



Presentation

Retail Store Analysis

Agasteen Bondalapati

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Business Context



Context

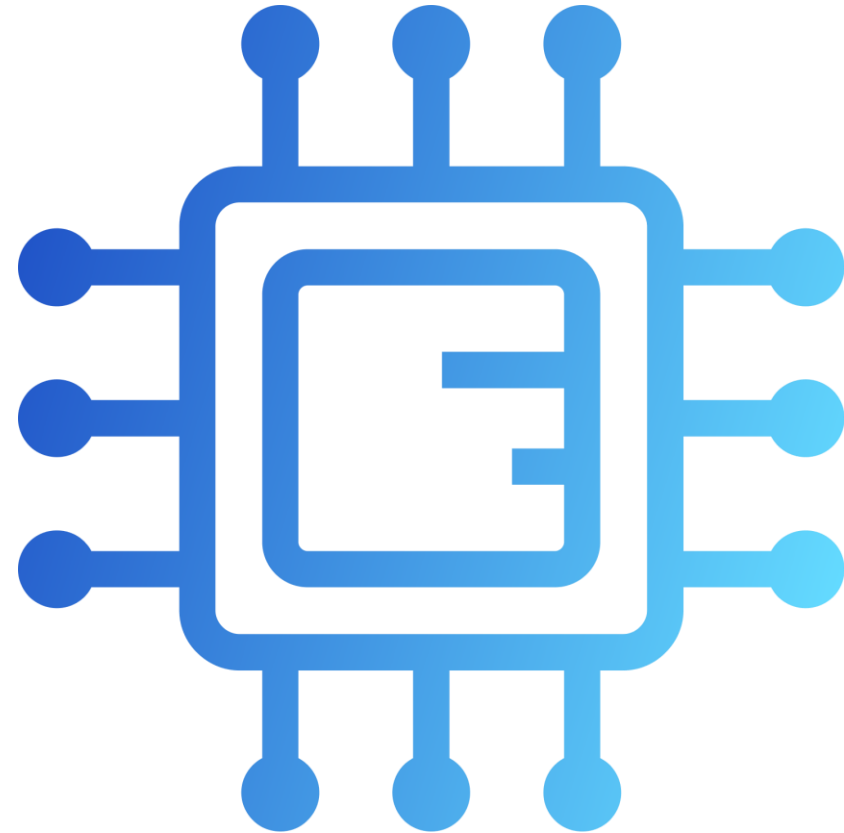
- The client is a leading Retail Chain in India.
- The client has provided the Point of Sales data for period Sep 2021 to Oct 2023 for 37 stores out of 534 stores across 7 States

Expected outcome

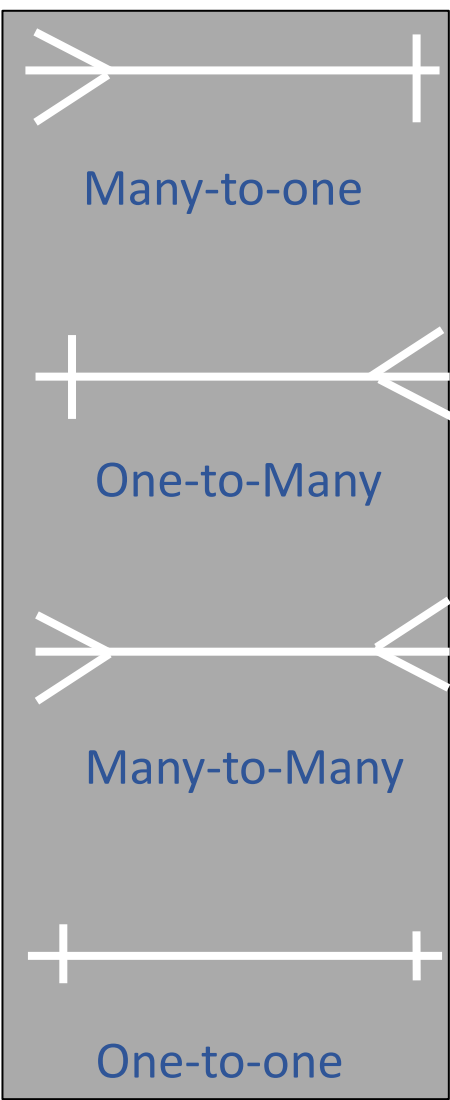
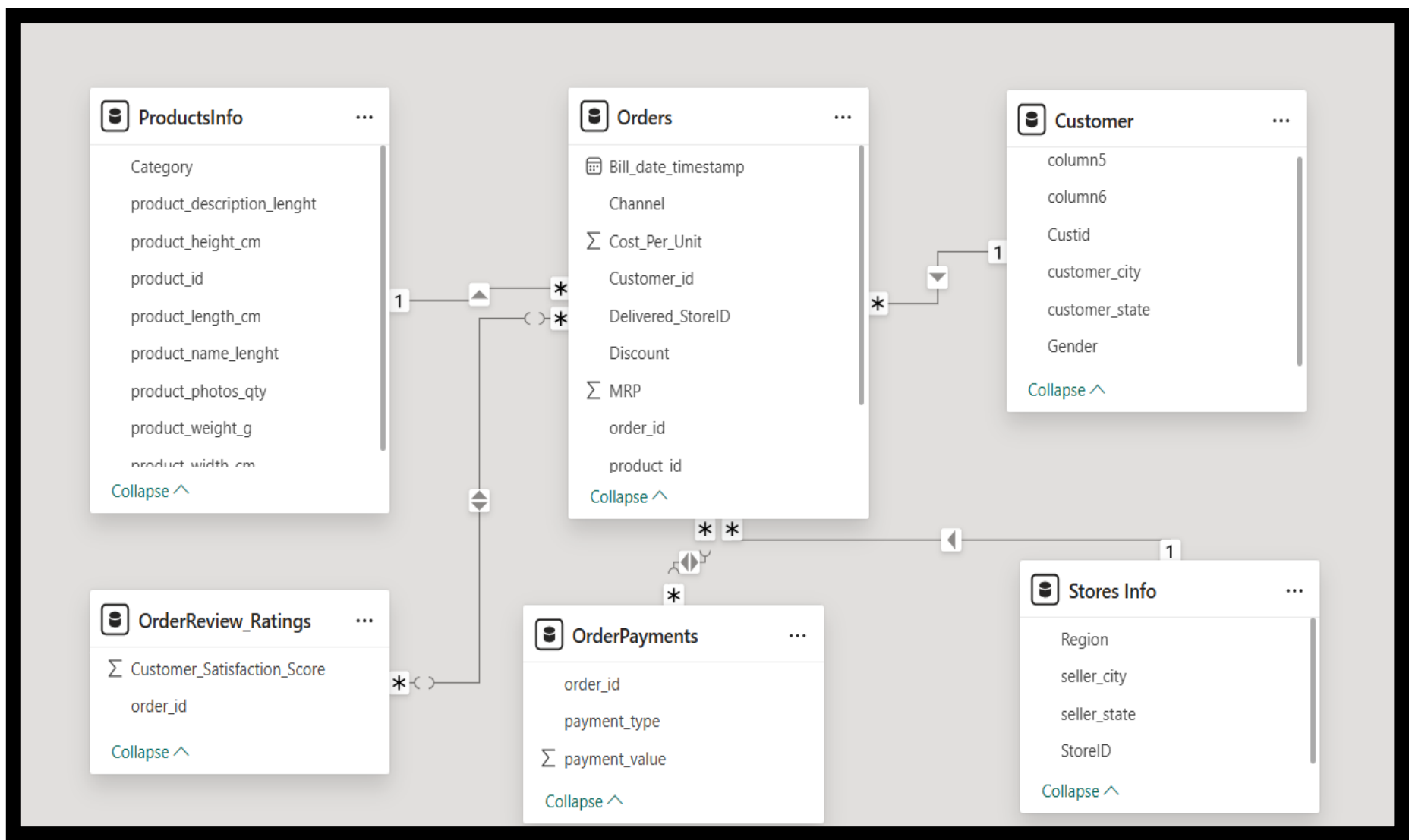
- To provide data driven analysis of key metrics at product level, customer level, sales level, store level, etc.
- To define CRM/ marketing/ Campaign/ Sales strategies for the upcoming year
- To suggest a strategy to increase sales for the upcoming year

Data Availability

- Customers (dim)
- Orders (fact)
- OrderPayments (dim)
- Products Info (dim)
- Stores Info (dim)
- OrderReview_Ratings (dim)



Entity-Relationship (ER) Diagram



Data Dictionary (1/3)

This provides an overview of the tables and their fields.

The dataset (Sep 2021 - Oct 2023) covers 39 out of 535 stores, specific product categories, with a one-to-many relationship between customers, orders,

Products Info Table

Column Name	Data Type	Description
product_id	object	Unique ID of the product
Category	object	Category of the product
product_name_lenght	float64	Length of product name
product_photos_qty	float64	Number of product photos
product_weight_g	float64	Weight of the product (grams)
product_length_cm	float64	Product length (cm)
product_height_cm	float64	product_height_cm
product_width_cm	float64	product_width_cm

Data Dictionary (2/3)

Customer Table

Column Name	Data Type	Description
Custid	int64	Unique Customer ID
customer_city	object	City of the customer
customer_state	object	State of the customer
Gender	object	Gender of the customer

Stores Info Table

Column Name	Data Type	Description
StoreID	object	Unique ID for the store
seller_city	object	City where the store is located
seller_state	object	State where the store is located
Region	object	Geographical region of the store

OrderReview_Ratings Table

Column Name	Data Type	Description
order_id	object	Unique ID for each order
Customer_Satisfaction_Score	int64	Customer satisfaction score (1-5)

OrderPayments Table

Column Name	Data Type	Description
order_id	object	Unique ID for each order (PK)
payment_type	object	Type of payment (Credit, Debit, COD, etc.)
payment_value	float64	Payment amount

Data Dictionary (3/3)

Orders Table

Column Name	Data Type	Description
Customer_id	int64	Unique ID of the customer (FK)
order_id	object	Unique ID for each order (FK)
product_id	object	Unique ID for the product ordered(FK)
Channel	object	Sales channel (e.g., online, offline)
Delivered_StoreID	object	Store that fulfilled the order (FK)
Bill_date_timestamp	object	Timestamp of the order bill
Quantity	int64	Number of units purchased
Cost Per Unit	float64	Cost per unit of the product
MRP	float64	Maximum Retail Price of the product
Total Amount	float64	Final amount after discount
Discount	float64	Discount applied

Summary Report (Missing & Unique Values)

Table Name	Total Rows	Missing Values	Unique Value
Orders	112,650	0	98,666
Customer	99,441	0	99,441 (Customer_id (PK))
Stores Info	534	0	534 (Store_id (PK))
Products Info	32,951	Missing: Category (623), product_weight_g Weight (2)	32,951 (Product_id (PK))
OrderPayments	103,886	0	99,400 (Order_id (PK))
OrderReview_Ratings	100,000	0	99,441

Data Discrepancies (1/7)

Orders Table

➤ In **Orders** table **Orders** exist from 2020.

Customer_id	Order_id	Product_id	channel	Delivery_StoreID	Bill_Date_Timestamp	Quantity	Cost_per_unit	MRP	Discount	Toatal_Amount
8278151534	13bdf405f961a6deec817d817f5c6624	96ea060e41bdecc64e2de00b97068975	Online	ST101	2020-02-05	1	69.98	84.65	0	84.65
1165186169	9c94a4ea2f7876660fa6f1b59b69c8e6	282b126b2354516c5f400154398f616d	Online	ST101	2020-02-03	1	75.98	90.69	0	90.69

➤ single customer to have the **same Order ID** but with **different Product IDs** and **different Stores**.

Customer_id	Order_id	Product_id	channel	Delivery_StoreID	Bill_Date_Timestamp	Quantity	Cost_per_unit	MRP	Discount	Toatal_Amount
1111521581	6c47b95ad53fe1ae994040c6de9ed16	2bf5f3d61f1d45798de07f4edf31dbb5	Instore	ST103	2022-09-20	2	299	307.76	0	615.53
1111521581	6c47b95ad53fe1ae994040c6de9ed16	83b00325c13c44245b2c3a2befa62a0e	Instore	ST218	2022-09-20	1	159.99	169.22	0	169.22

Data Discrepancies (2/7)

- Same order_id and product_id, but assigned to different customers.

Customer_id	Order_id	Product_id	channel	Delivery_Store ID	Bill_Date_Timestamp	Quantity	Cost_per_unit	MRP	Discount	Total_Amount
7041824811	001ab0a7578dd66cd4b0a71f5b6e1e41	0b0172eb0fd18479d29c3bc122c058c2	Instore	ST112	2023-01-04	1	24.88	42.52	0	42.52
8597290755	001ab0a7578dd66cd4b0a71f5b6e1e41	0b0172eb0fd18479d29c3bc122c058c2	Instore	ST112	2023-01-04	2	24.88	48.52	6	85.04
8597290755	001ab0a7578dd66cd4b0a71f5b6e1e41	0b0172eb0fd18479d29c3bc122c058c2	Instore	ST112	2023-01-04	3	24.88	42.88	0	127.55

- same order has different Bill_Dates in the Order table

Customer_id	Order_id	Product_id	channel	Delivery_StoreID	Bill_Date_Timestamp
5263948669	02c9fa29186a8d00b3e73d3837ea40e5	caa526308abc9a77d0c56869139dbae9	Instore	ST120	2023-08-21
5263948669	02c9fa29186a8d00b3e73d3837ea40e5	caa526308abc9a77d0c56869139dbae9	Instore	ST120	2023-08-22
8352666318	03ecec245220b63fd7f68c1737ba99ba	d8cabd83757ecf48a7d2628dee9135c1	Instore	ST101	2023-06-13
8352666318	03ecec245220b63fd7f68c1737ba99ba	d8cabd83757ecf48a7d2628dee9135c1	Instore	ST101	2023-06-15

Data Discrepancies (3/7)

- Same order_id, customer_id, and product_id appear consecutively with an increasing quantity.

Customer_id	Order_id	Product_id	channel	Delivery_Store ID	Bill_Date_Timestamp	Quantity	Cost_per_unit	MRP	Discount	Toatal_Amount
1116770081	a92bb0beb3fd226d50671cf17587f289	2fb9e46750ac55362f7b642f12b5835b	Phone Delivery	ST410	2023-08-02	1	15	22.38	0	22.38
1116770081	a92bb0beb3fd226d50671cf17587f289	2fb9e46750ac55362f7b642f12b5835b	Phone Delivery	ST410	2023-08-02	2	15	22.38	0	44.77
1116770081	a92bb0beb3fd226d50671cf17587f289	2fb9e46750ac55362f7b642f12b5835b	Phone Delivery	ST410	2023-08-02	3	15	22.38	0	67.16
1116770081	a92bb0beb3fd226d50671cf17587f289	2fb9e46750ac55362f7b642f12b5835b	Phone Delivery	ST410	2023-08-02	4	15	22.38	0	89.55

Data Discrepancies (4/7)

OrderPayments Table

- Some orders exist in the **Orders table** but have no payment records in **OrderPayments**.

Customer_id	Order_id	Product_id	channel	Delivery_StoreID	Bill_Date_TimeStamp	Quantity	Cost_per_unit	MRP	Discount	Toatal_Amount	payment
2977616394	bfb0df9bdef84302105ad712db648a6c	5a6b04657a4c5ee34285d1e4619a96b4	Instore	ST106	2021-09-19	1	44.99	47.81	0	47.81	Null

- There are 830 payments, but no corresponding orders exist in the **Orders** table.

[illegible]

Data Discrepancies (5/7)

Products Info Table

➤ Some product weights are **0g** , indicating possible data errors

Product_id	Category	Product_name_length	Product_description_length	Product_photo_qty	Product_weight_g	Product_length_cm	Product_height_cm	Product_width_cm
36ba42dd187055e1f be943b2d11430ca	Baby	53	528	1	0	30	25	30
8038040ee2a71048d 4bdbbdc985b69ab	Baby	48	528	1	0	30	25	30
81781c0fed9fe1ad6e 8c81fca1e1cb08	Baby	51	529	1	0	30	25	30
e673e90efa65a5409f f4196c038bb5af	Baby	53	528	1	0	30	25	30

➤ Where are 10 customer for the Goa state but there are no stores in the Goa

Custid	Customer_city	Customer_state	Gender	Storeid	Seller_city	Seller_state	Region
2977616394	Chicalim	Goa	F	NULL	NULL	NULL	NULL
2746783091	Carapur	Goa	F	NULL	NULL	NULL	NULL
2850543851	Guirim	Goa	F	NULL	NULL	NULL	NULL
3478231982	Davorlim	Goa	F	NULL	NULL	NULL	NULL
4882409064	Chimbel	Goa	M	NULL	NULL	NULL	NULL
5201685406	Chinchinim	Goa	F	NULL	NULL	NULL	NULL
6647957608	Goa Velha	Goa	M	NULL	NULL	NULL	NULL
7679285867	Curti	Goa	F	NULL	NULL	NULL	NULL

Data Discrepancies (6/7)

OrderReview_Ratings Table

- 778 **Orderview_ratings** have no corresponding **order**.

Order_id	Customer_satisfaction_score	Customer_id	Order_id	Product_id
5a00b4d35edffc56b825c3646a99ba9d	1	NULL	NULL	NULL
6338011716bfe53b960847be47479662	3	NULL	NULL	NULL

- Some order review ratings that do not have a corresponding customer record in **Customer** Table.

Order_id	Customer_satisfaction_score	Custid	Customer_city	Customer_state	Gender
e51a8e1d0f0a0cc6eae0b605b53cf9ed	1	NULL	NULL	NULL	NULL
8c0ba0ee5bf1417ede40de0a3621f727	1	NULL	NULL	NULL	NULL
e8df0b08b2d6162f2a109f931d0774b6	1	NULL	NULL	NULL	NULL

Observation:

- I found that when a customer buys multiple products in a single order, the system generates **different Product IDs** with the same **Order ID**. Additionally, if a customer purchases multiple quantities of the same product, the system creates **multiple orders with different quantities** instead of grouping them under one Order ID.

Impact:

- **Data Duplication** – The same Order_id appears multiple times, leading to inflated row counts.
- **Incorrect Payment & Review Joins** – When joining with OrderPayments and OrderReview_Ratings, payments and reviews may get duplicated, causing incorrect totals.
- **Misleading Sales Insights** – Order counts may be higher than actual transactions, affecting revenue and customer behavior analysis.

Inconsistencies in the Data

Table	Observation
Orders/ OrderPayments/ OrderReview_R ating	<ul style="list-style-type: none">• OrderPayments 615 duplicate rows and 350 in OrderReview_Ratings.• Bill_date_timestamp stored as object.• Some orders do not have reviews and some orders have duplicate reviews.• Significant outliers found in OrderPayments (product_payment_value) and Orders (total_amount).
Store Info	<ul style="list-style-type: none">• Customers are present in 20 states, but we have stores in only 19 states.
Product Info	<ul style="list-style-type: none">• 623 missing Category, 2 missing Weight in ProductsInfo• 610 blank records in the ProductInfo table where (name,description) length, and photo quantity are missing.



DATA CLEANING



Data Processing

Step-by-Step Process to Finalize Order Records

- **Step 1: Calculate Total Order Amount per Order** (98671 rows affected)
 - Firstly, started with the **Orders** table.
 - For each unique **Customer ID** and **Order ID**, we **calculated the total amount to pay**.
 - This value shows how much each customer **was expected to pay** for their order.
 - Result is saved in a temporary table called CustOrder.

➤ **Step 2: Calculate Total Payment Received per Order** (99440 rows affected)

- Next, I worked on the **Order Payments** table.
- For every **Order ID**, we summed up the **actual payments made** by customers.
- This shows us how much money was received.
- Result is stored in OrderPayment.

