Goldman Sach's

Financial Risk Report
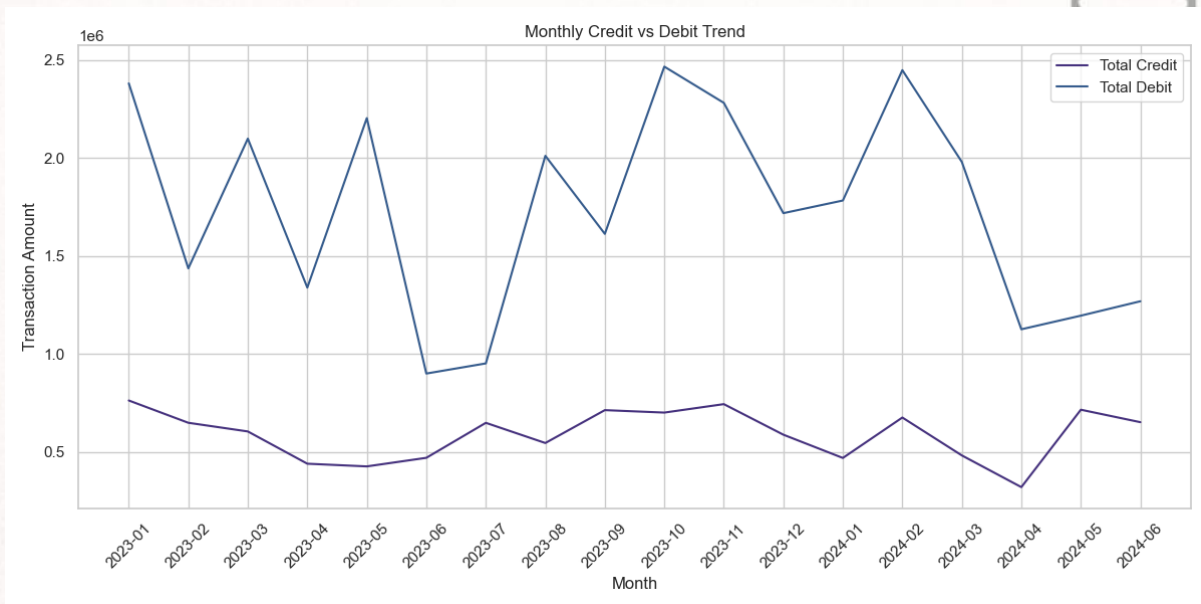
Goldman Sachs

Prepared By:

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Data Cleaning and Standardization – Task 1

- Checked the dataset structure (rows, columns, and data types).
- Converted the TransactionDate column into proper datetime format.
- Checked for missing values across all columns.
- Confirmed that there were no null values in the dataset.
- Converted all transaction amounts to positive values for consistency.
- Verified and corrected data types for numeric and categorical columns.
- Checked unique values in key columns like:
  - Account Type
  - Transaction Type
- Ensured transaction types were standardized (Deposit, Withdrawal, Payment, Transfer).
- Validated that balances, risk scores, and ratings were in correct numeric format.

Descriptive Transactional Analysis – Task 2

Result

- In most months, money going out (debit) is more than money coming in (credit).
- Debit amounts go up and down a lot every month.
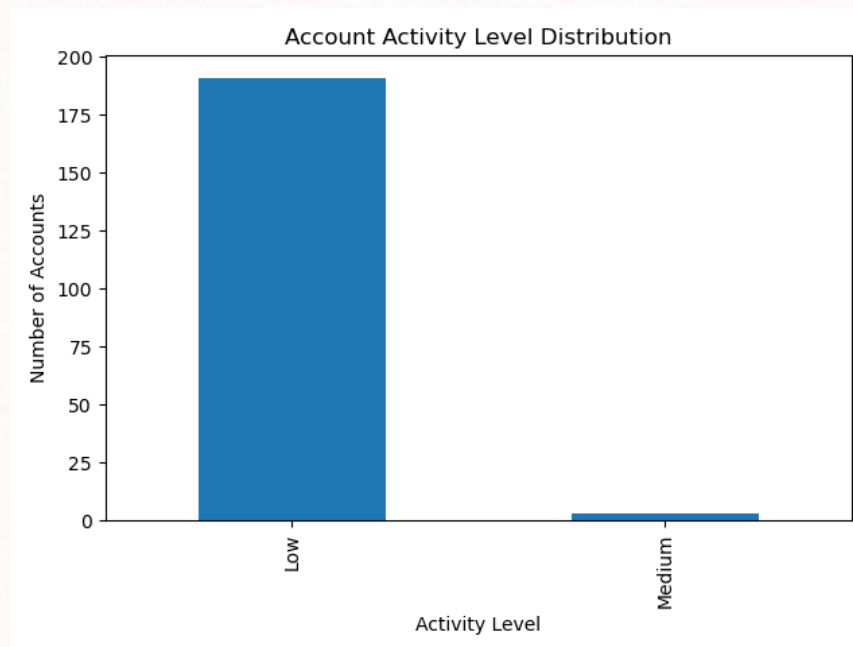- Credit amounts stay more stable compared to debit.

