

FINANCIAL FRAUD DETECTION DASHBOARD REPORT: POWER BI DASHBOARD

DASHBOARD

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Problem Statement:

Financial Fraud Detection Dashboard

Analyze a dataset related to financial transactions for a bank and payment system. The goal of this project is to create an insightful Power BI dashboard that highlights key trends and identifies patterns that can assist in detecting payment patterns, amounts, and potential frauds.

Dataset Overview:

The dataset contains information on various financial transactions, including payments, transfers, and cash-outs. Each transaction includes details such as the type of transaction, the origin and destination accounts, and whether the transaction was fraud or not.

Dataset Columns:

1. **step**: The step in the transaction process.
2. **type**: The type of transaction (e.g., PAYMENT, TRANSFER, CASH_OUT).
3. **amount**: The transaction amount.
4. **nameOrig**: Originating account (payer).
5. **oldbalanceOrg**: The balance before the transaction in the originating account.
6. **newbalanceOrig**: The balance after the transaction in the originating account.
7. **nameDest**: Destination account (receiver).
8. **oldbalanceDest**: The balance before the transaction in the destination account.

TRANSACTION TYPES AND VOLUMES

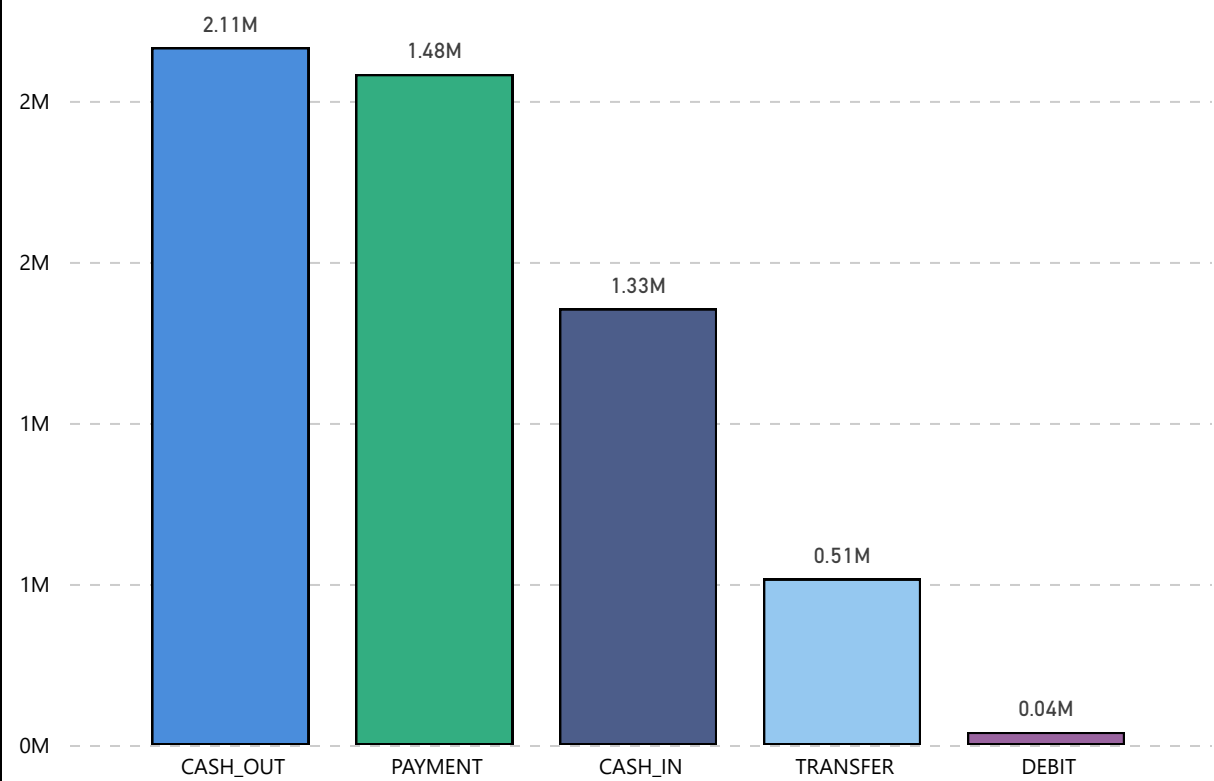
6.16M

Transaction volume

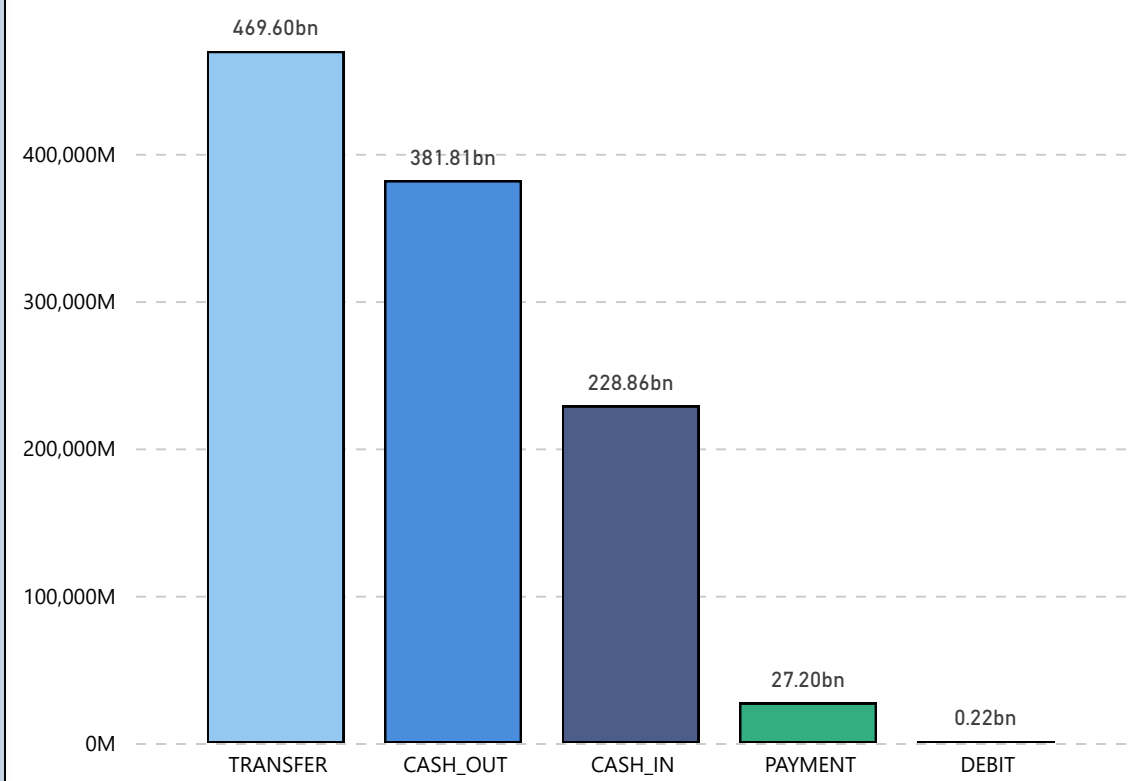
1,107.69bn

Transaction amount

Total Transaction Volume



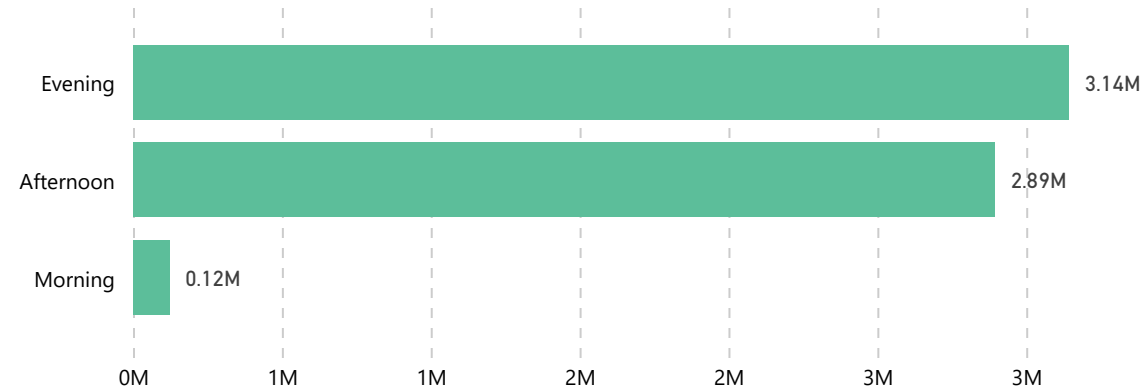
Total Transaction Amount



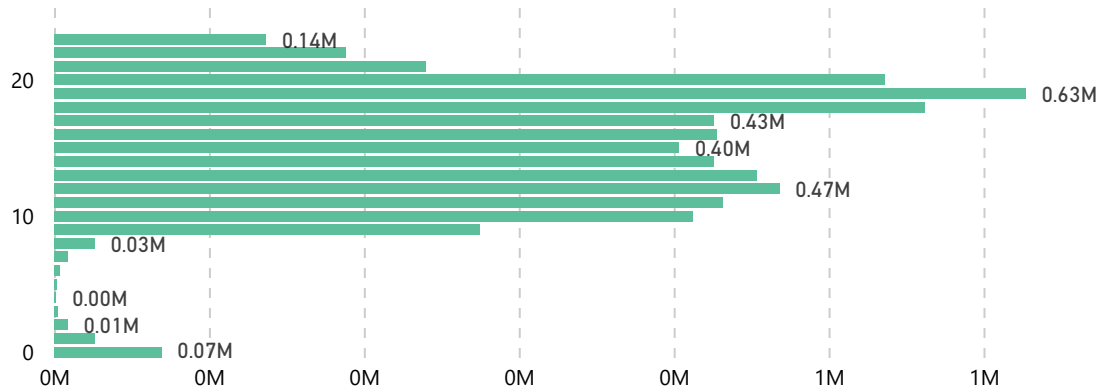
