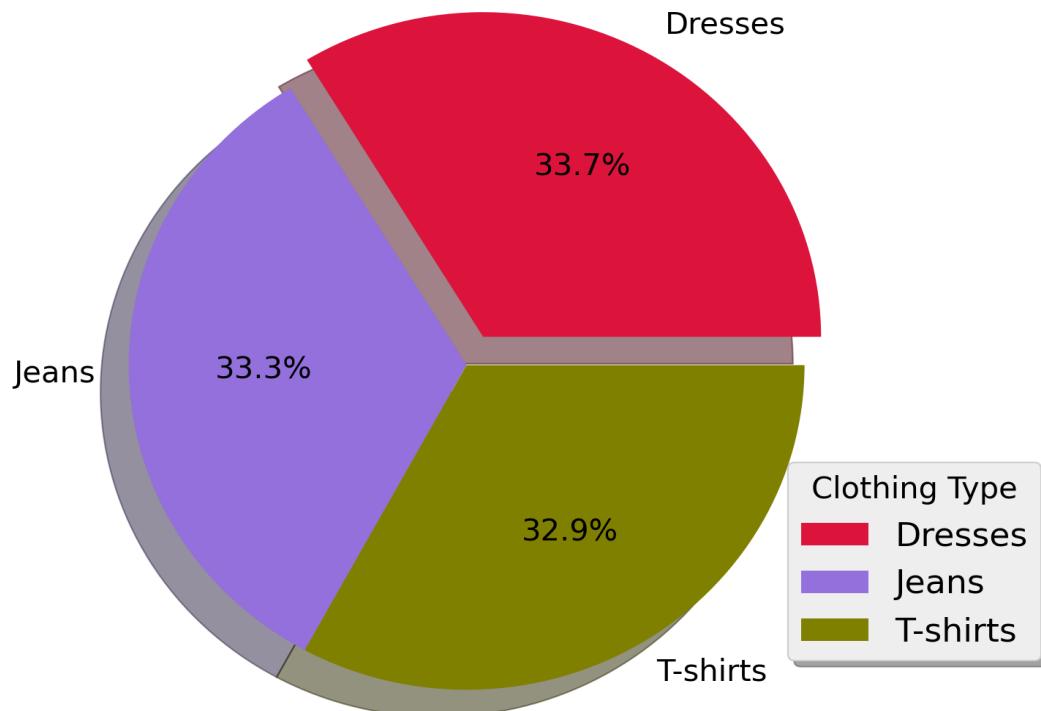
5. Top Selling Clothing Types (T-shirts, Jeans, Dresses)

```
[36]: types = dfz.query('Clothing_Type in ["T-shirts","Jeans","Dresses"]')  
  
cloth_type = dfz.groupby(types[["Clothing_Type"]]).agg(Top_selled = ("Revenue", "mean")).sort_values(by = "Top_selled", ascending = False).round(2).reset_index()  
cloth_type
```

```
[36]:   Clothing_Type  Top_selled  
0      Dresses    7932.86  
1       Jeans    7835.63  
2     T-shirts    7748.82
```