Explanation

- Customers mainly use their accounts for spending, not saving.

- Many customers withdraw or transfer money soon after receiving it.

- Some months show heavy spending, which can cause balance issues.

Significance

- Customers may face cash shortages in high-spending months.

- The bank can predict busy months and plan better.

Customer Profile Building – Task 3

Result

- Most accounts are low activity accounts (very few transactions).

- Only a small number of accounts do transactions regularly.

- Identified three main types of customers:

  o Customers with high money inflow

  o Customers who transact frequently but keep low balance

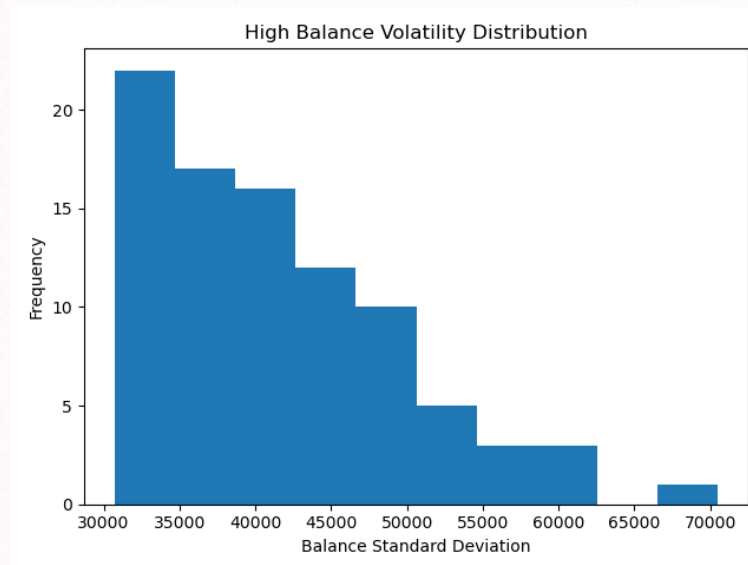 o Customers with very low or negative balance

Explanation

- Most customers are not very active.

- A small group of customers creates most of the transactions.

- Some customers struggle to keep money in their accounts.

Significance

- Low-activity customers can be encouraged to use their accounts more.

- High-frequency, low-balance customers may need financial help tools.

- High-inflow customers are good targets for premium offers.

Financial Risk Identification – Task 4

Results

- Some accounts show big ups and downs in balance.

- Some customers withdraw large amounts frequently.

- A few transactions are very unusual compared to normal patterns.

Explanation

- Customers with unstable balances may face financial stress.

- Large and unusual withdrawals can be risky.

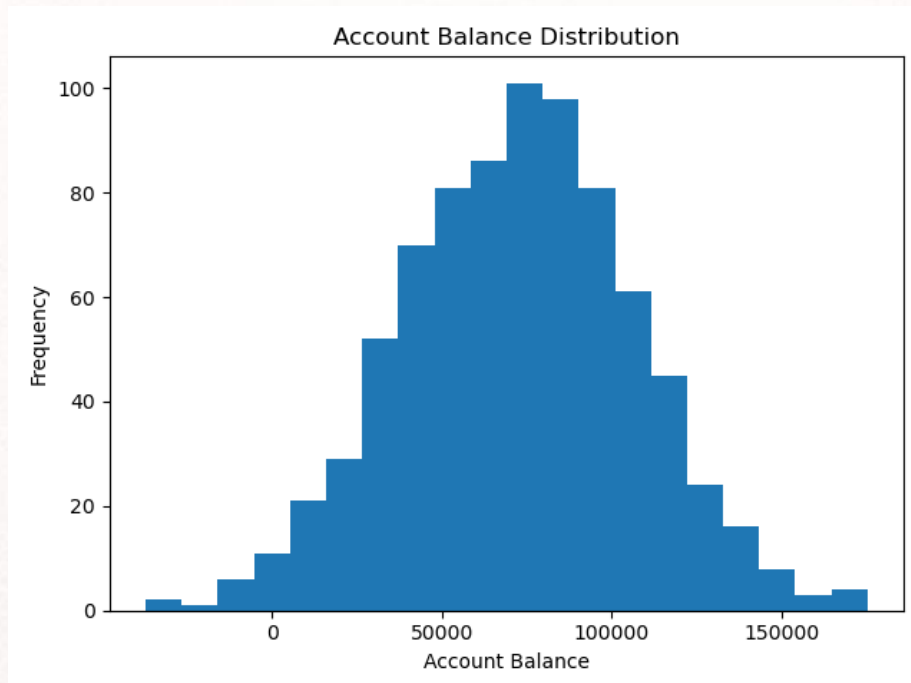- These patterns can sometimes point to fraud or misuse.