IDENTIFY FRAUDULENT TRANSACTIONS

DASHBOARD

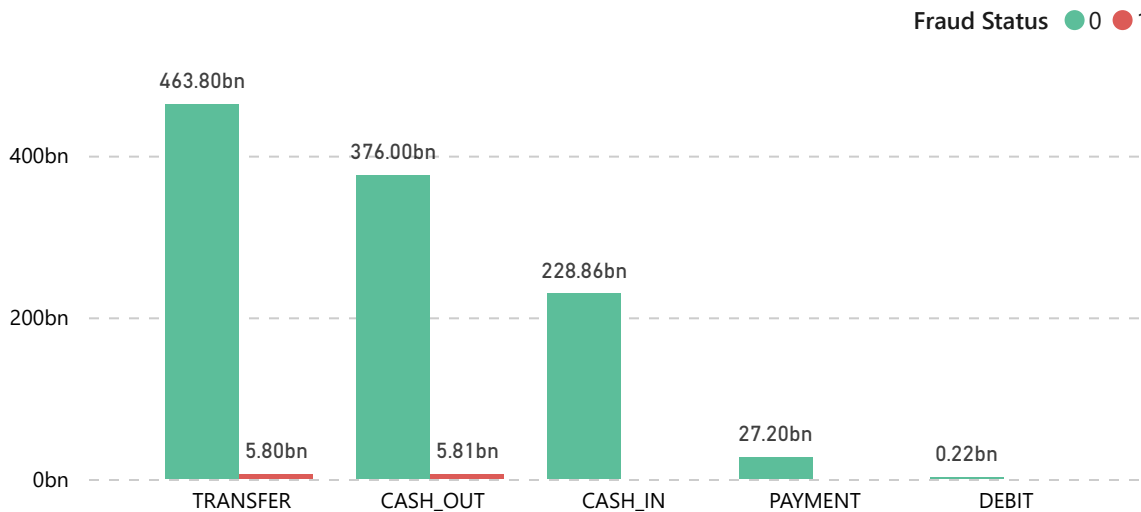
Fraud Pattern by Time Period



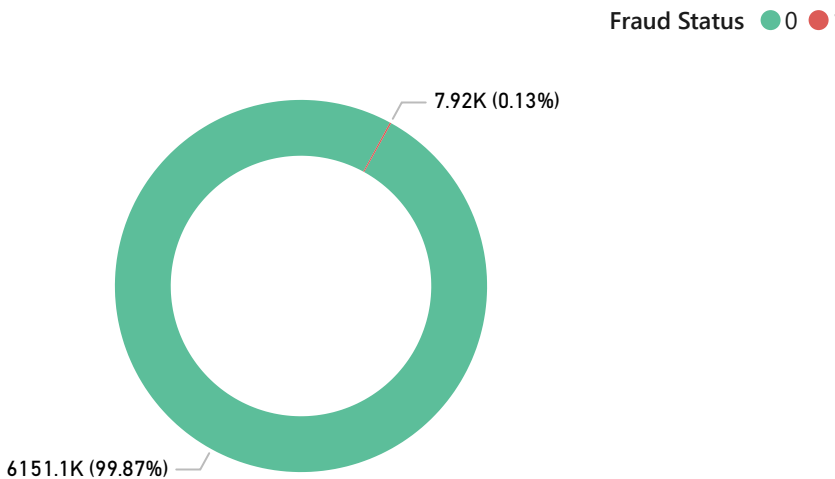
Fraud Pattern by Hour of the Day



Fraud vs Non-Fraud Transactions By Type



Fraud vs Non Fraud Transactions



Financial Fraud Detection Dashboard

6.16M
Transaction Volume

\$1.11T
Transaction Amount

7922
Fraud Transactions

6.15M
Non-Fraud Transactions

KPI 1 - Transaction Types and Volumes

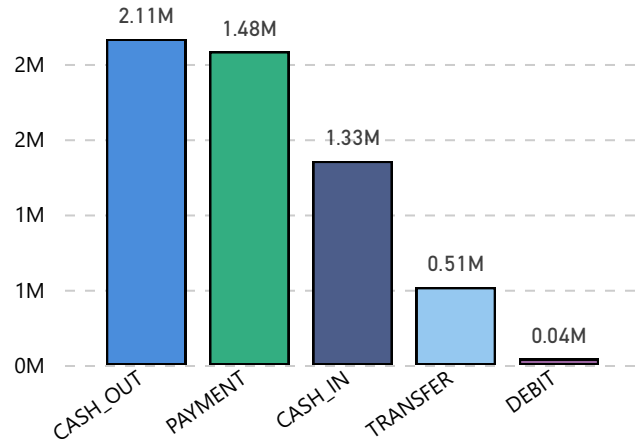
KPI 2 - Identify Fraudulent Transactions