➤ **Step 3: Identify Orders Where Payment Matches Total Amount** (88629 rows affected)

- I compared the two tables:
 - CustOrder (expected amount)
 - OrderPayment (actual paid amount)
- I selected only those orders where the payment **exactly matches** the total order amount.
- These are considered **clean and correct orders**.
- Saved them in MatchedOrders Table.

➤ **Step 4: Orders with Payment Mismatches** (10811 rows affected)

- **Identified orders** where the actual payment **did not match** the expected total amount.
- These mismatches indicate potential issues such as:
 - Overpaid or underpaid orders
 - Partial payments
- Result is saved in a **Orders_Not_Matching** Table.

➤ **Step 5: Fix Mismatched Orders** (7268 rows affected)

- I fix the mismatched orders by:
- **Reviewed mismatched orders** to identify cases where the payment could be corrected.
- Checked if the payment matched the expected total after **rounding**.
- If the values aligned after this check, the order was considered **correctable**.
- The result was saved in a RemainingOrders Table.

➤ **Step 6: Combine Correct and Corrected Orders** (95898 rows affected)

- I merged:
 - The clean, matched orders (MatchedOrders)
 - The corrected mismatched ones (RemainingOrders)
- This gave us a solid, cleaned dataset.
- This set represents orders that have **accurate amounts and payments**.

➤ **Step 7: Improved Orders with Additional Info** (95898 rows affected)

- I improved the order data by joining:
 - **Product details** (category, etc.)
 - **Customer info** (city, state, gender)
 - **Store info** (location, region)
 - **Review ratings** (customer satisfaction score)
- The enriched data is stored in Integrated_Table_1.
- This gives a **360-degree view** of each order.

➤ **Step 8: Handle Orders Delivered from Multiple Stores** (2459 rows affected)

- Identified **cases** where a **single order** was **placed by more than one store**.
- These orders required separate handling to ensure accuracy.
- **Calculated** the **net amount** and **total quantity** for each multi-store order.
- These were stored in Temp_Multiple_Store_Orders.

➤ **Step 9: Add Multi-Store Orders to the Main Table** (98,379 rows affected)

- I merged the multiple-store orders with the integrated order table.
- Created a new version: Finalised_Records_no.
- Now, all the **cleaned**, **corrected**, and improves orders are **combined into one final table**.

➤ **Step 10: Create Table to Track Added Records** (2326 rows affected)

- I stored the multiple-store records separately in a new table called Add_records.
- This helps us avoid duplication in the next step.

➤ **Step 11: Remove Duplicate Entries** (98070 rows affected)

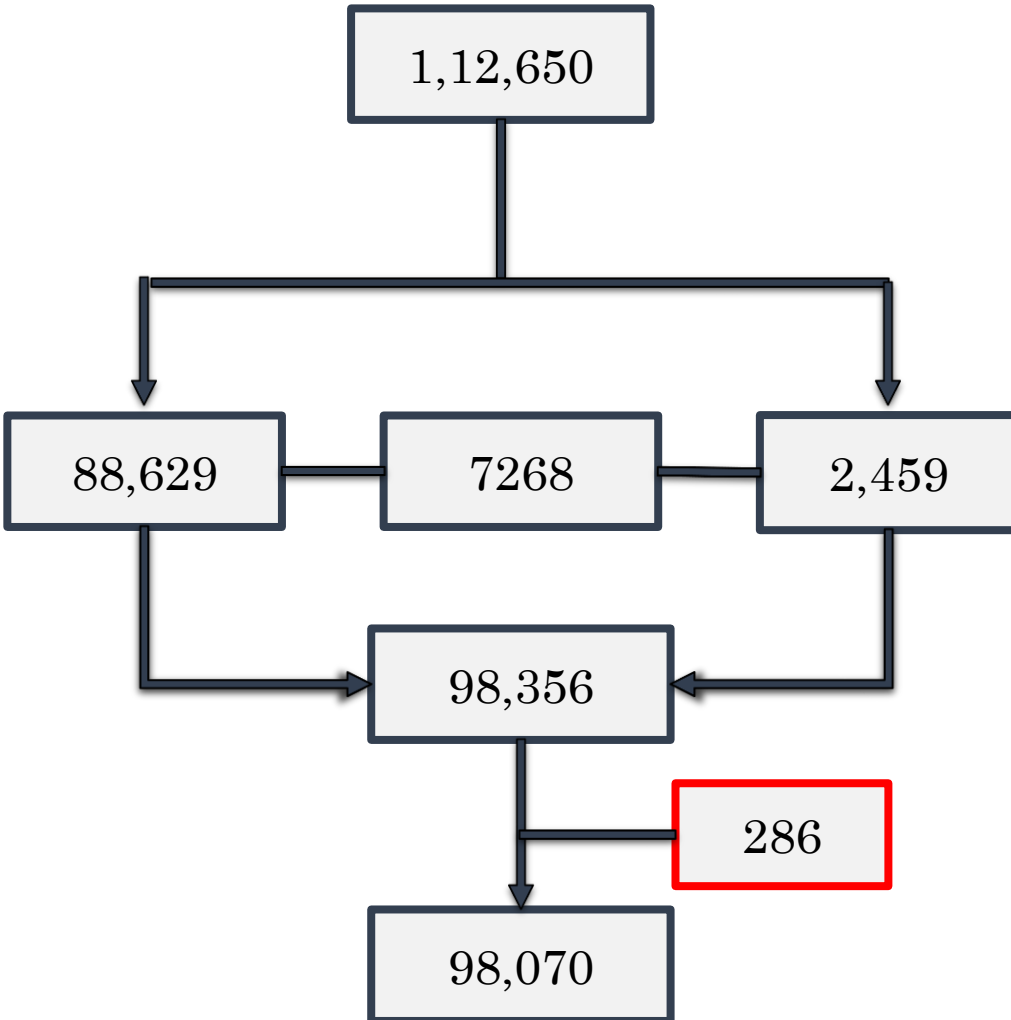
- Using Add_records, I removed **duplicate orders** that might've been repeated.
- This step gave us the final, fully cleaned table without any duplicate or repeated data.

➤ **Step 12: Final Output Table** (Total Records: 98,070)

- Finalised_Records_1 is the **master table**.
- It includes:
 - Cleaned payment and amount records
 - Extra details from products, stores, customers, and reviews

Flow Chart

Order Table



- 1,12,650: Total records in Orders Table
- 88,629 : The Records we found while mapping the orders table and Total Amount column and order payment and Payment value column while performing aggregation.
- 7,268 : The Records we found while mapping the orders table's Total Amount column and aggregated order payment table's Payment value column allowing us to get the records with cumulative quantity issue and same product id.
- 2,459 : Attempted to map tables and aggregate the data, but faced issues with consecutive quantity and a single order ID being associated with different store IDs. To resolve this, Taken the max quantity, calculated the total amount, and aggregated them. Finally mapped these results back to the order payment table to get the finalized records.
- 98,356: Adding $88,629 + 7,268 + 2,459$
- Found some(286) records are repeating, removed them.
- 98,070: Sub $98,356 - 286$



EXPLORATORY DATA ANALYSIS



SALES INFORMATION

Total Revenue: **15.426 M**

Total Discount: **0.489 M**
(489.956 K)

Total Profit: **2.178 M**

Total Quantity: **0.108 M**
(108.605 K)