Implication

- Risky accounts should be monitored closely.

- Early warnings can prevent overdrafts and losses.

- Monitoring helps protect both customers and the bank.

Overall Conclusion

- Most customers spend more than they save.

- Customer activity is uneven — few active, many inactive.

- Financial risk increases when:

    o Spending is high

    o Balance is low

    o Balance changes a lot

Visual Analysis Summary: Task 5
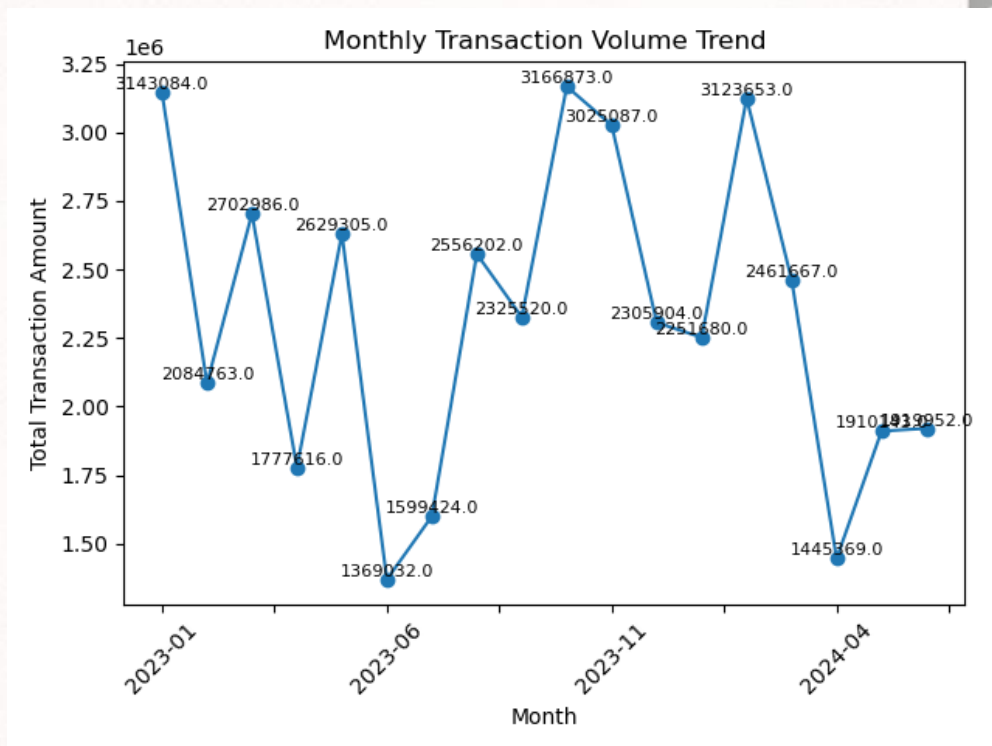
Account Balance Distribution

Results

- Most account balances are in the middle range.

- Very few accounts have very low or very high balances.

Interpretation

- Most customers keep a normal amount of money in their accounts.

- Only a small number of customers are either very rich or very low on balance.