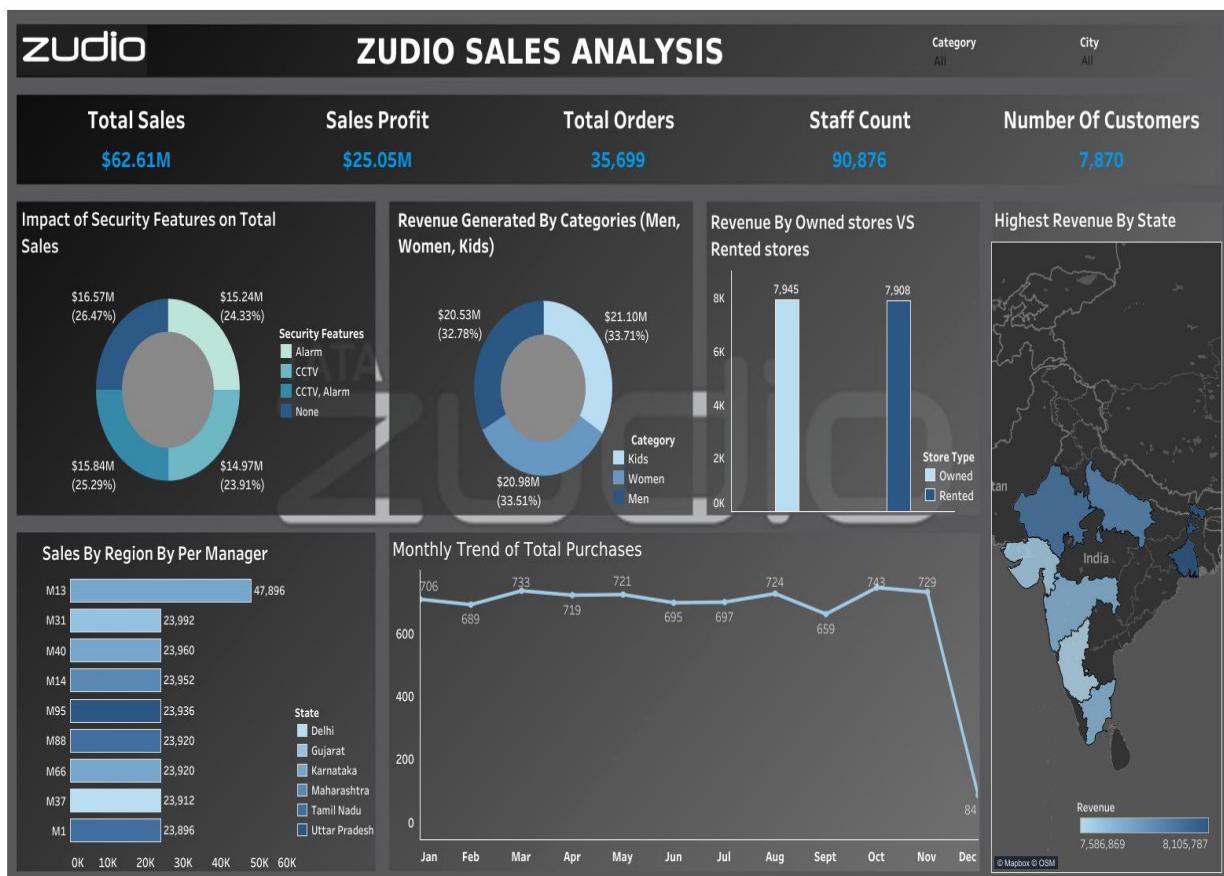
```
[54]: plt.figure(figsize = (9,5))  
plt.pie(cloth_type["Top_selled"], labels = cloth_type["Clothing_Type"], autopct = "%1.1f%%", shadow = True, colors = ["crimson", "mediumpurple", "olive"], explode = [0.1,0.0,0.0])  
plt.title("Top Selling Clothing Types (T-shirts, Jeans, Dresses)", fontsize = 12, fontweight = "bold")  
plt.legend(title = "Clothing Type", loc = "upper right", bbox_to_anchor = (1.2,0.4), fontsize = 11, frameon = True, shadow = True)  
  
plt.savefig("Top Selling Clothing Types (T-shirts, Jeans, Dresses).png", dpi = 300, bbox_inches = 'tight')  
plt.tight_layout()  
plt.show()
```

Top Selling Clothing Types (T-shirts, Jeans, Dresses)



5. Interactive Dashboard

An interactive Tableau dashboard has been created to provide dynamic visualizations for all key performance metrics and customer insights highlighted above. You can explore monthly trends, top product performers, customer value, regional differences, and seasonality interactively to further investigate and present findings.



6. Conclusion

This analysis provides evidence-based insights into product sales, customer value, pricing strategies, regional trends, and seasonality within Zudio stores. Combined with your Tableau dashboard, these results offer a strong foundation for data-driven decision-making.