Total Cost: **13.247 M**

ORDERS INFORMATION

Total Orders: **96,894**

Total Cannel: **3**

Payment Methods: **4**

Average Profit per Order :
22.48

Average Quantity per Order
: **1.121**

Average Revenue per Orders
: **159.21**

Average Rating: **4.10**

CUSTOMER INFORMATION

Total Customers: 96,803

Average Revenue per
Customer: 159.35

Average Profit per
Customer: 22.51

Number of Unique
Customer States : 20

Number of Unique
Customer Cities : 4092

Average Discount per
Customer: 5.06

Average Quantity per
Customer: 1.122

STORE & PRODUCT INFORMATION

Total Stores: 37

Total Products Sold: 31,752

Total States: 7

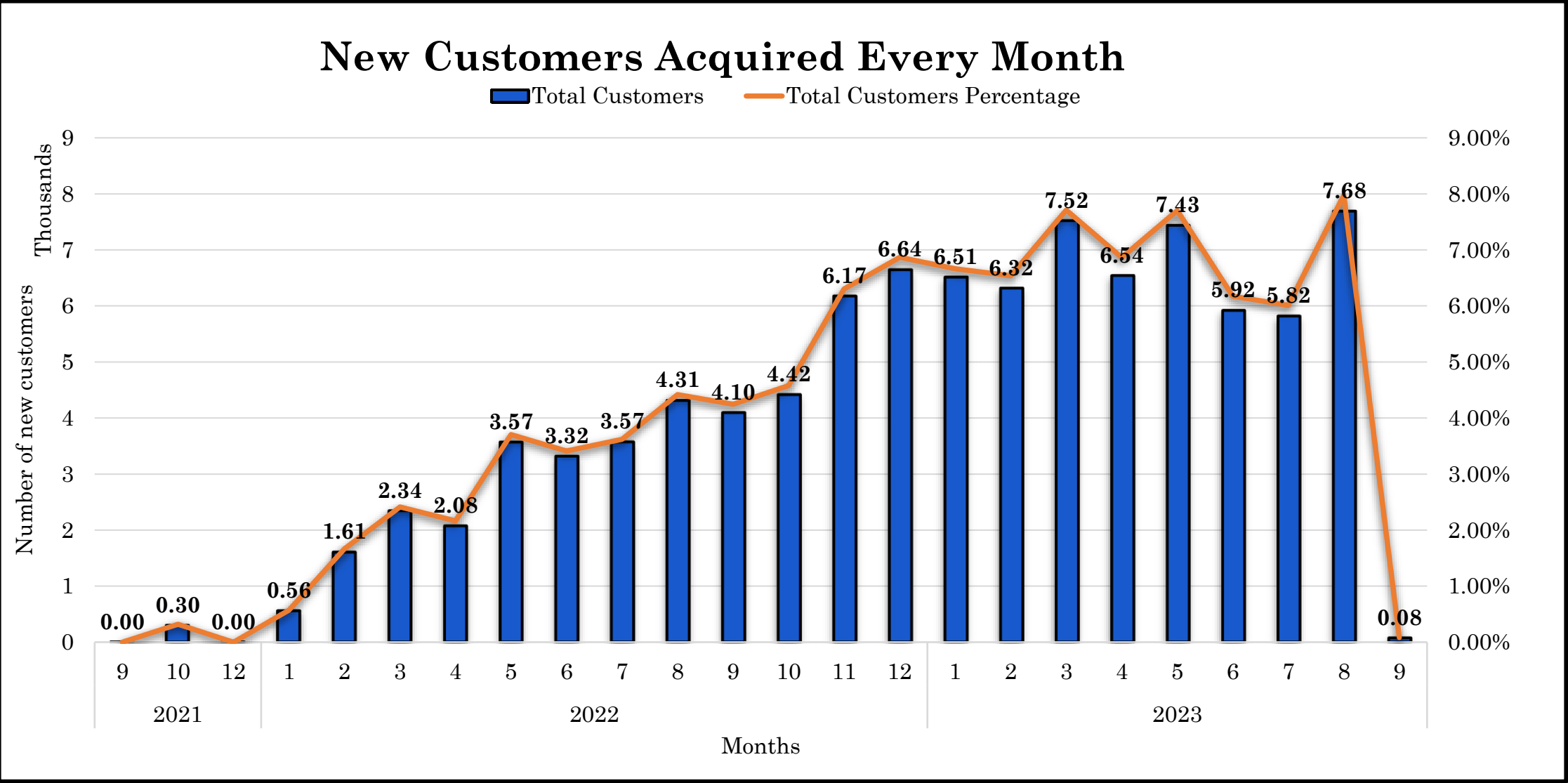
Total Region: 4

Average Quantity Sold
Per Store: 2935.27

Average Categories Sold per
Store: 13.68

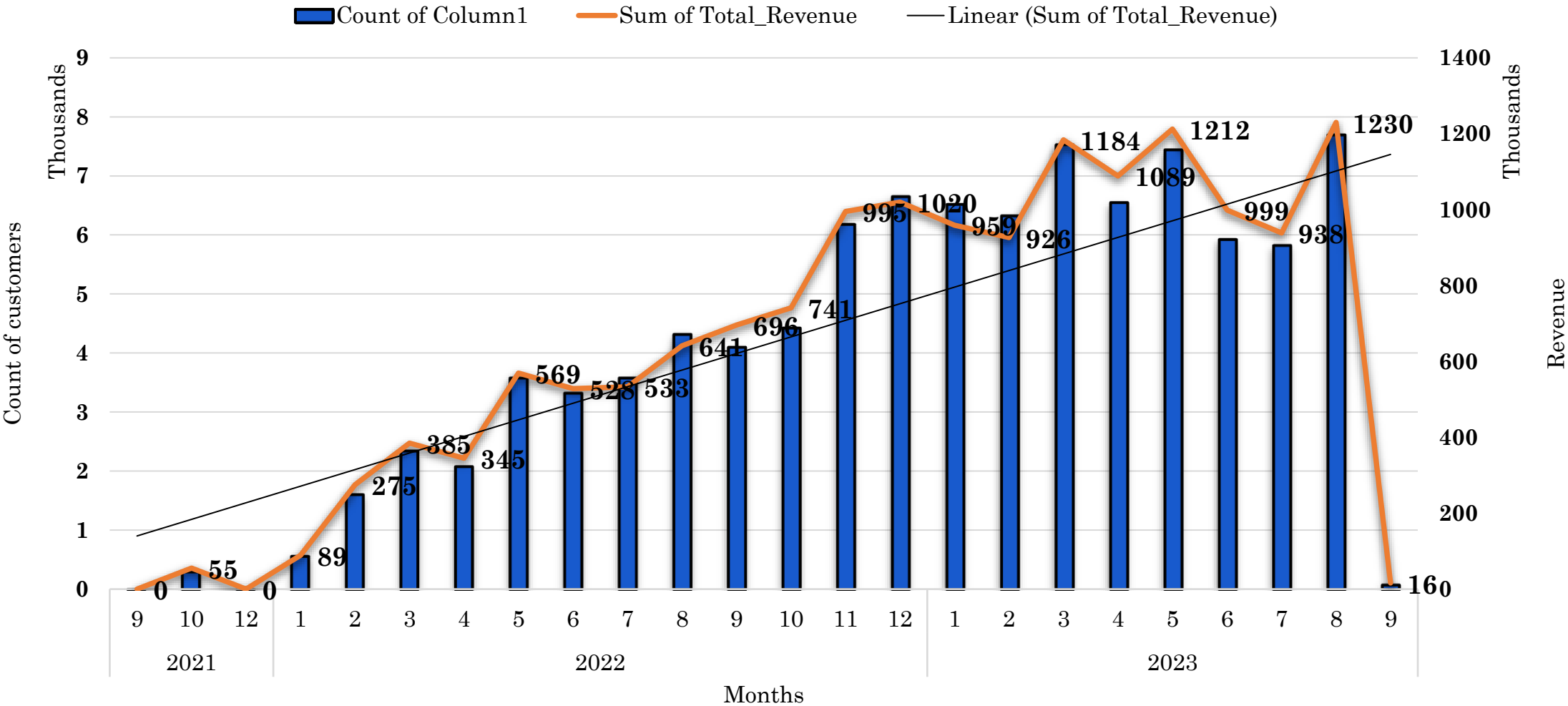
Average Quantity Sold per
Product: 3.42

EXPLORATORY DATA ANALYSIS



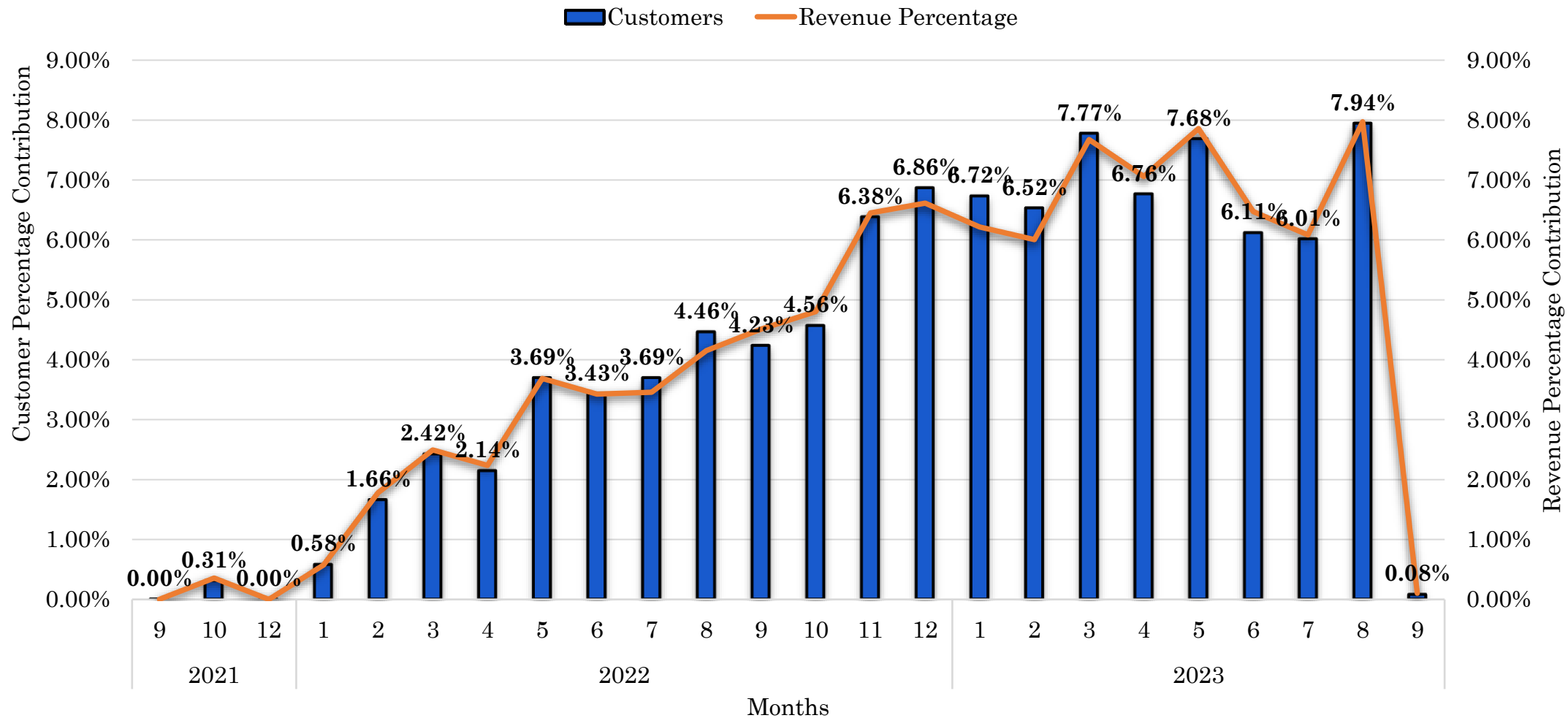
EXPLORATORY DATA ANALYSIS

Monthly Revenue from New Customers



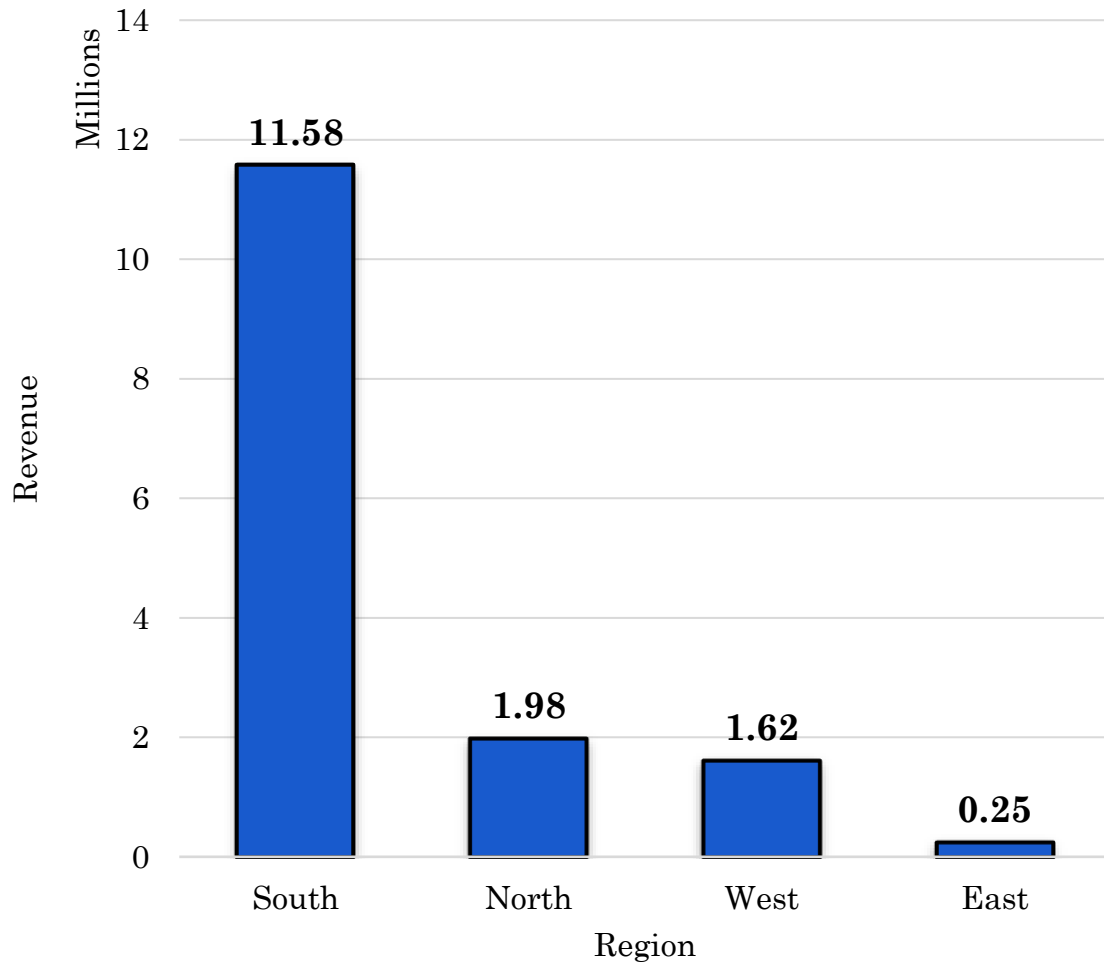
EXPLORATORY DATA ANALYSIS

Monthly Revenue and Customers Percentage

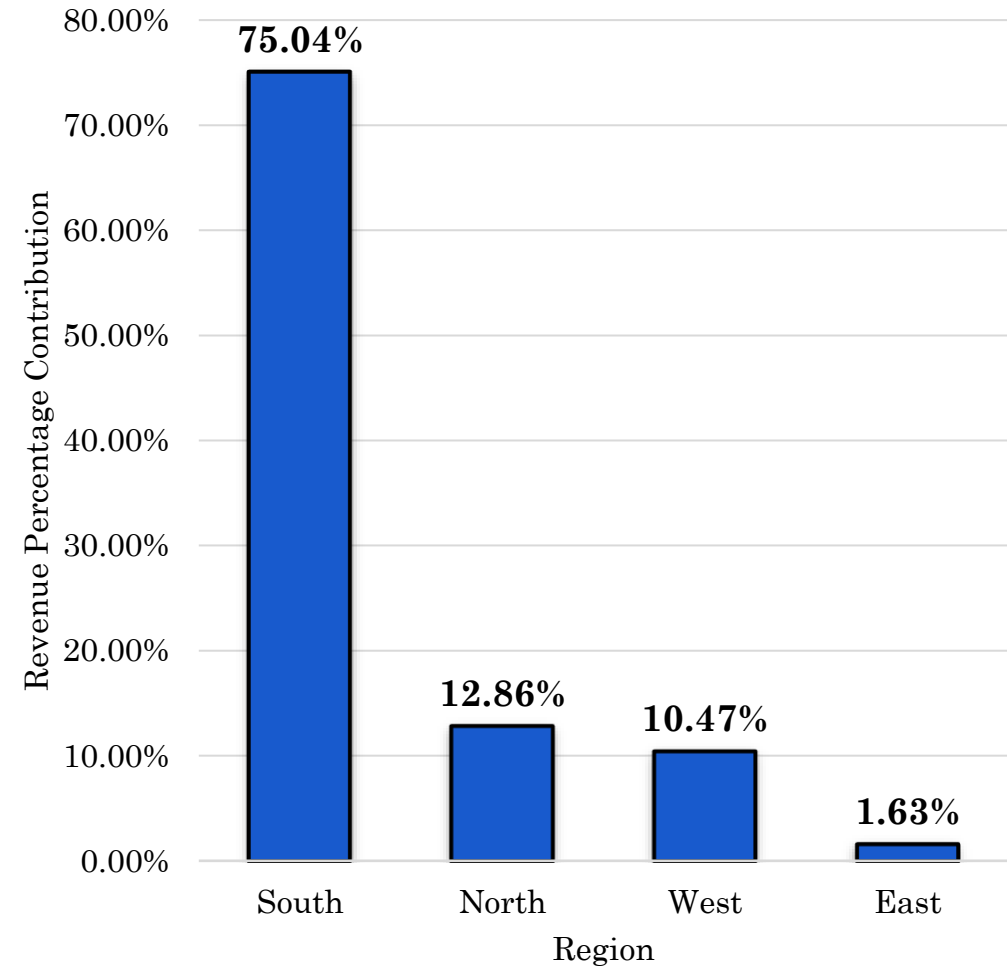


EXPLORATORY DATA ANALYSIS

Sales by Region

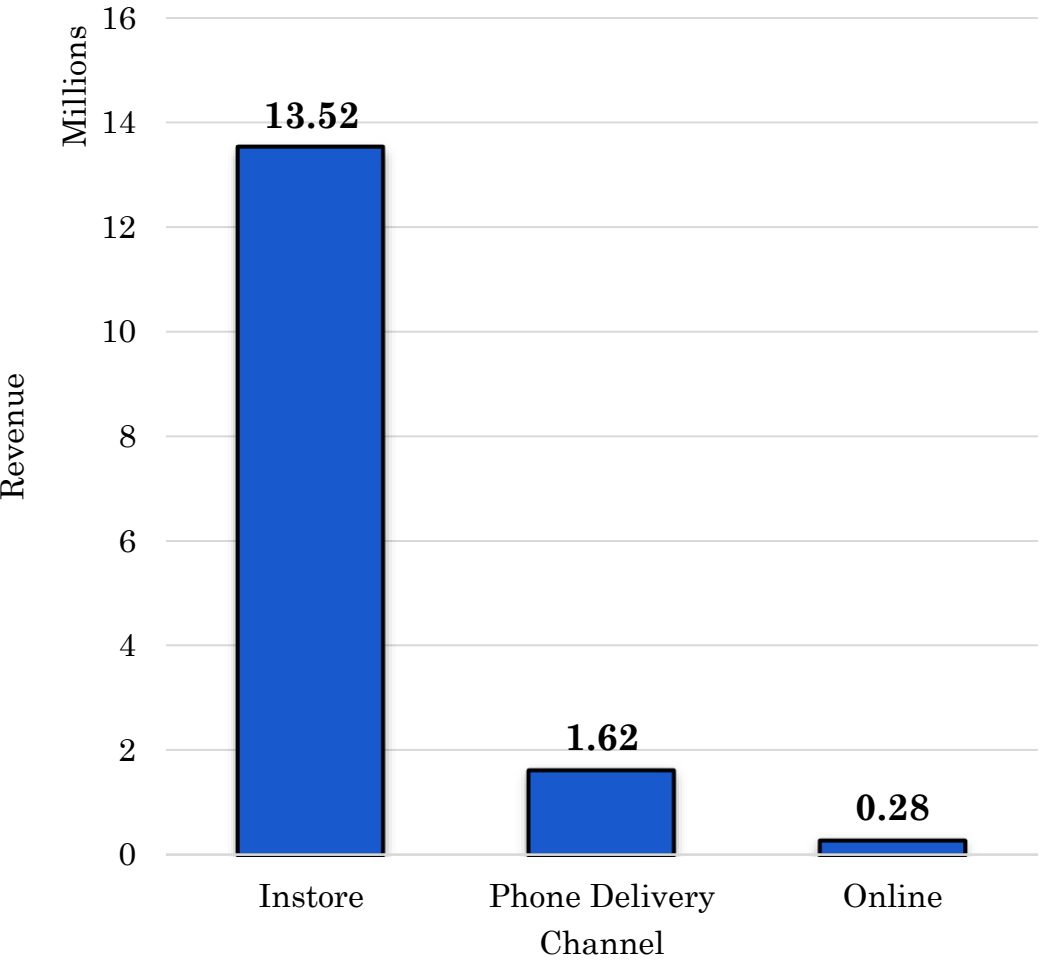


Sales Contribution by Region

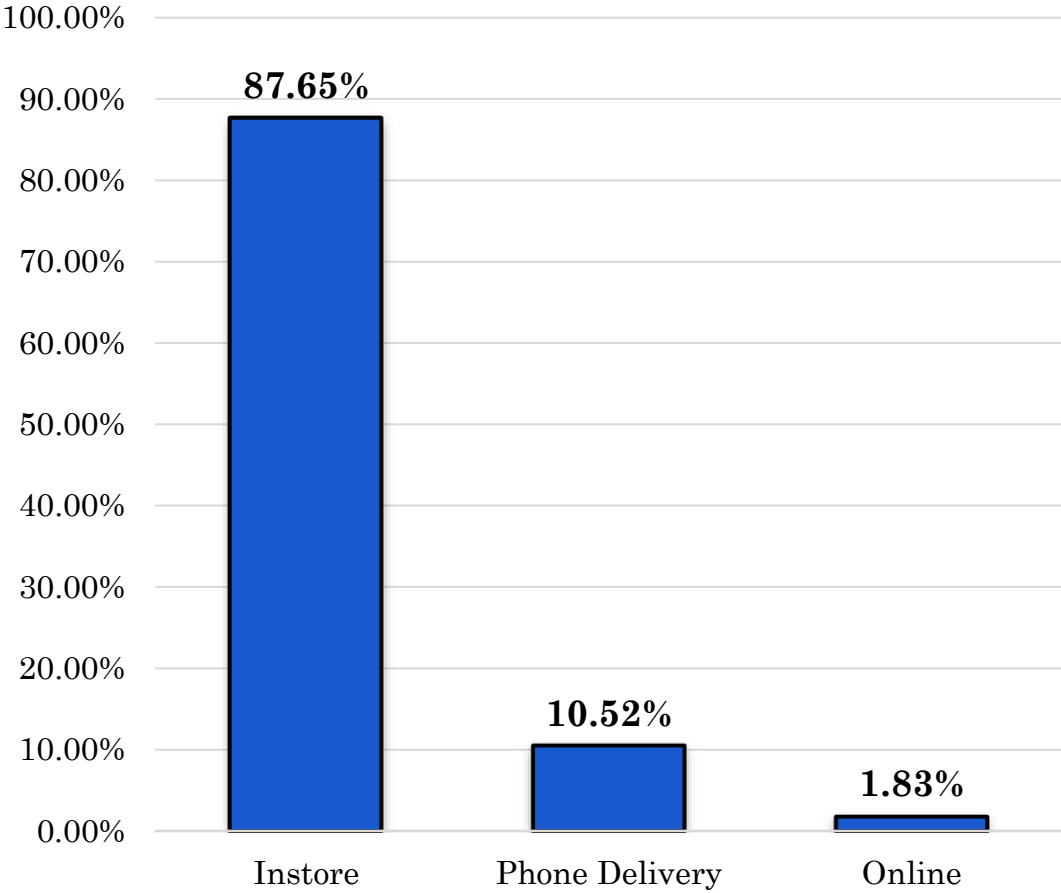


EXPLORATORY DATA ANALYSIS

Sales by Channel

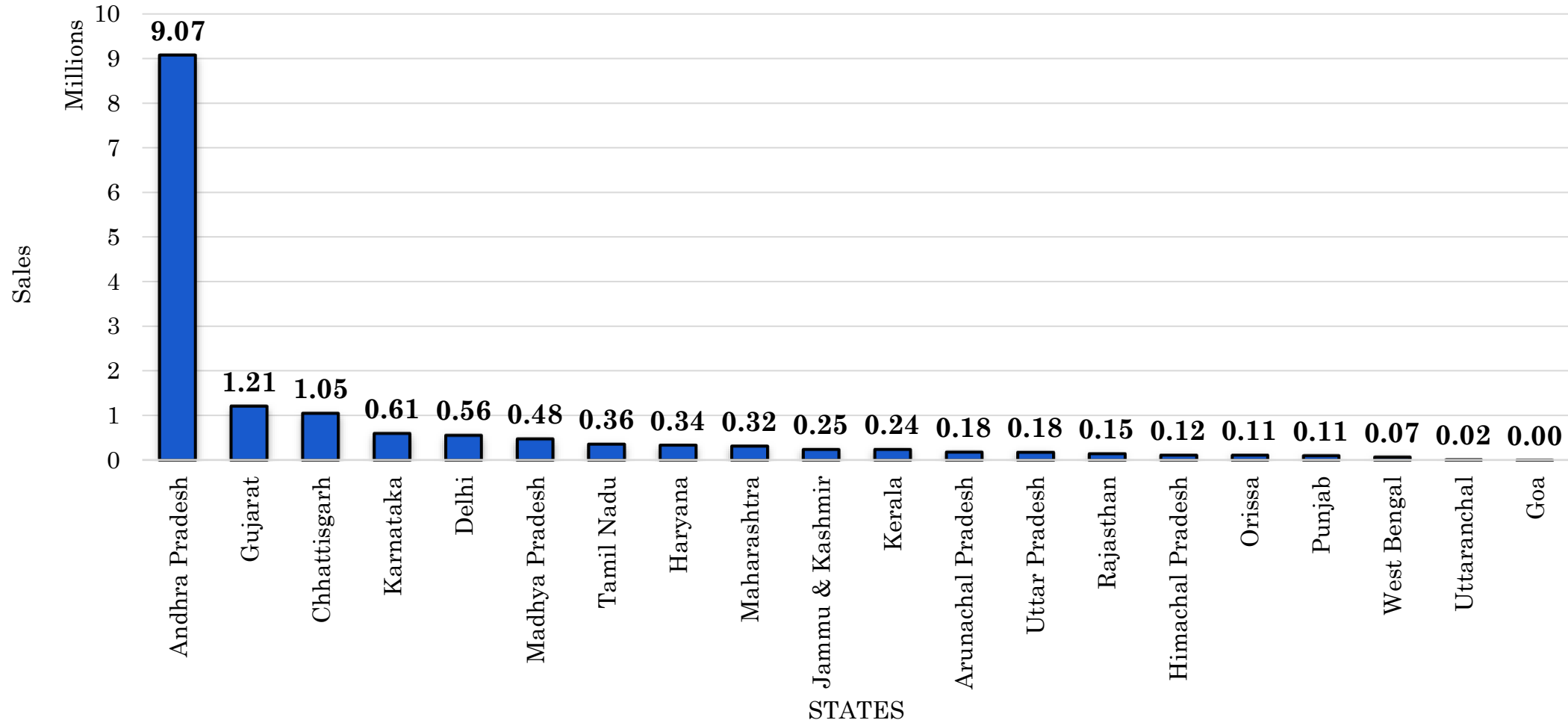


Sales Contribution by Channel



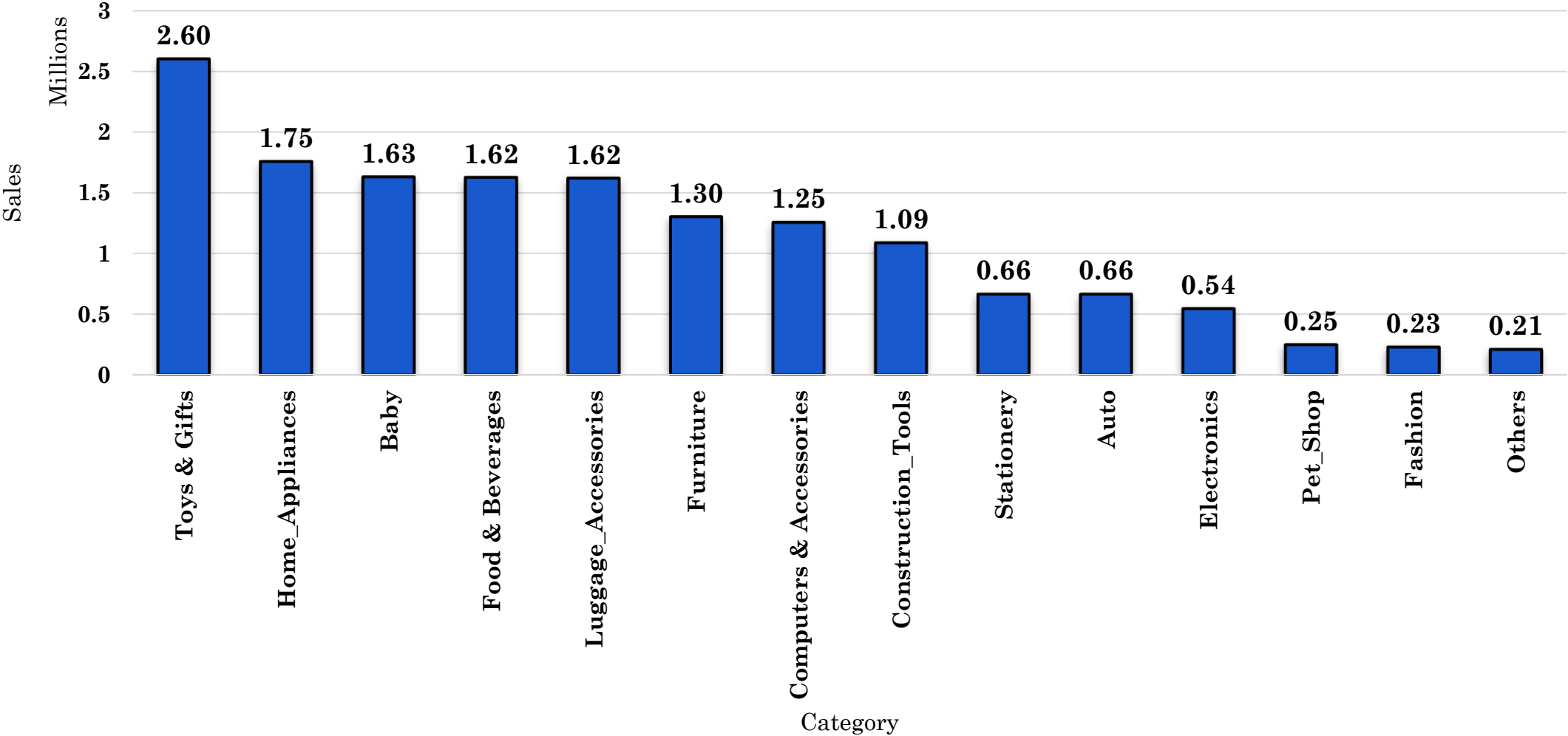
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Sales Revenue by State