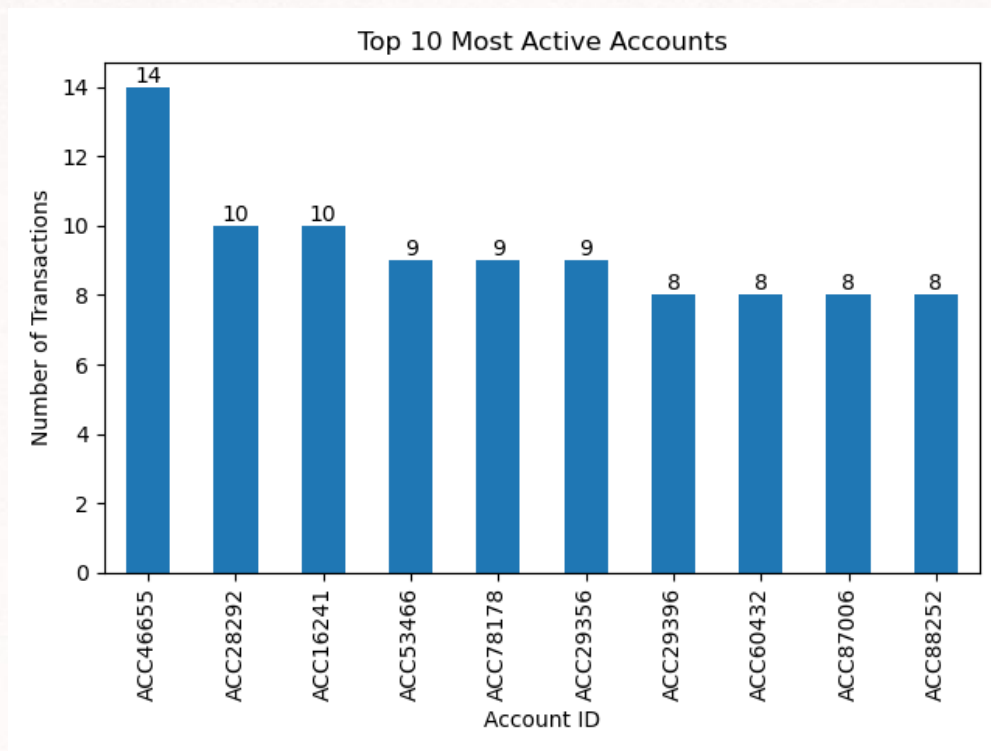## Monthly Transaction Volume Trend

Results

- Total transaction amount changes every month.

- Some months have very high transaction volume, while others are lower.

Interpretation

- Customers do not spend or transact the same every month.

- There are certain months when customers are more active, possibly due to expenses or payments.

Top 10 Most Active Accounts

Results

- Only a few accounts perform the highest number of transactions.
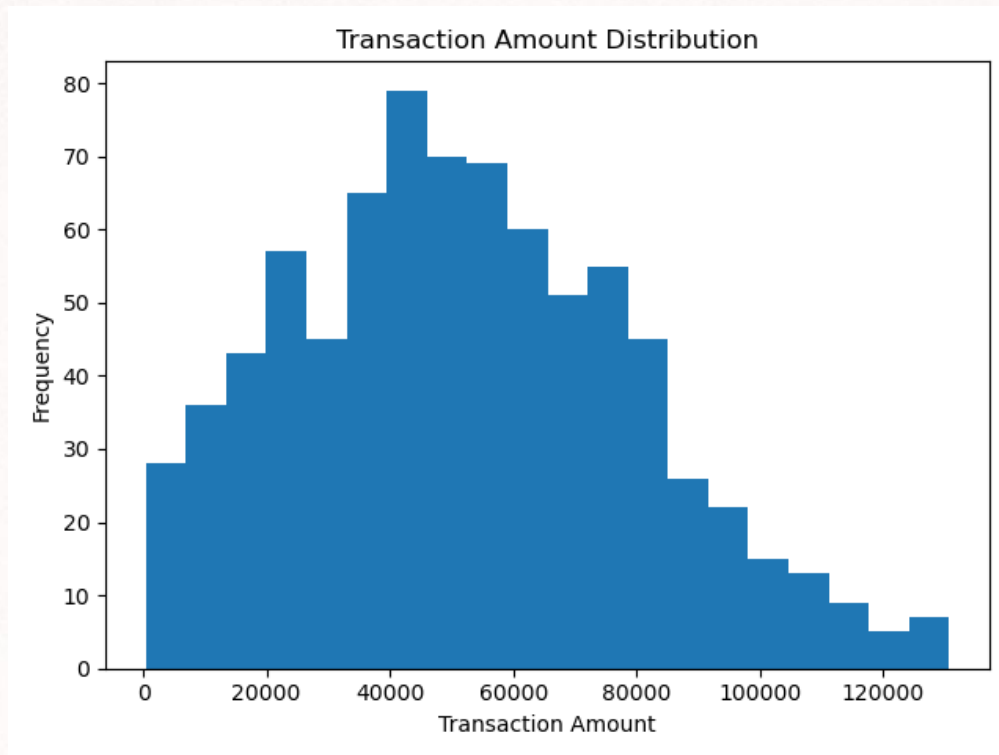- One account has the maximum transactions, while others are slightly lower.