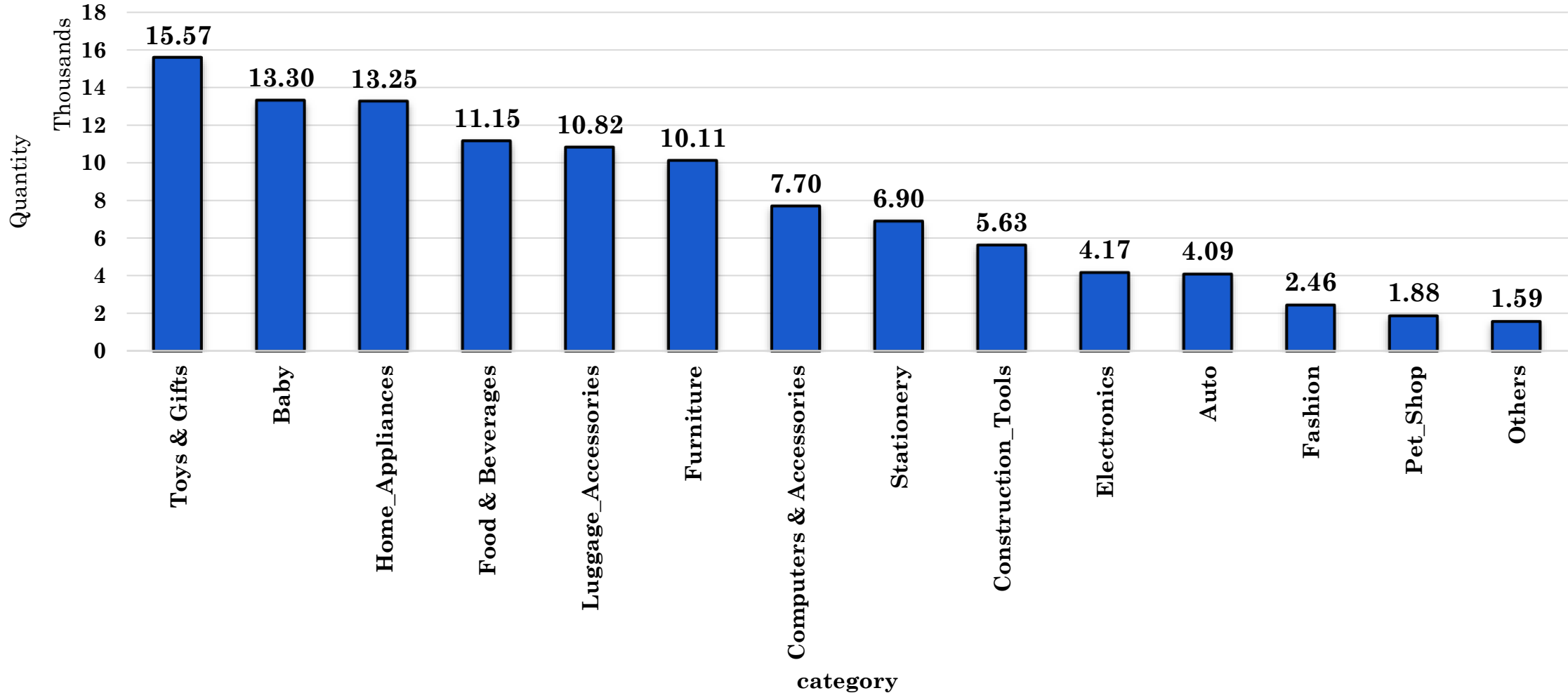
EXPLORATORY DATA ANALYSIS

Sales By Category



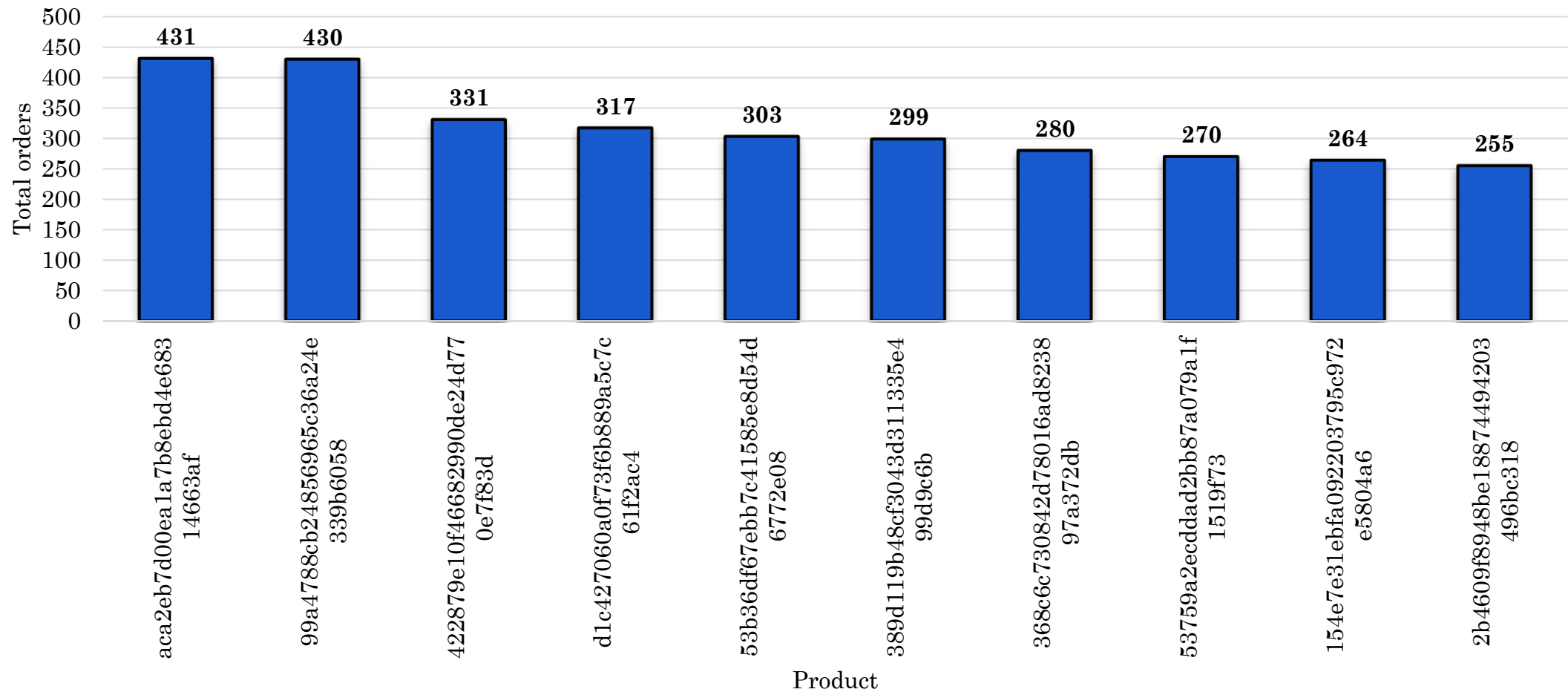
EXPLORATORY DATA ANALYSIS

Total Quantity Sold by Product Category

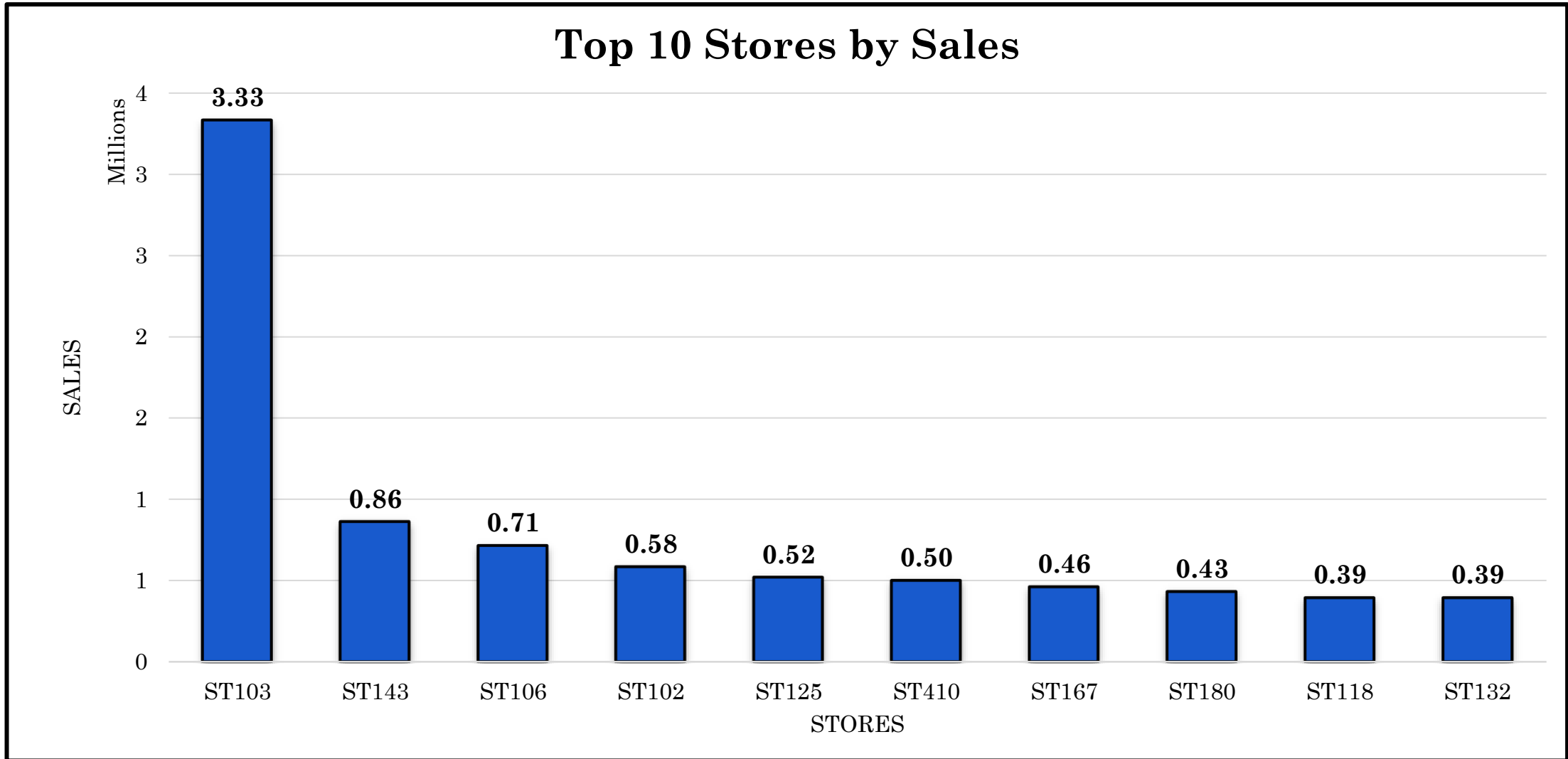


EXPLORATORY DATA ANALYSIS

Top 10 Selling Products

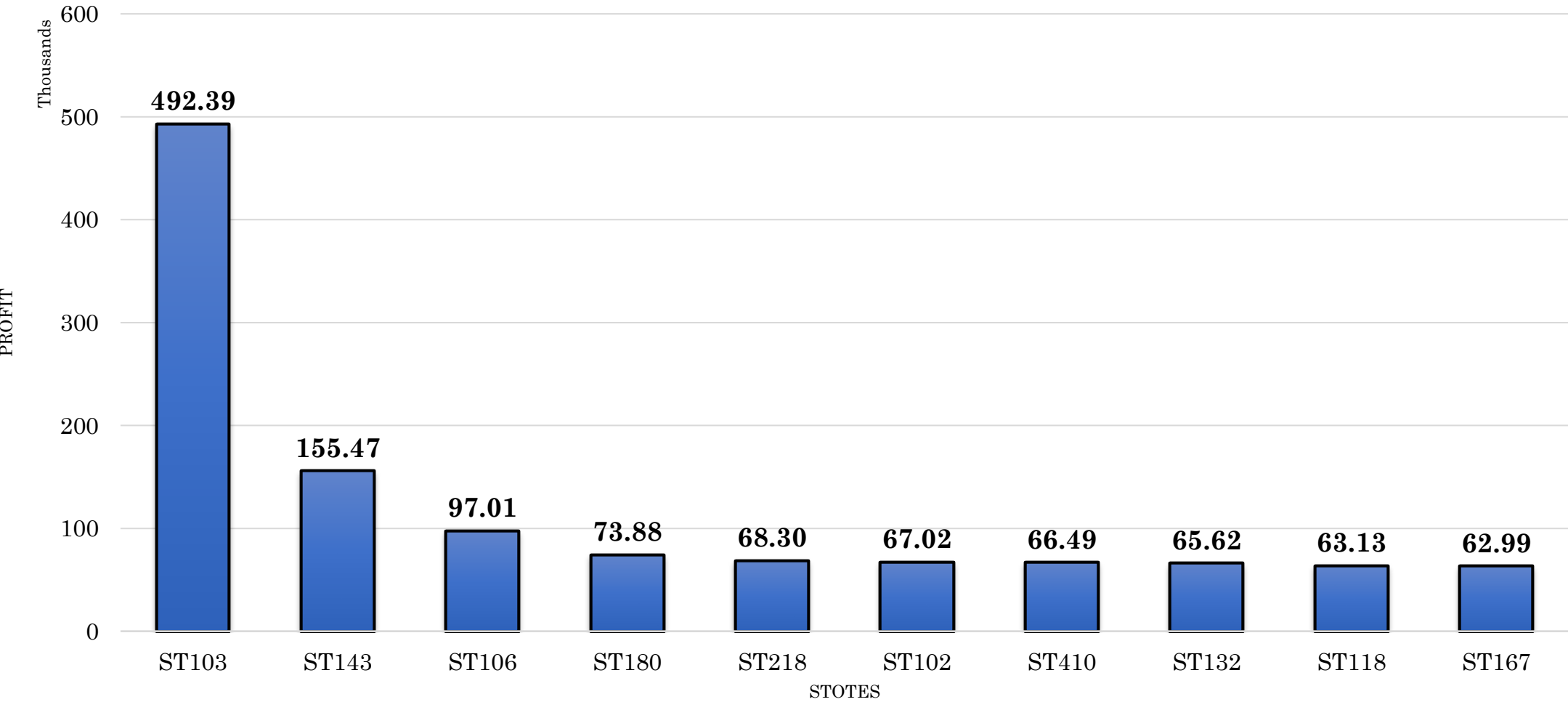


EXPLORATORY DATA ANALYSIS



EXPLORATORY DATA ANALYSIS

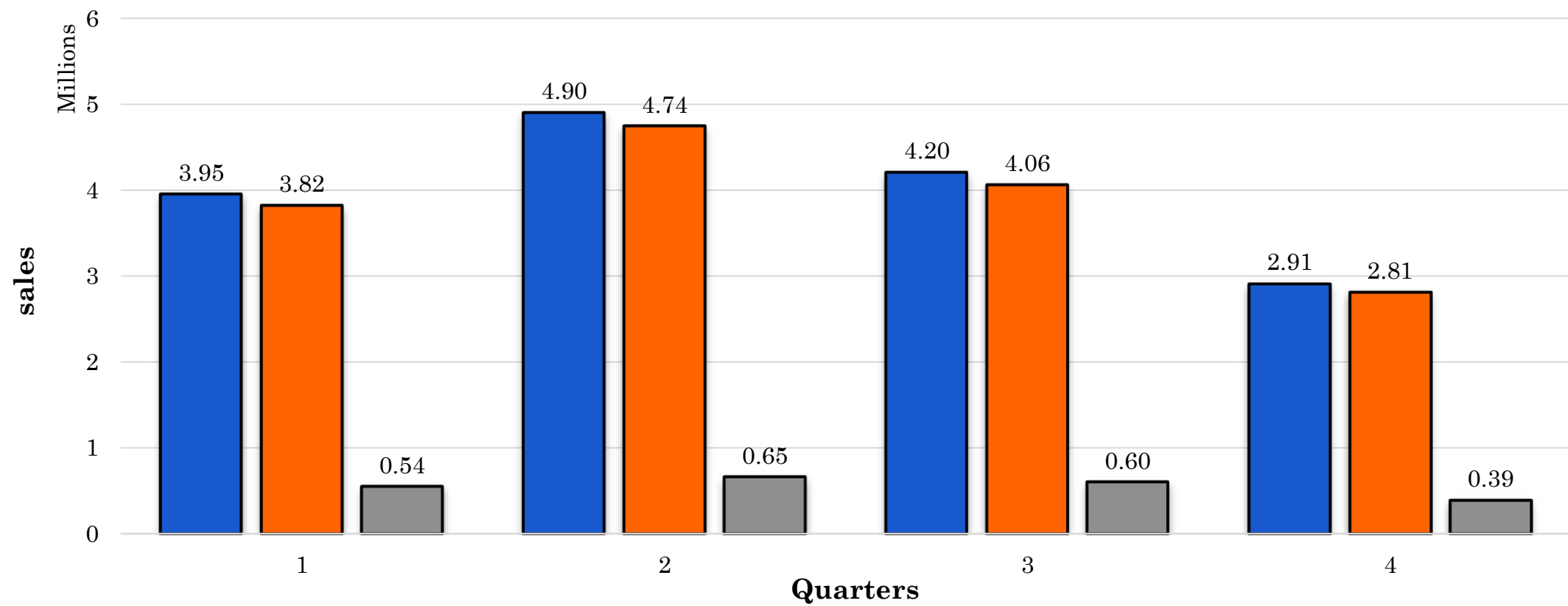
Top 10 Stores by Profit



EXPLORATORY DATA ANALYSIS

Gross, Net Sales, and Profit Trends by Quarters

■ Sum of Gross_Sales ■ Sum of Net_Sales ■ Sum of Profit



EXPLORATORY DATA ANALYSIS

Recommendations (Insights)

- The number of new customers were significantly low in 2021, after which the business started to acquire a greater number of new customers which increase in months May and August.
- Revenue generation increased after December 2021 and 2023 followed by a sudden drop in September 2023.
- By region the highest sales were seen in South and North , while the least in East.
- By state the highest sales were seen Andhra Pradesh and Gujarat, while the least in Goa.
- Toys & Gifts , Home appliances and Baby category product contribute to the highest sales amount
- The stores in southern region especially in Andhra Pradesh have the most bought products which has Toys & Gifts , Home appliances and Food & Beverages categories that are most Saling Category.

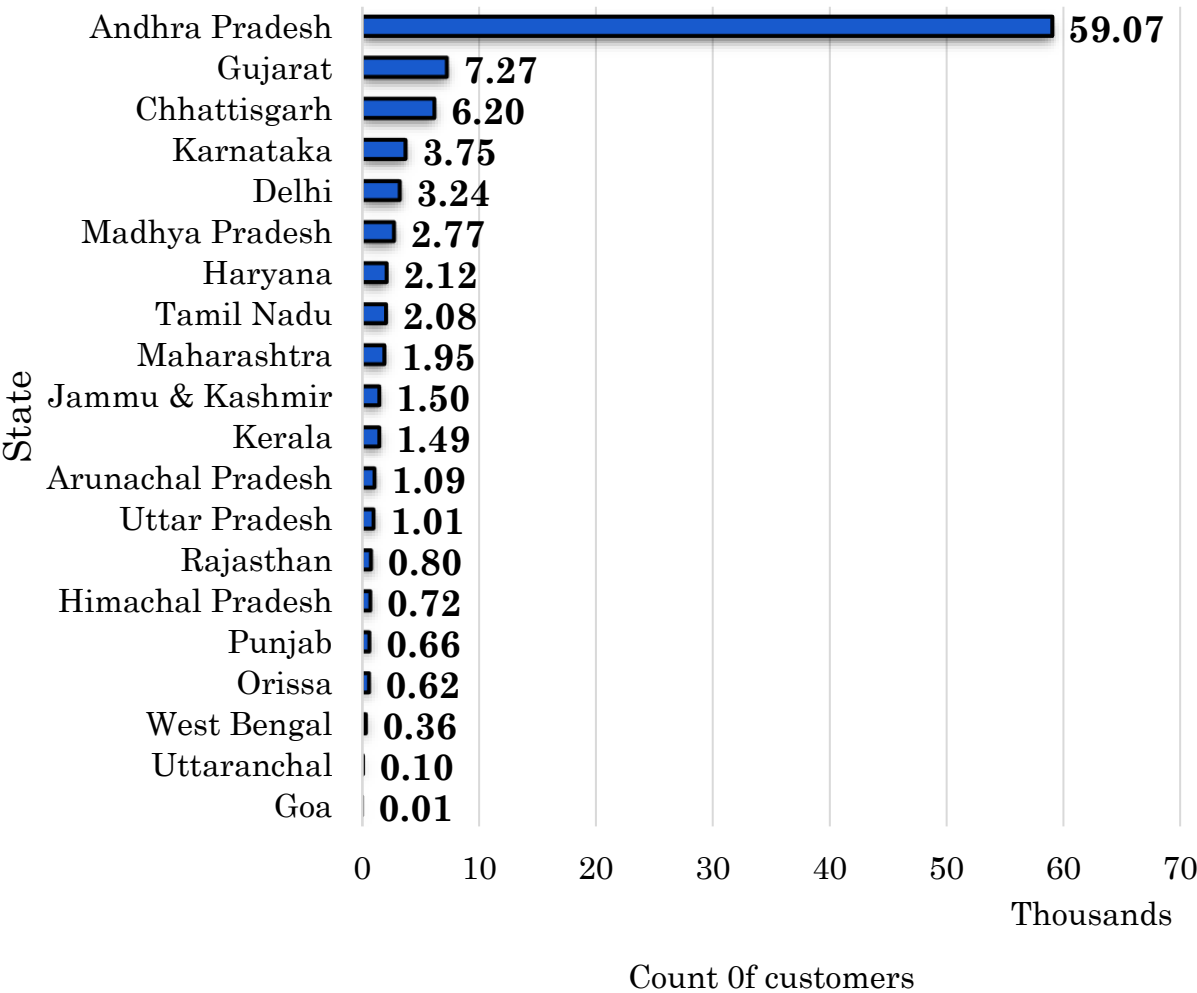


CUSTOMER BEHAVIOUR

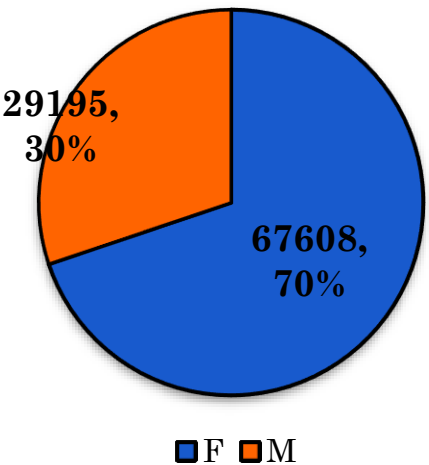


CUSTOMER BEHAVIOUR

Number of Customers in Each State



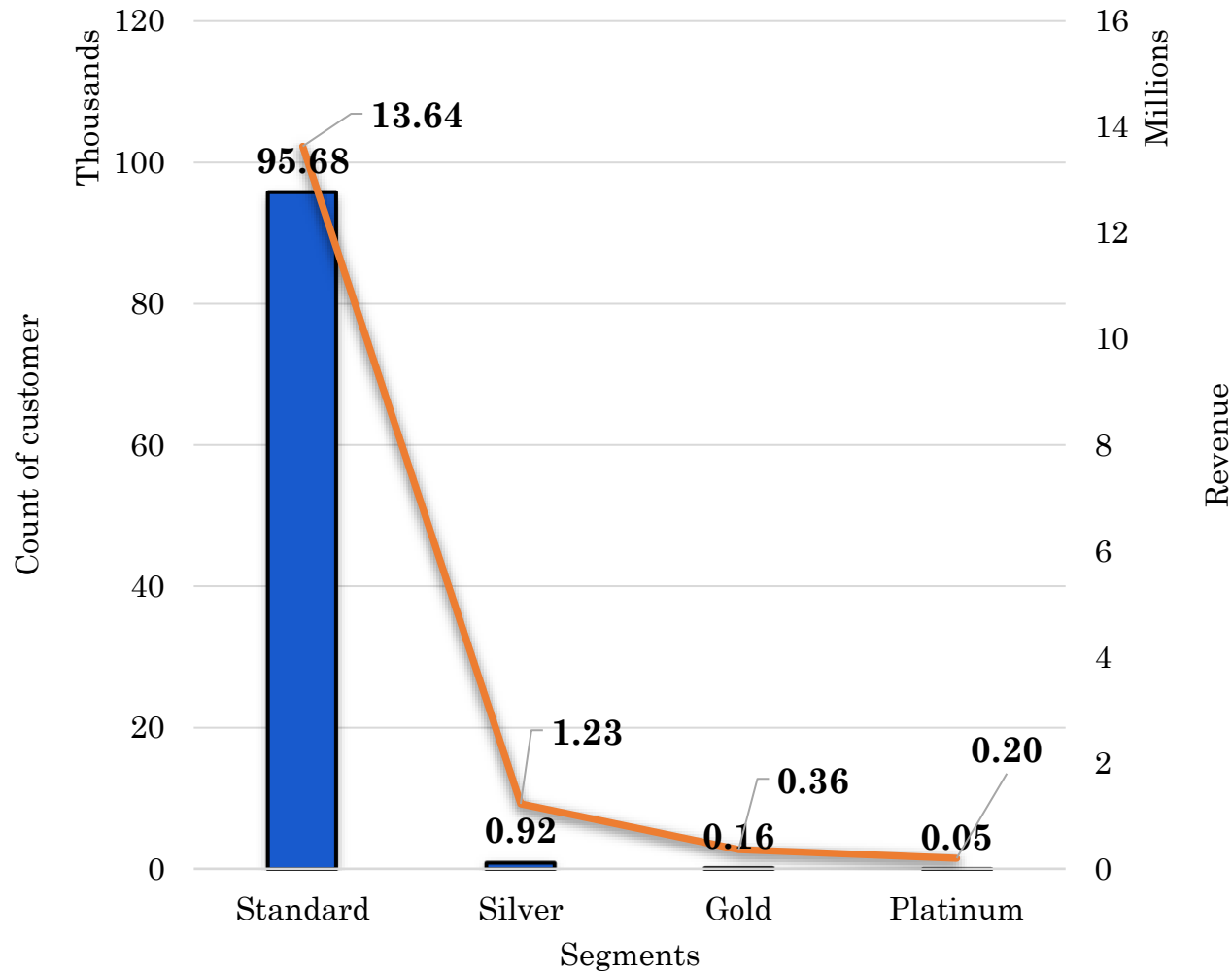
Total Customers by Gender



Gender	Customers	Total Revenue	Total Revenue (%)
F	67608	10787336	69.93%
M	29195	4638693	30.07%
Grand Total	96803	15426029	100.00%

CUSTOMER BEHAVIOUR

Sales Distribution Based On Customer



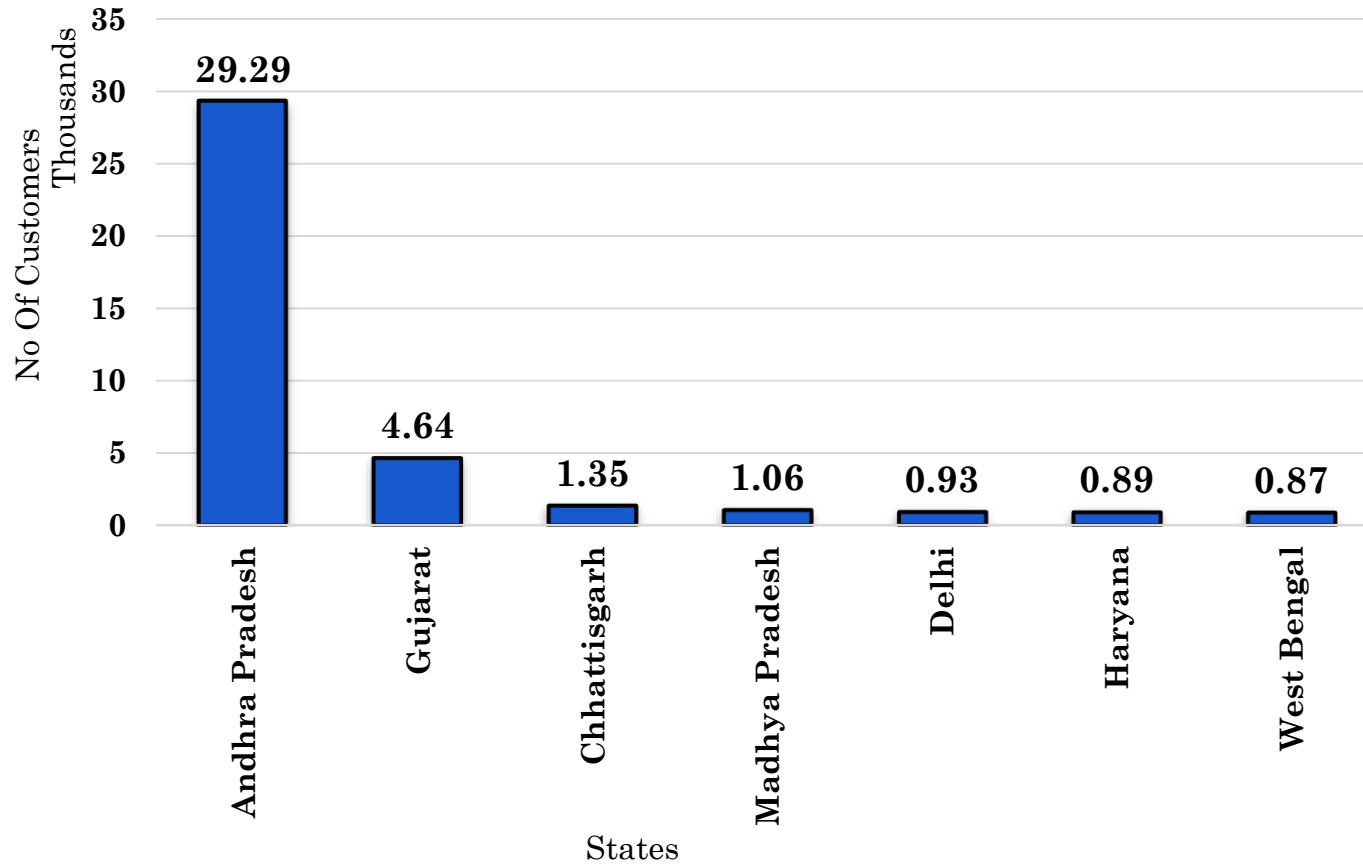
Segmentation	Customers	Customers (%)
Gold	158	0.16%
Platinum	48	0.05%
Silver	921	0.97%
Standard	95676	98.82%
Grand Total	96803	100.00%

Segmentation	Total Revenue	Total Revenue (%)
Gold	363038	2.35%
Platinum	199578	1.29%
Silver	1226689	7.95%
Standard	13636723	88.40%
Grand Total	15426029	100.00%

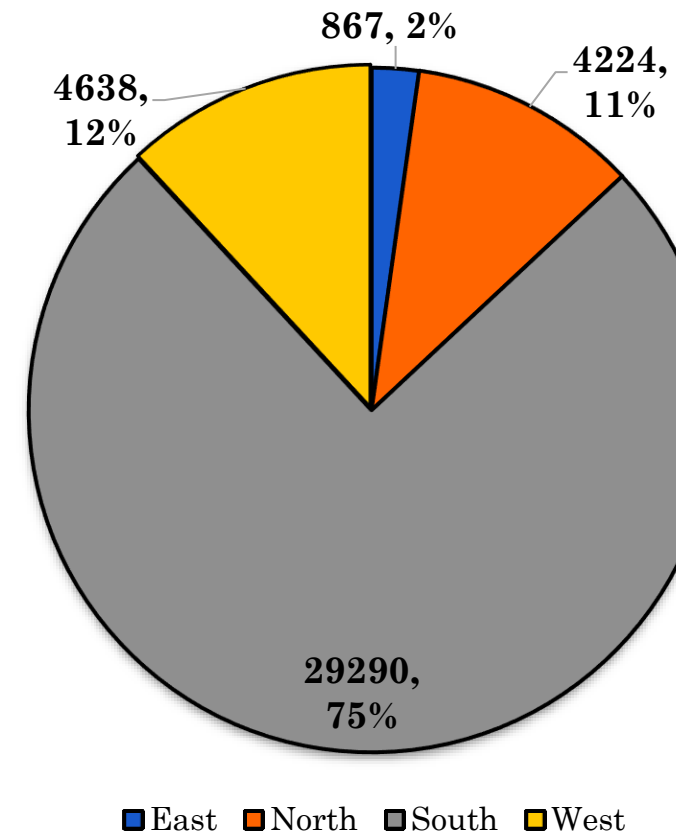
- Platinum Customers Having Revenue (≥ 3000)
- Gold Customers Having Revenue (≥ 2000)
- Silver Customers Having Revenue (≥ 1000)
- Standard Customers Having Revenue (< 1000)