Interpretation

- A small number of customers are very active users.
- Most other customers are less active.

Transaction Amount Distribution

Results

- Most transaction amounts are in the medium range.

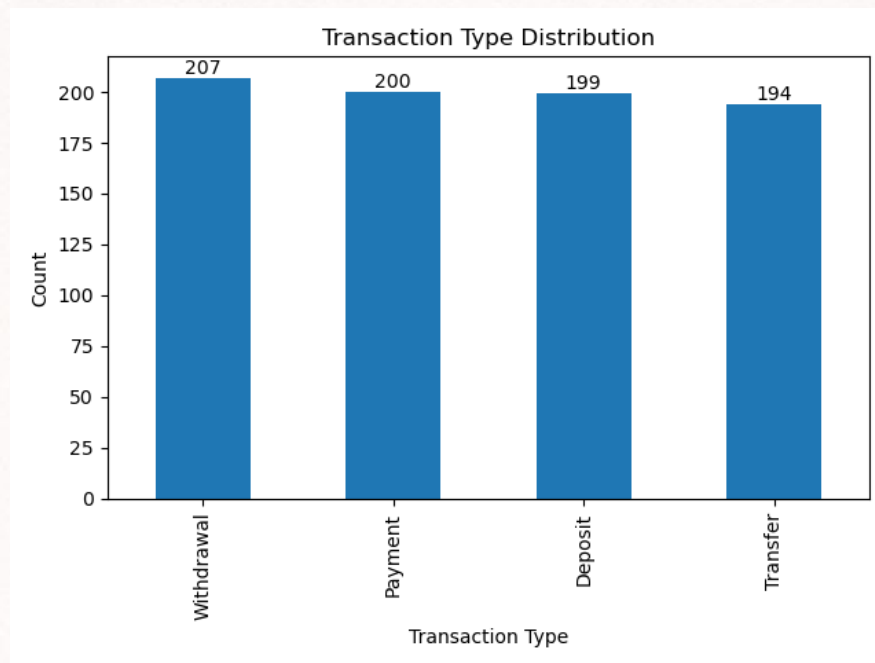- Very small and very large transactions are less common.

Interpretation

- Customers usually make normal-sized transactions.

- Extremely high-value transactions happen rarely.

Transaction Type Distribution

Results

- Withdrawals, payments, deposits, and transfers are almost equally distributed.

- Withdrawals are slightly higher than other transaction types.

Interpretation

- Customers use their accounts for all types of transactions.

- Spending-related transactions are slightly more common than deposits.

Conclusion

- Most customers keep average balances.

- Transaction activity changes from month to month.

- Only a few customers are very active, while most are not.

- Customers mostly use accounts for spending and regular payments.

- Very large or unusual transactions are not very common.

Hypothesis Testing – Task 6

- Accounts were divided into high-volume and low-volume based on transaction count.
- The average balance of high-volume accounts was not significantly higher than low-volume accounts.
- The p-value was greater than 0.05, indicating no statistically meaningful difference.
- The null hypothesis (H_0) was not rejected.
- High transaction frequency mainly indicates frequent spending, not higher savings.
- Transaction volume alone cannot be used to judge customer financial strength.

Conclusion

- Customers who transact more frequently do not necessarily maintain higher average balances.

Final Insights & Recommendations:

- From the overall analysis:
- Most customers use accounts mainly for spending.
- Customer activity is uneven, with few highly active accounts.
- Financial risk is higher for accounts with low balances, high volatility, and frequent withdrawals.
- Transaction frequency alone is not enough to judge customer value.

Recommendations:

- High-risk accounts should be monitored proactively.
- High-frequency low-balance customers can benefit from budgeting tools.
- High-net inflow customers can be targeted with premium services.
- Early alerts can help prevent overdrafts and financial stress.