BEHAVIOUR OF DISCOUNT SEEKER

No Of Customers By States

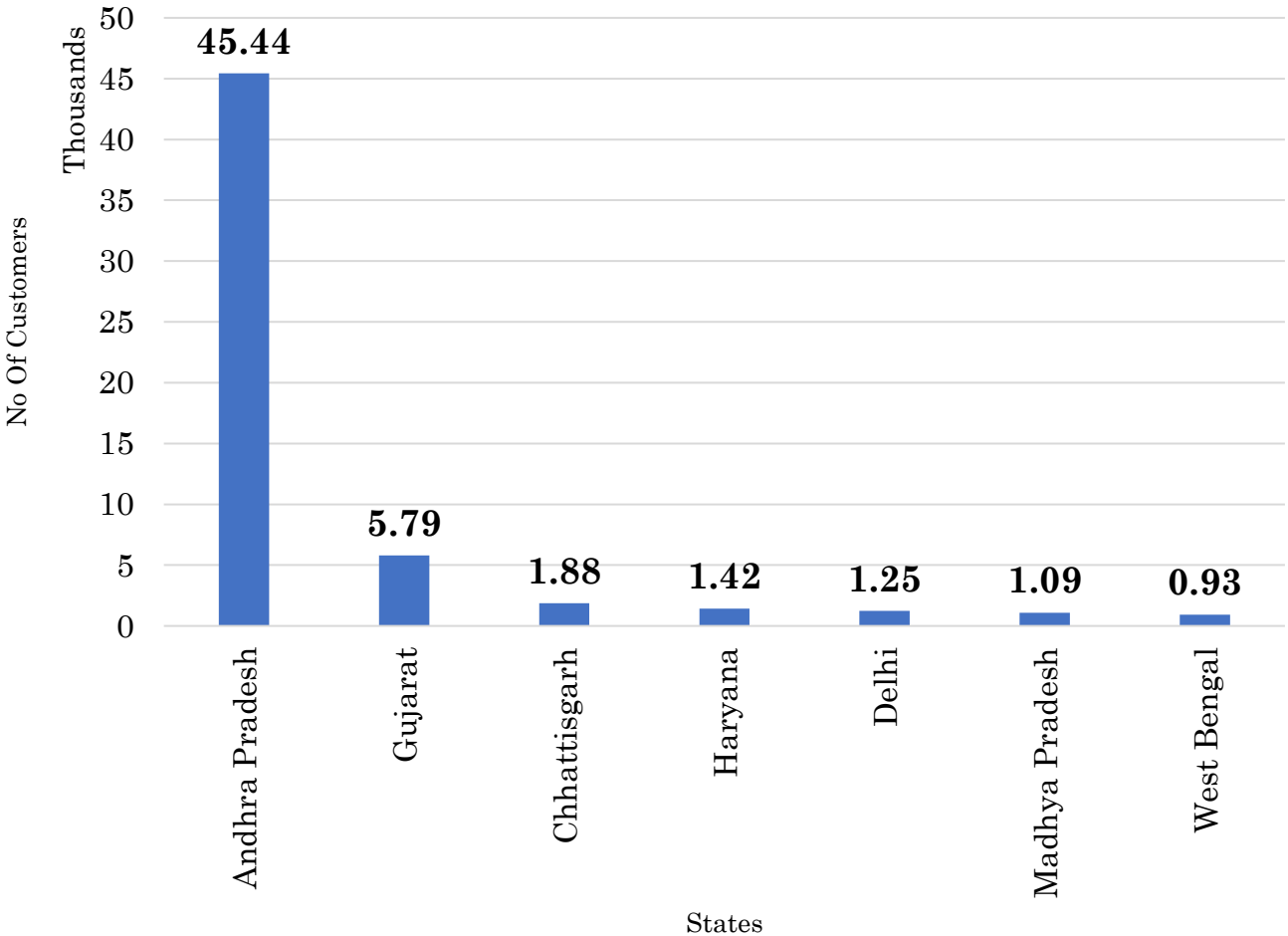


No Of Customers in Each Region

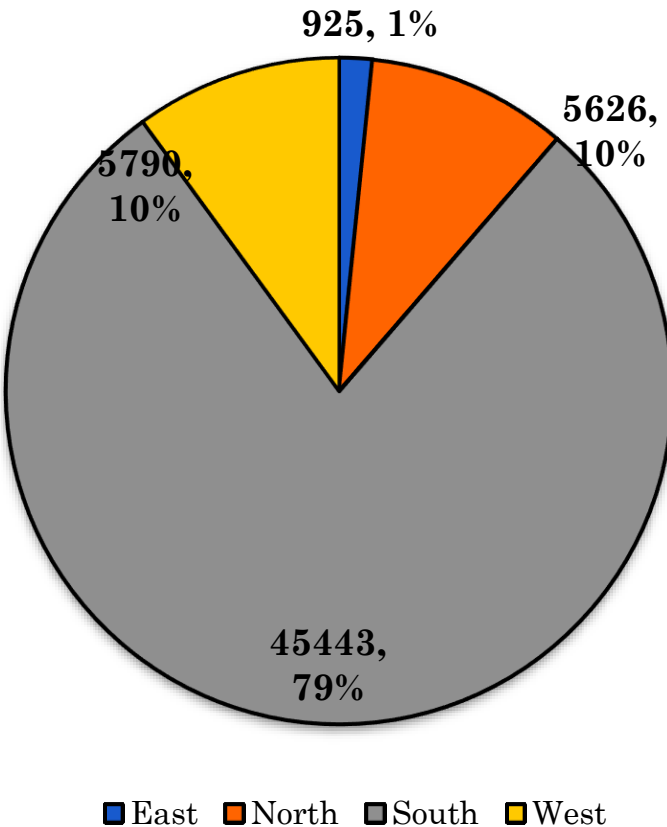


BEHAVIOUR OF NON-DISCOUNT SEEKER

No Of Customers By States

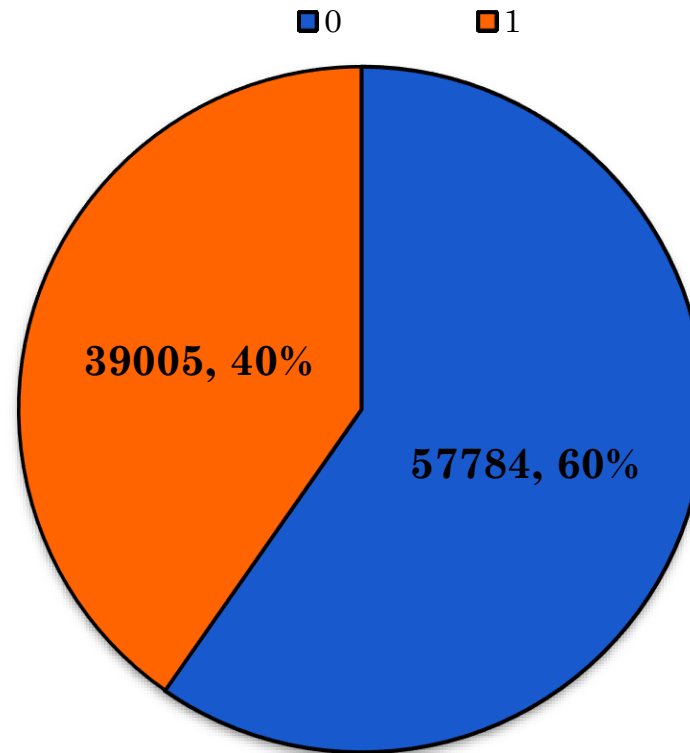


Customers in Each Region



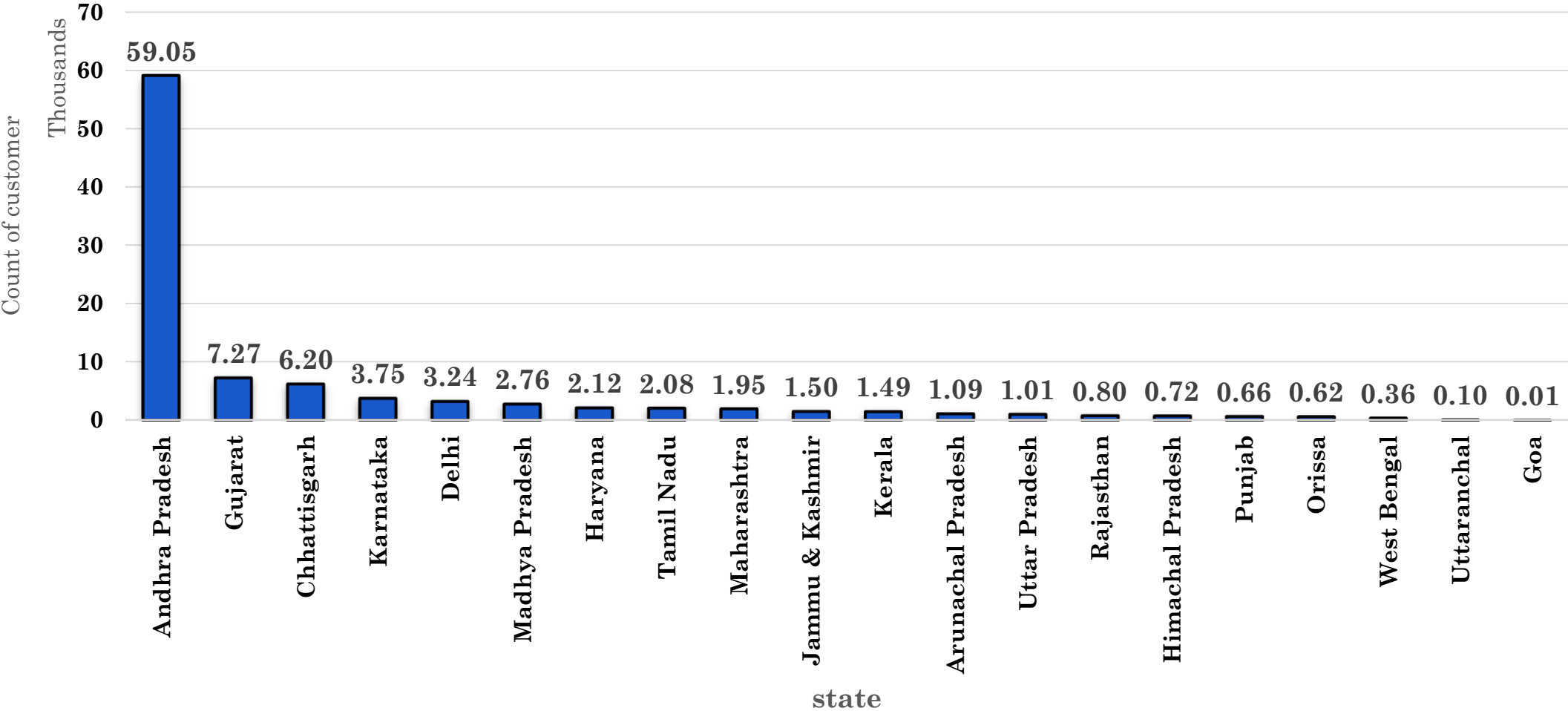
BEHAVIOUR OF NON-DISCOUNT vs DISCOUNT SEEKER

**Sales Distribution By Discount Seekers
And Non Discount Seekers Customers**

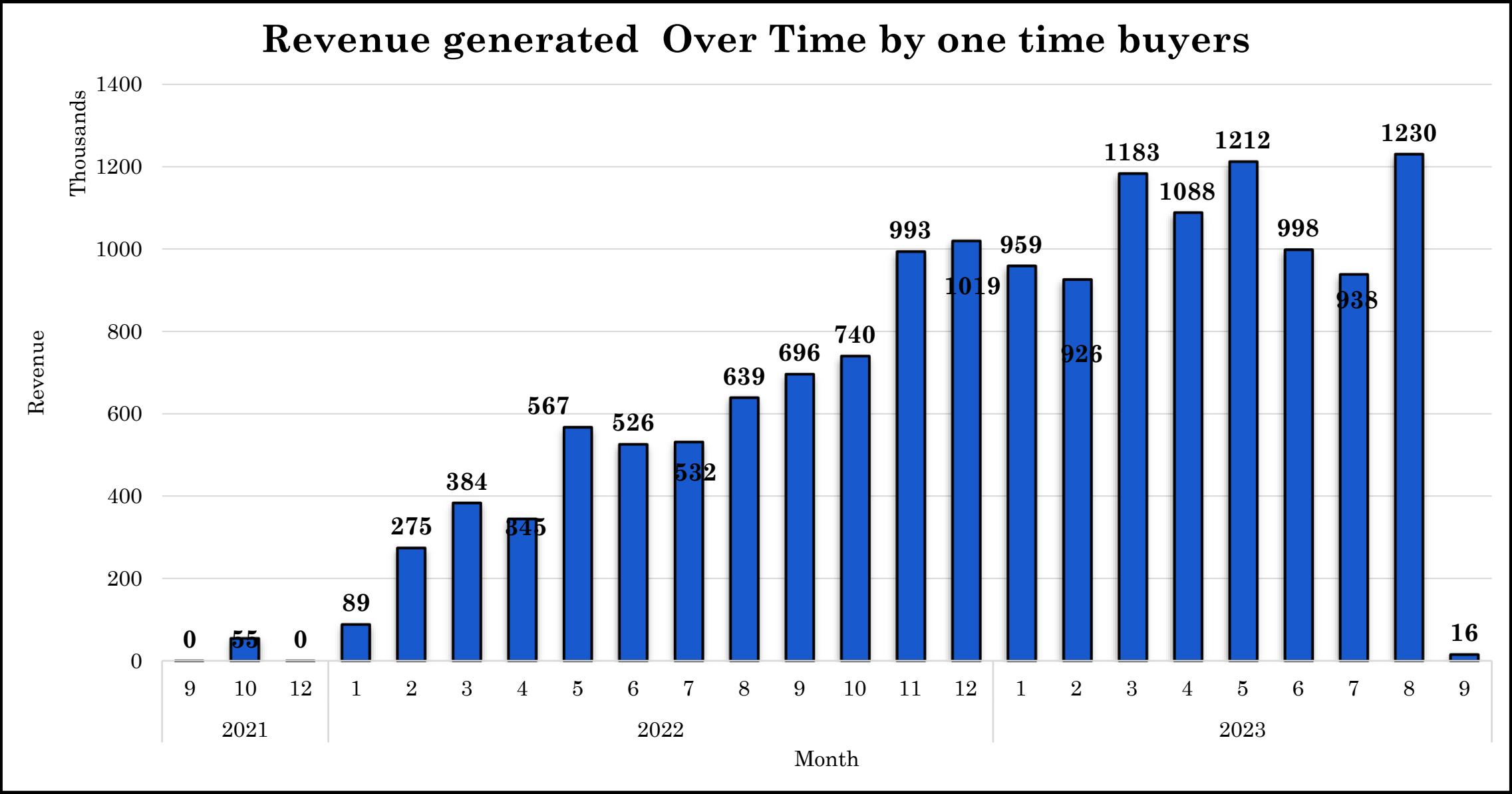


BEHAVIOUR OF ONE TIME BUYERS

No of Customers by State

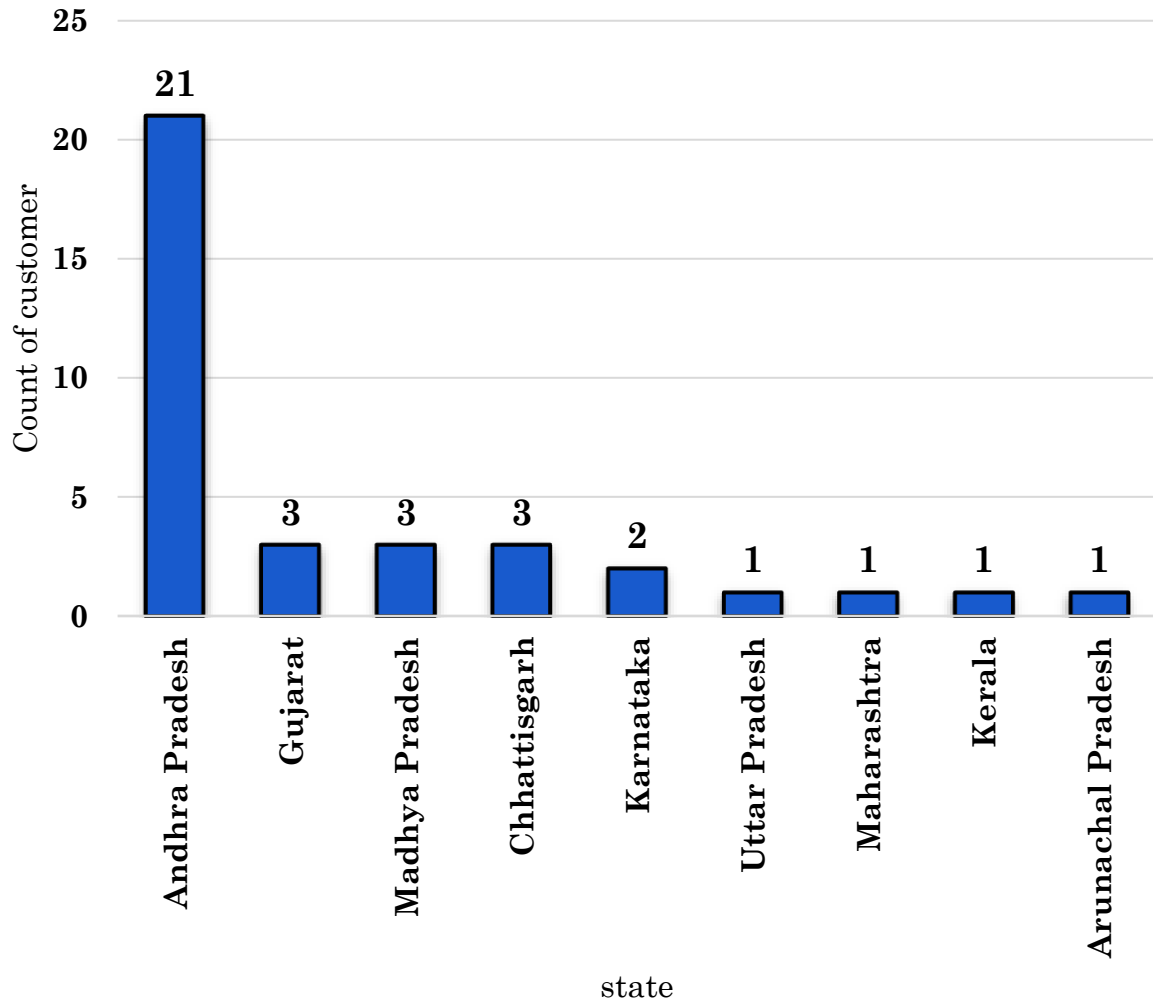


BEHAVIOUR OF ONE TIME BUYERS

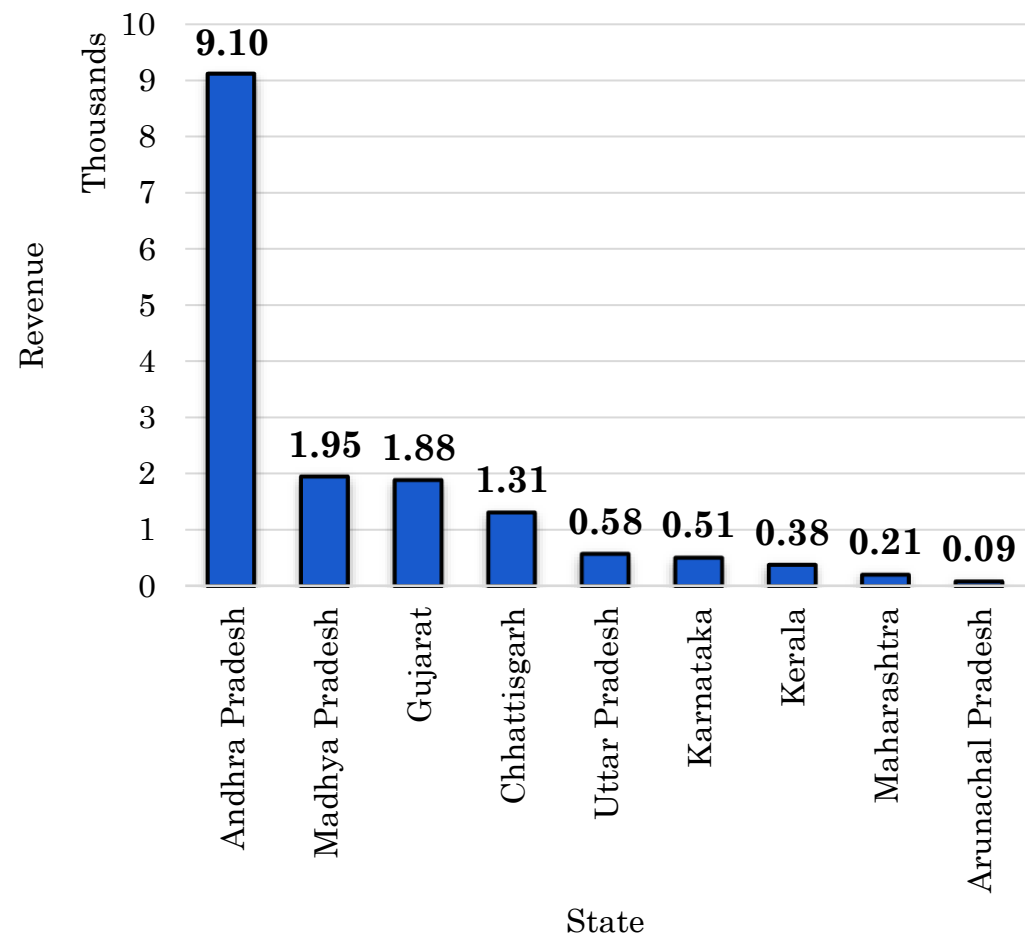


BEHAVIOUR OF REPEAT BUYERS

No of Customers By States



Total Revenue by Repeated Customer



CUSTOMER BEHAVIOUR OBSERVATION

Gender Distribution :

- The customer has more female customers (67608) than male (29195). Female customers contributed to a higher sales percentage than males.

One-Time Buyers vs Repeat Buyers:

- The customer base has significantly high number of one-time buyers (96767) compared to repeat buyers (36)

Recommendation:

- Introduce loyalty programs or personalized marketing to encourage repeat purchases.

Customer Segmentation by Revenue:

- The majority of customers fall into the low-revenue segment.

Recommendations (Insights):

Targeted Marketing:

- Focus marketing efforts on converting low-revenue (Standard) customers into medium-revenue segments through personalized promotions and loyalty programs, while retaining medium-revenue customers by offering exclusive benefits to encourage progression toward high-value (Platinum) status.

CUSTOMER BEHAVIOUR OBSERVATION

Discount Seekers Analysis Observation:

There are more non-discount seeker customers (57.72K) compared to discount seekers (39.08K). The South region was seen to have the highest percentage of unique customers seeking discount.

Non-Discount Seeker Analysis Observations:

The southern region was seen to have the highest number of unique customers(78 %) with no preference on discounts indicating a strong preference for non-discounted purchases in this region. Out of the southern states Andhra Pradesh stands out with 45.41K unique customers with no preference on discounts.

Recommendations:

- Develop targeted campaigns for discount seekers and non-discount seekers to maximize engagement and sales.
- Tailor discount promotions to regions with higher engagement, such as the South regions.
- Focus on states with high discounted customer counts for targeted marketing campaigns to boost sales and customer loyalty.
- Focus marketing efforts on the South region and Andhra Pradesh, as these areas have the highest concentration of non-discount seekers. Tailor campaigns to highlight the value and exclusivity of non-discounted products.

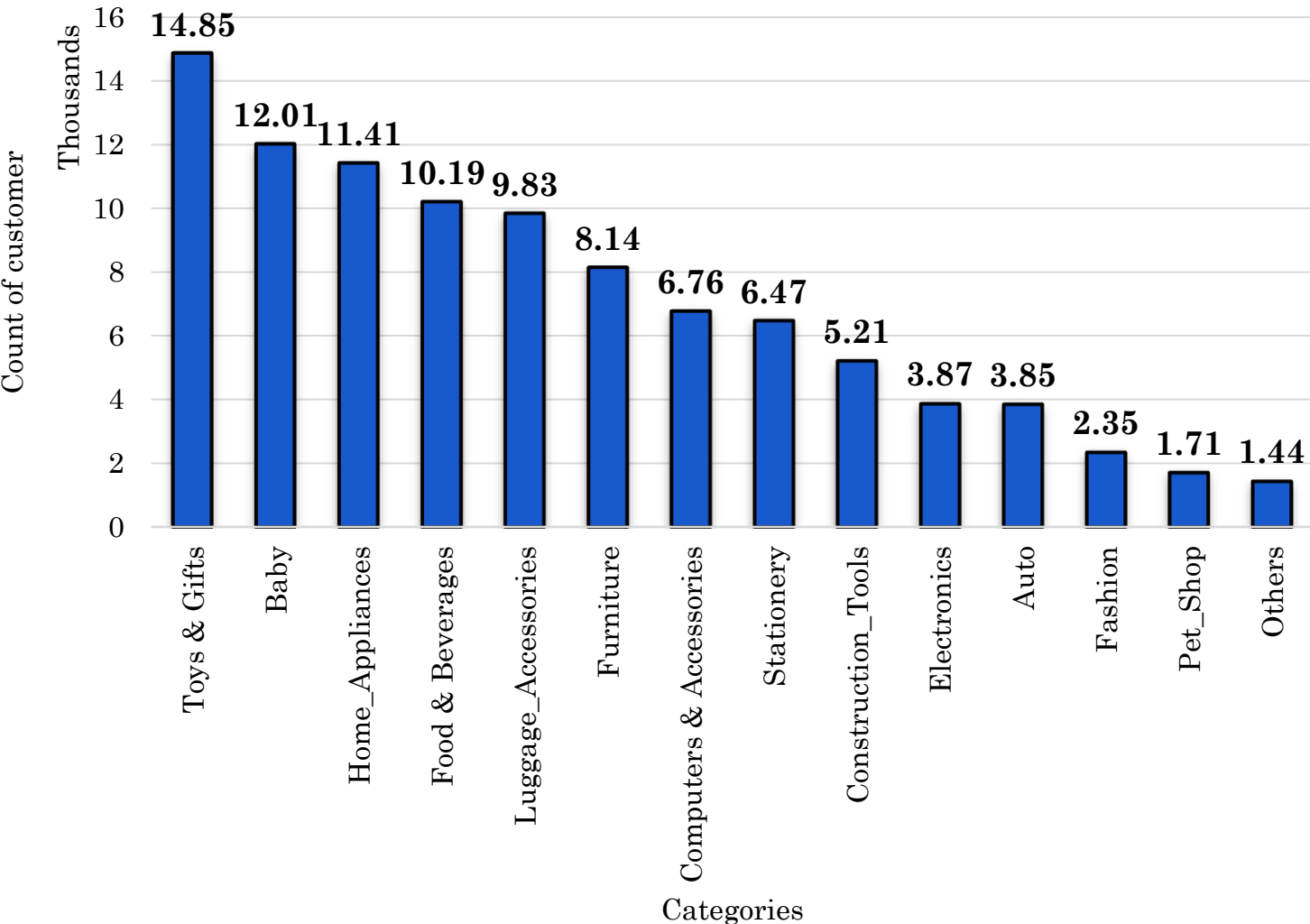


CUSTOMER PREFERENCES ANALYSIS

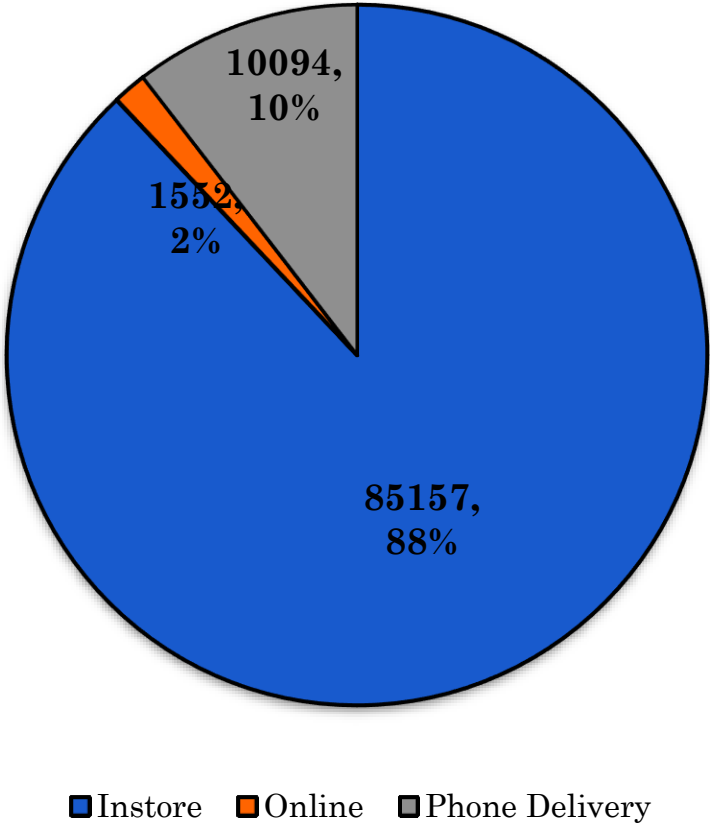


CUSTOMER PREFERENCES ANALYSIS

Customer Count by Categories

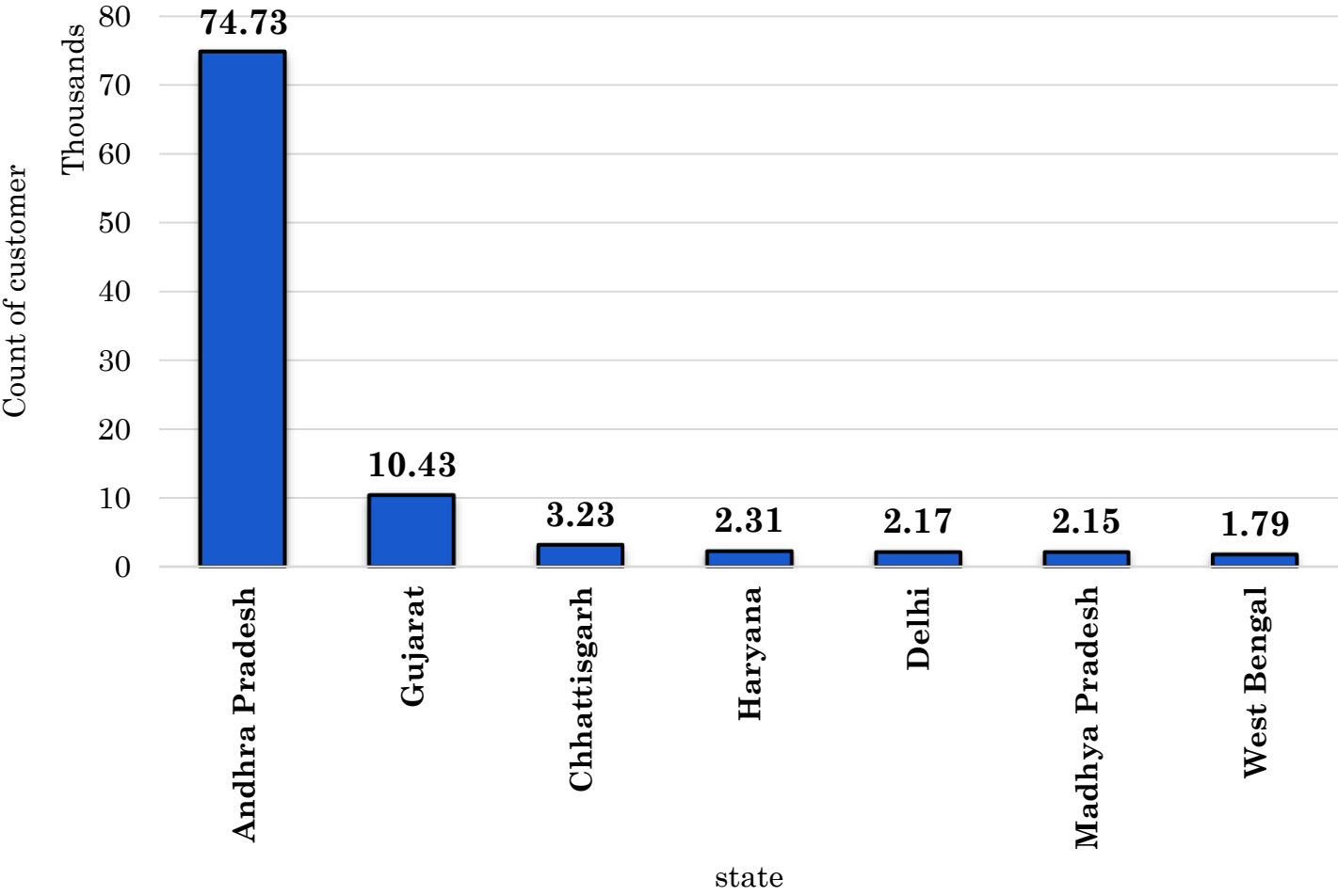


Channel Used By Customers

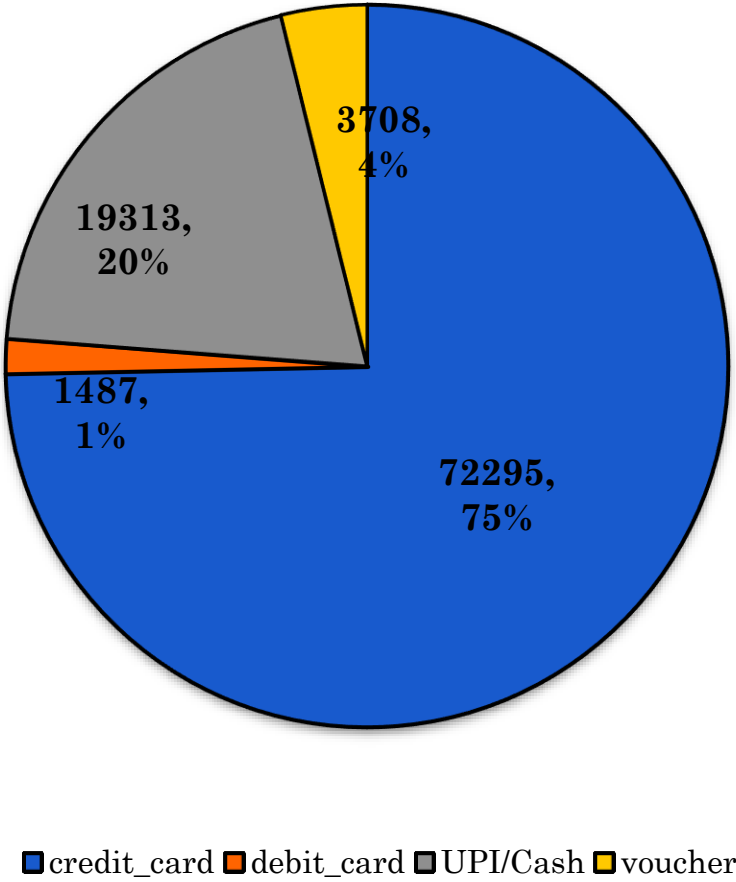


CUSTOMER PREFERENCES ANALYSIS

Seller state preference by customer



Payment Method Used By Customers



CUSTOMER PREFERENCES ANALYSIS

Insight:

- The majority of customers **prefer shopping in-store**, indicating strong foot traffic and traditional buying behavior.
- **Phone delivery** is the second most used channel, suggesting convenience is valued among certain segments.
- **Online** (is low 2%), showing potential for growth with the right digital strategy and incentives.

Insight:

- **Toys & Gifts, Baby, and Home Appliances** are the top-performing categories, showing customer inclination toward **family-oriented and essential items**.
- These categories likely drive **repeat purchases** and **loyal customer bases**.
- Low-performing categories like **Pet Shop** and **Fashion** have smaller segments, which may benefit from **targeted marketing or bundling** with top categories.

RFM SEGMENTATION

RFM SEGMENTATION

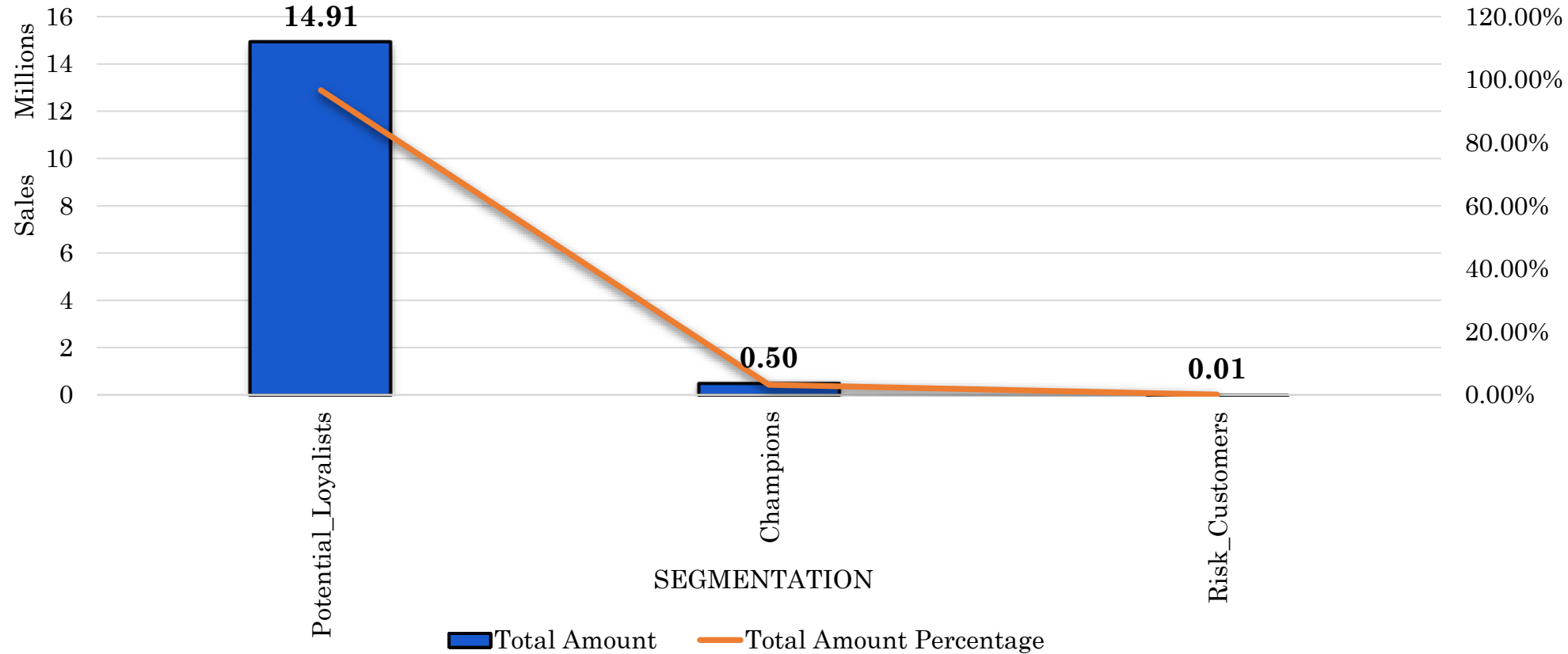
- **Recency (R):** How recently a customer made a purchase.
- **Frequency (F):** How often a customer makes a purchase over a certain period.
- **Monetary (M):** How much money a customer spends on purchases over a certain period. RFM SEGMENTATION
- Each customer is assigned a score for Recency, Frequency, and Monetary using the NTILE(3) function, which divides the customers into quartiles (groups of 3).
- **R_Score:** A score for recency, where the most recent buyers get higher scores.
- **F_Score:** A score for frequency, where customers who have made more purchases get higher scores.
- **M_Score:** A score for monetary value, where customers who have spent more money get higher scores.

Total Scoring:

- This step combines the R, F, and M scores into a Total Score by R_Score, F_Score, and M_Score.
- A customer with the lowest scores for recency, frequency, and monetary will have a total score of 3 ($1 + 1 + 1$), while a customer with the highest scores in all three categories will have a total score of 9 ($3 + 3 + 3$).

RFM SEGMENTATION

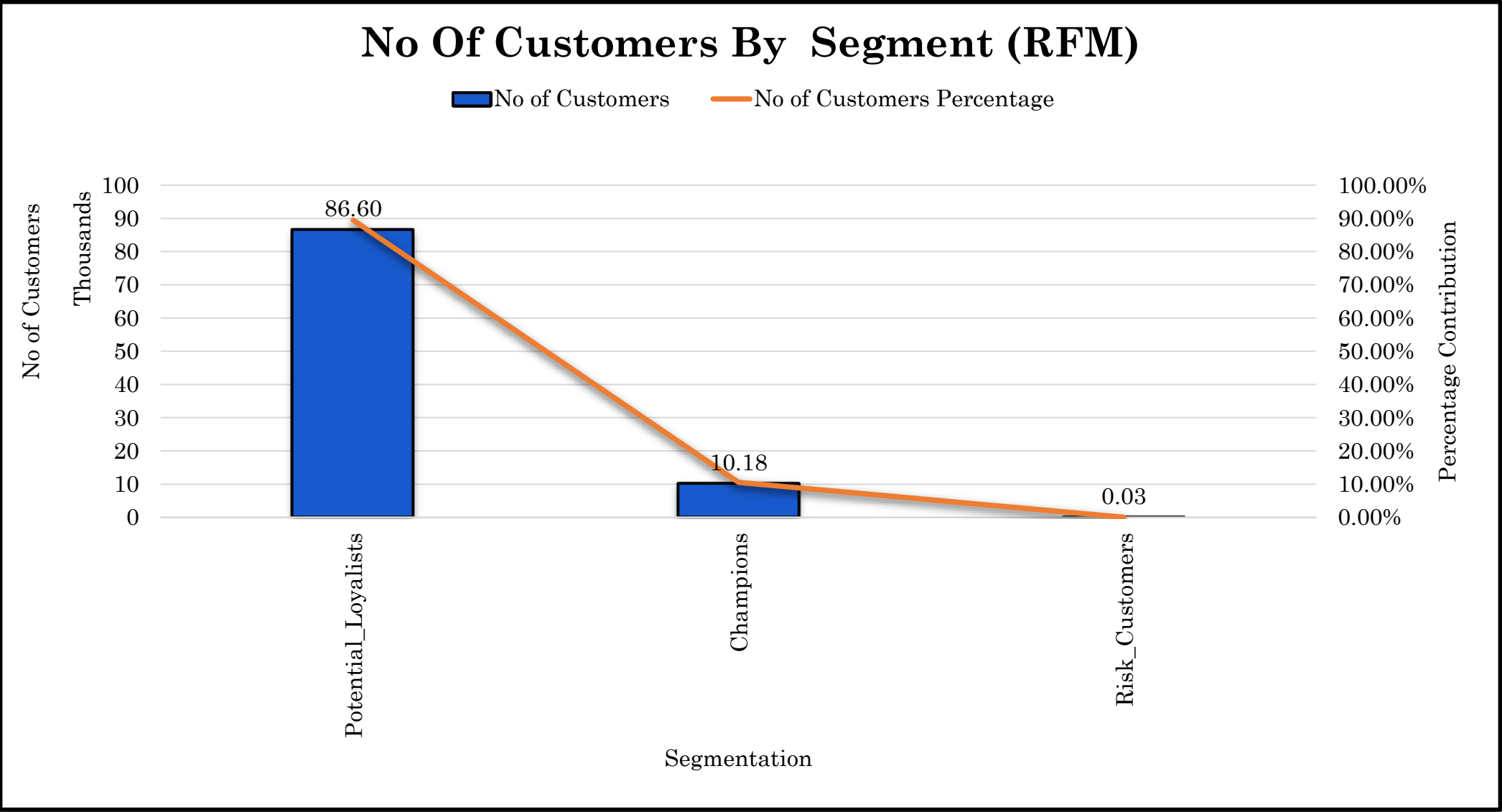
Sales And Sales Contribution By Segment (RMF)



Based on the Total score, customers are classified into different segments:

- **CHAMPIONS:** Total score between 8 and 9
- **POTENTIAL_LOYALISTS:** Total score between 4 and 7.
- **Risk Customers:** Total score <4.

RFM SEGMENTATION



RFM SEGMENTATION

Insight

- **Customers Needing Attention**

- **86,599 customers** with **₹14,913,325** in total spend.
- *These customers have moderate engagement and spending levels. They need targeted efforts to increase frequency and spend.*

- **Loyal Customers**

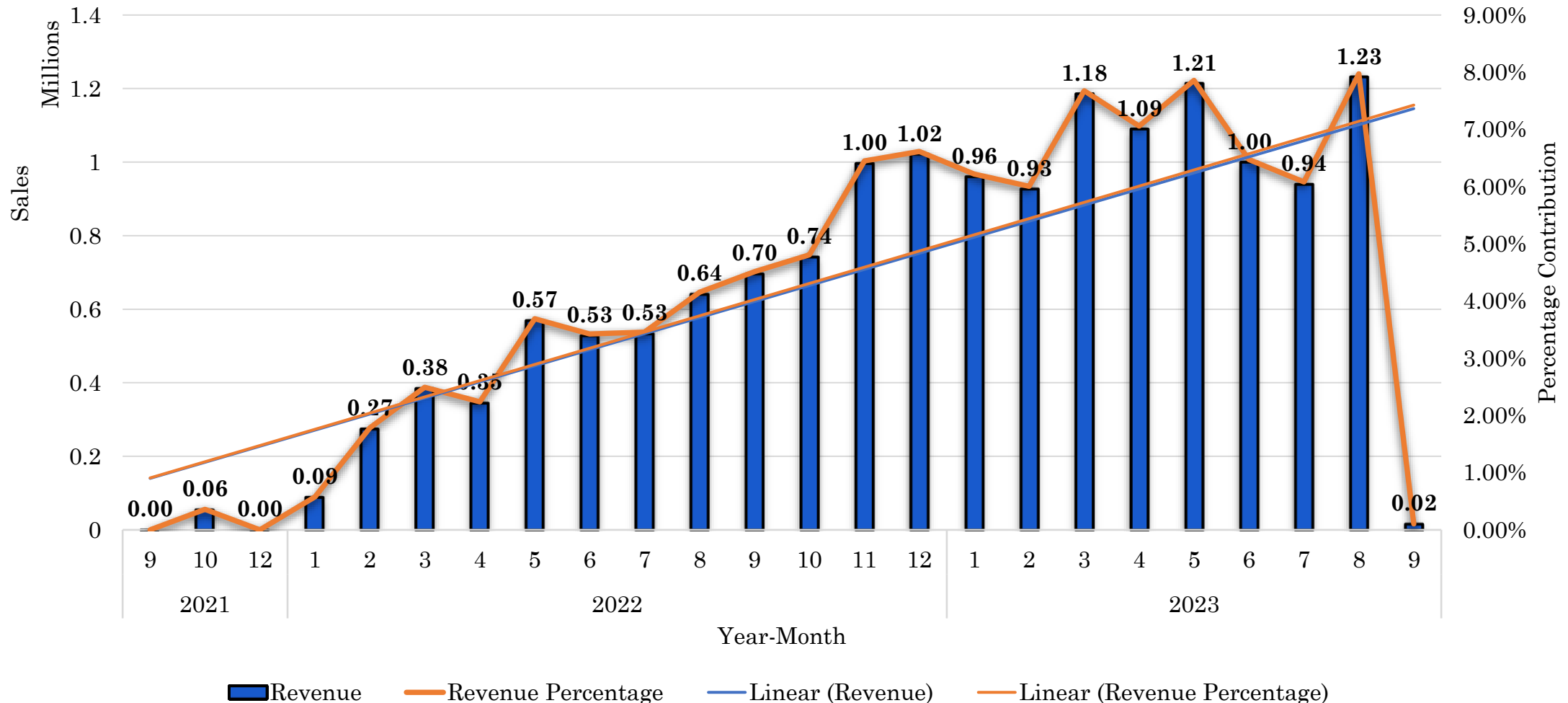
- **10,176 customers** with **₹499,601** in total spend.
- *They purchase frequently but don't contribute as much in total spend. Opportunity to boost order value.*

- **Risk Customers**

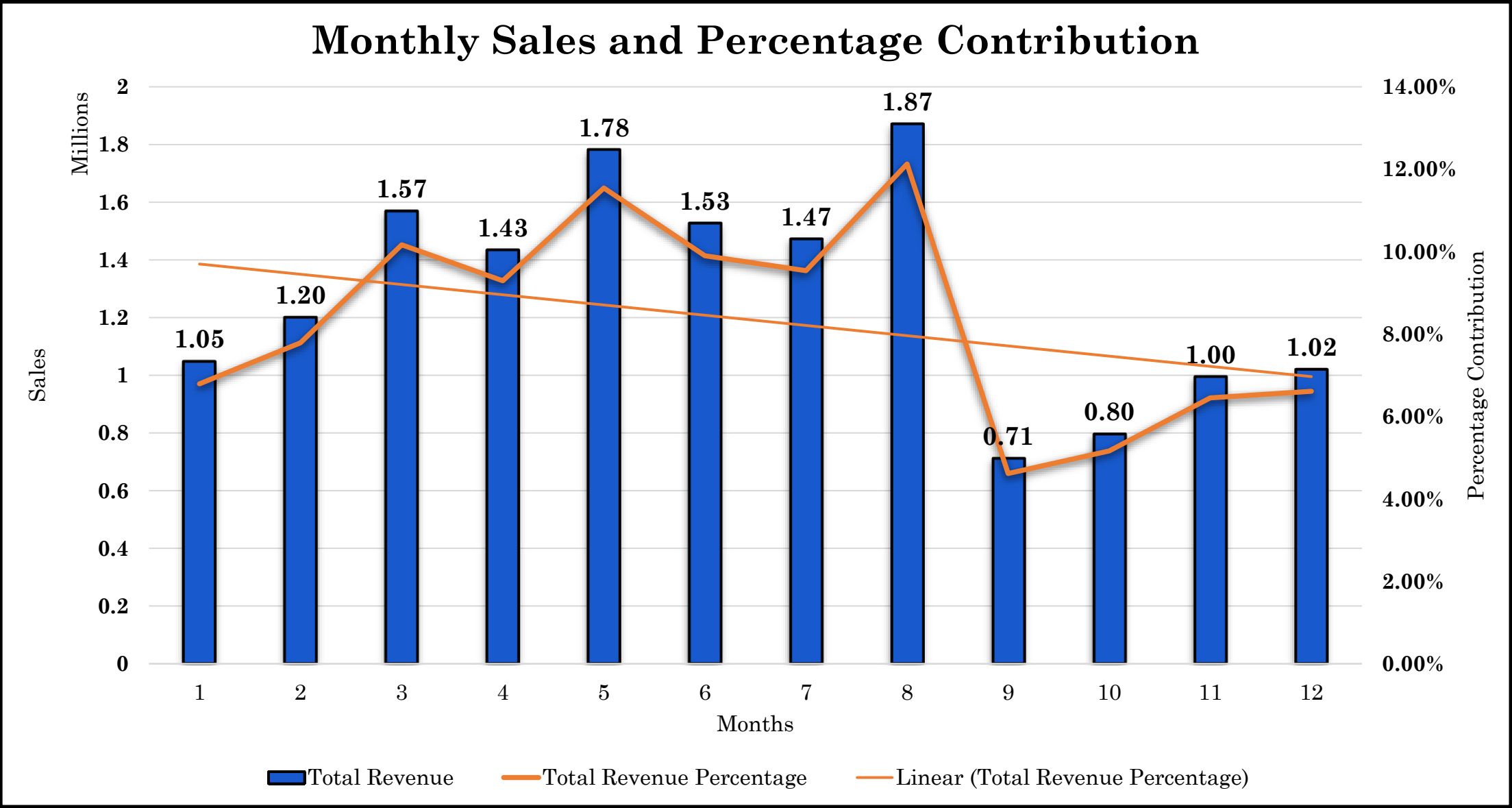
- **28 customers** with **₹14,121** in total spend.
- *These customers are inactive or disengaged, requiring re-engagement strategies to prevent churn.*

SALES TRENDS, PATTERNS & SEASONALITY

Yearly and Monthly Sales and Percentage Contribution



SALES TRENDS, PATTERNS & SEASONALITY



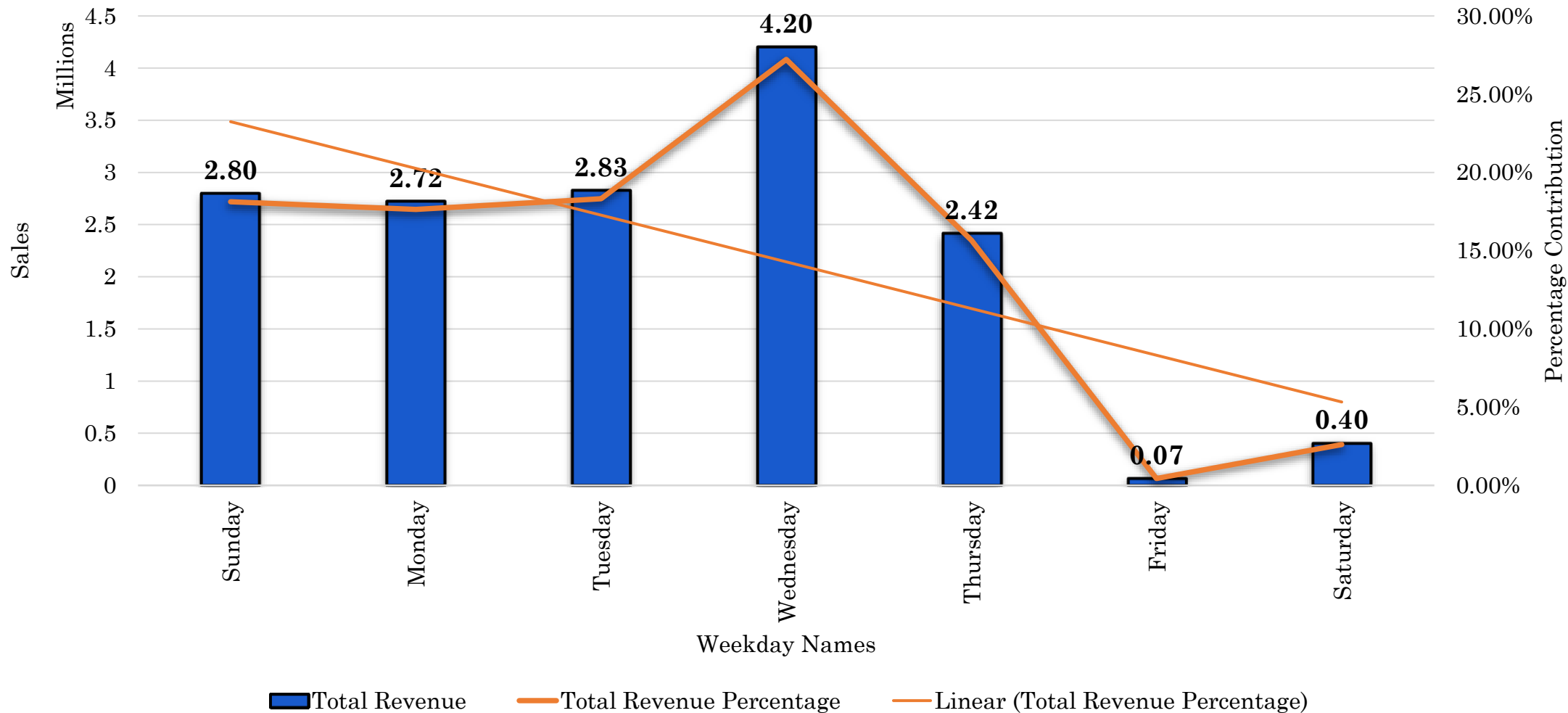
SALES TRENDS, PATTERNS & SEASONALITY

Monthly Sales Insights:

- **Month 5 had the highest sales**, around **15.27 lakhs**, which is **9.84% of the total**. This might be because of **seasonal demand or good promotions**.
- **Month 8 also performed well**, with **14.98 lakhs (9.65%)**, likely due to a **successful campaign or holiday season**.
- **Month 1 had the lowest sales**, only **7.31 lakhs (4.71%)**, possibly because of the **slow period after holidays or no special offers**.
- Sales **gradually increased from Month 2 to Month 5**, but then there were **ups and downs from Month 6 to 9**, which may show **inconsistent planning or changing customer demand**.

SALES TRENDS, PATTERNS & SEASONALITY

Sales by Weekday vs. Weekend

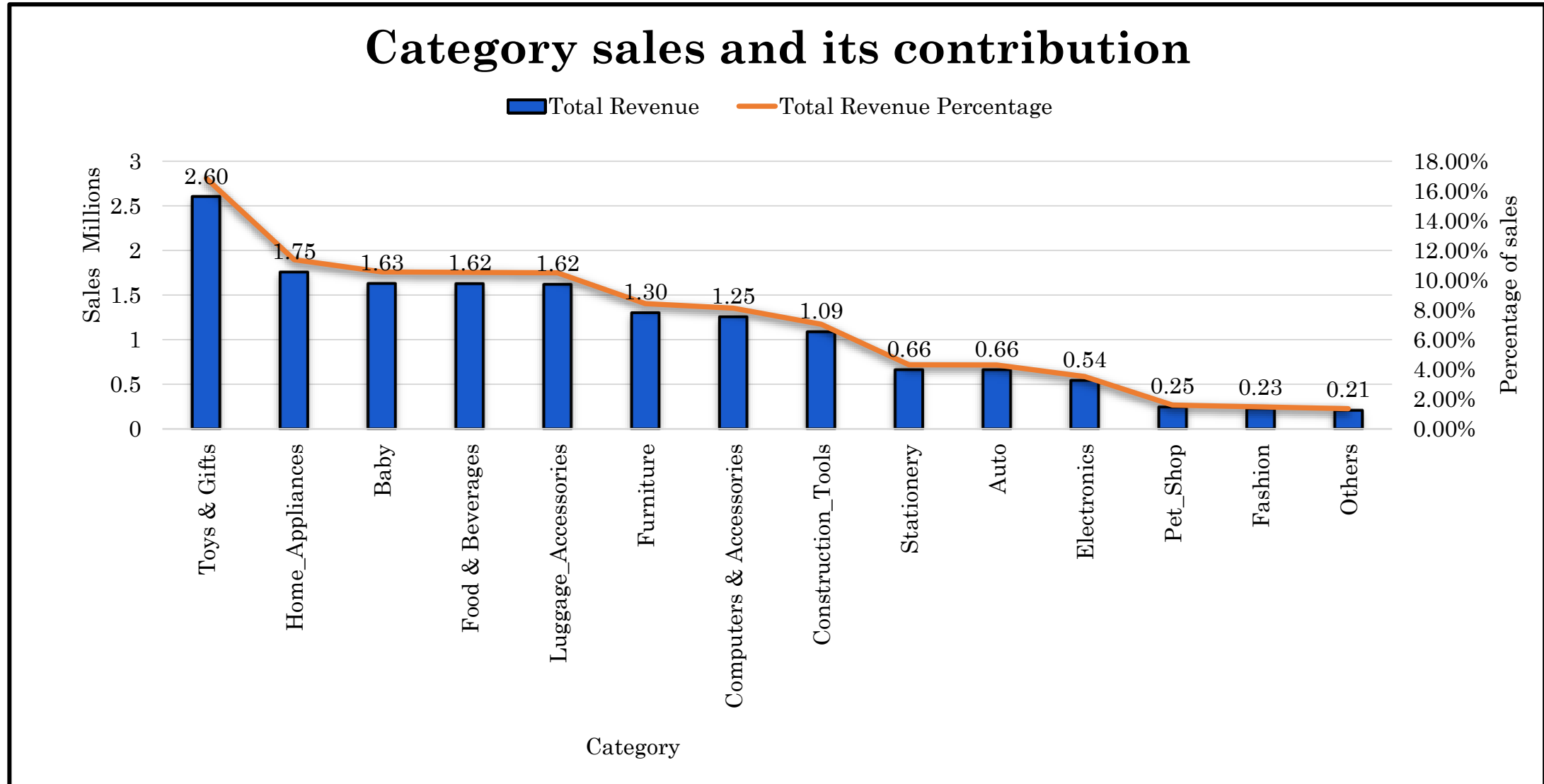


SALES TRENDS, PATTERNS & SEASONALITY

Weekday Sales Insights:

- **Saturday** shows the **highest sales**, contributing **~11.62 lakhs (7.55%)**, indicating **strong weekend shopping behavior**.
- **Sunday** also performs well at **~11.21 lakhs (7.29%)**, reinforcing that **weekend footfall is crucial** for sales.
- **Friday and Monday** show a **moderate performance**, acting as transition days into and out of peak shopping periods.
- **Tuesday and Wednesday** are the **lowest-performing days**:
 - Tuesday: **~9.02 lakhs (5.86%)**
 - Wednesday: **~9.13 lakhs (5.93%)**
 - Suggests **lower engagement during midweek**, possibly due to work routines or fewer offers.

SALES CONTRIBUTION OF EACH CATEGORY



CATEGORY PENETRATION ANALYSIS

Year

2021

2022

2023

Month

1

2

3

4

5

6

7

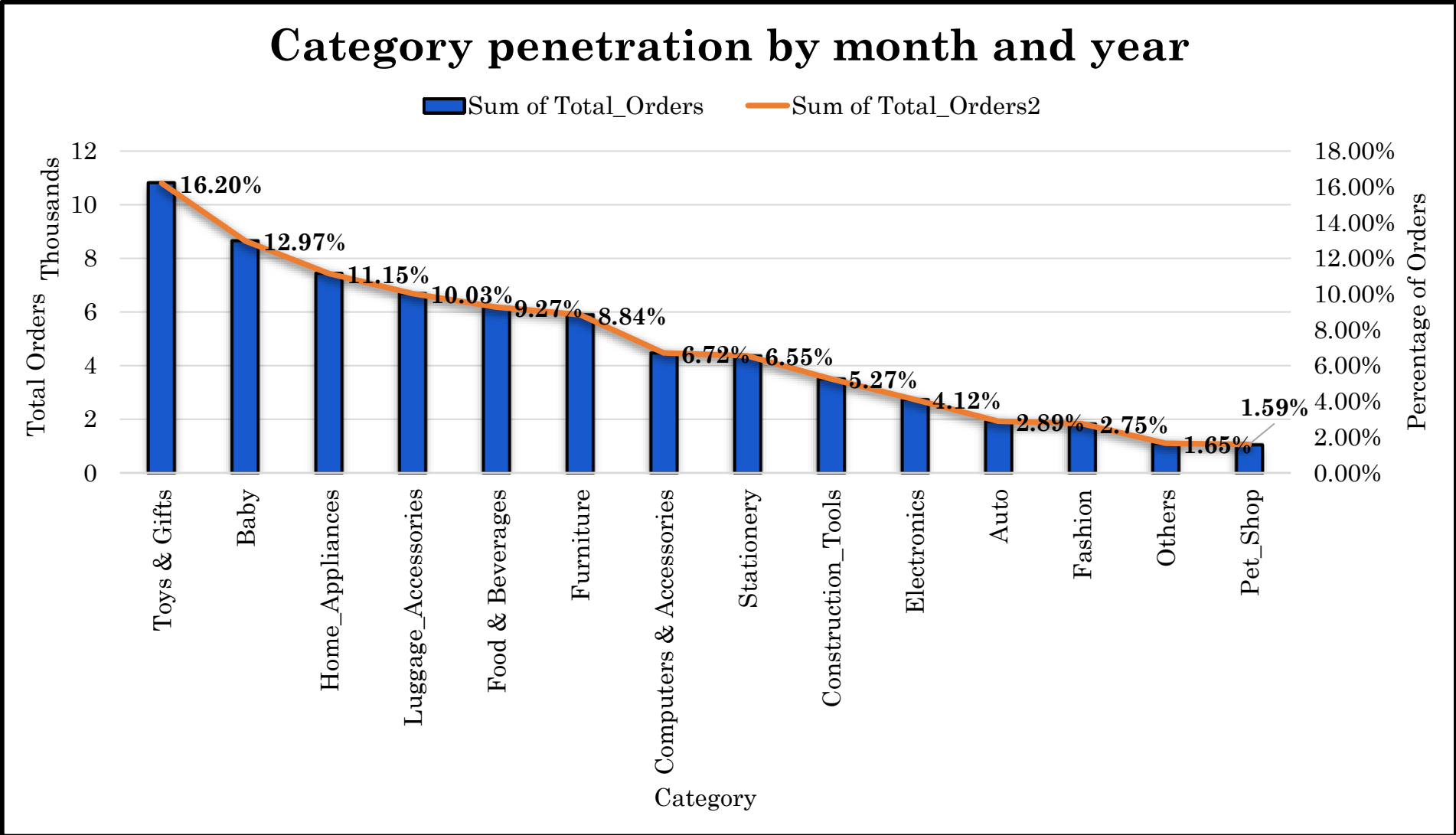
8

9

10

11

12



CATEGORY PENETRATION ANALYSIS

- In October 2021, Toys and Gifts category has the highest penetration when compared to other categories
- In the year 2022 From January to March, Furniture category has the highest penetration and Pet Shop category has the least penetration.
- From April to June, Toys and Gifts category has highest penetration and Pet Shop category has the least penetration.
- In July month, Baby category has highest penetration and Other category has the least penetration.
- From August to December, Toys and Gifts category has the highest penetration where as Other and Pet Shop categories occupy the last position.
- In the year 2023 From January to August, Toys and Gifts category has the highest penetration and Other category has the least penetration.
- In September, Food and Beverages category has the highest penetration and Pet Shop category has the least penetration.



Thank you