Dashboard

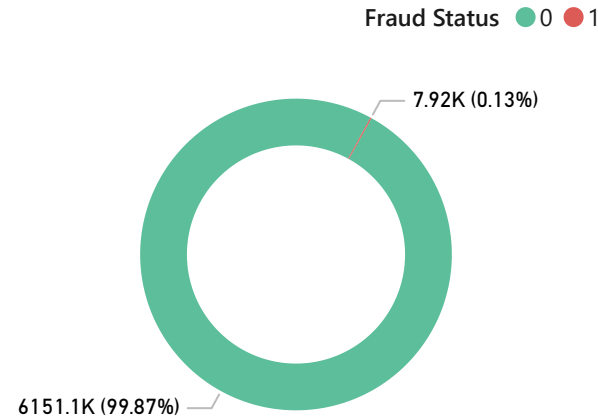
Summary



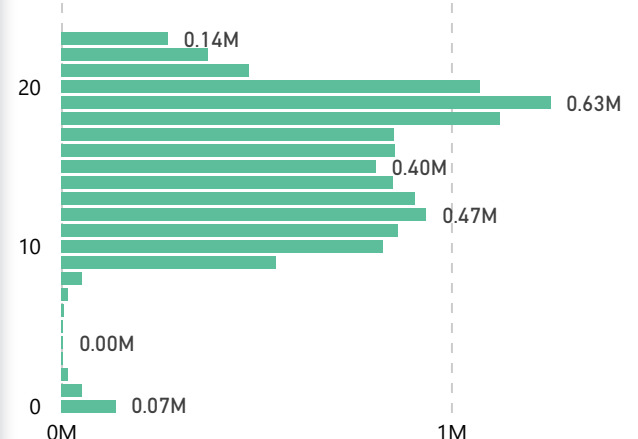
Total Transaction Volume



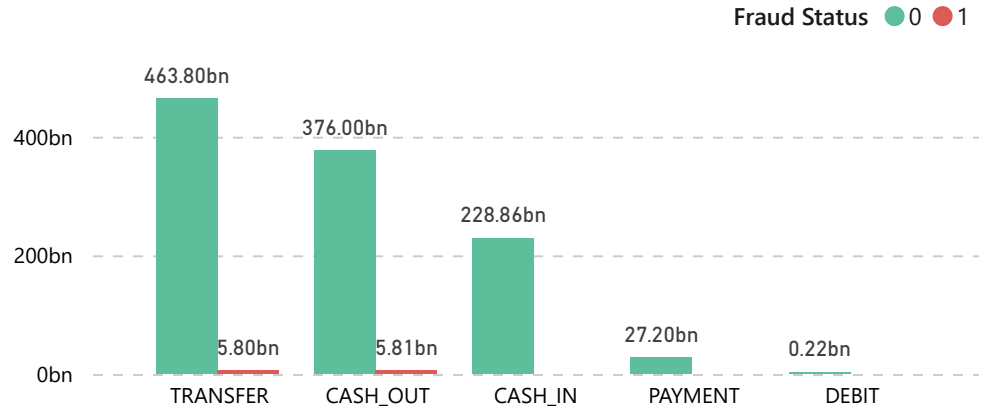
Fraud vs Non Fraud Transactions



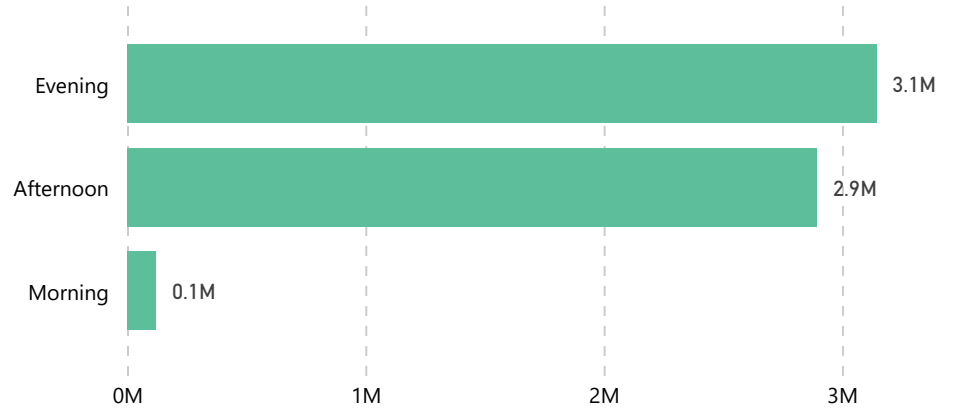
Fraud Pattern by Hour of the Day



Fraud vs Non-Fraud Transactions By Type



Fraud Pattern by Time Period



Key Insights & Recommendations

Transaction Type Distribution:

- .The dataset shows a significant distribution of transactions across types such as PAYMENT, TRANSFER, CASH_OUT, etc.
- .**PAYMENT** and **CASH_OUT** transactions are the most frequent, contributing to the bulk of the transactions.

Fraudulent Transaction Volume:

- .Fraudulent transactions represent a small fraction of the overall dataset ($\sim 0.13\%$), making them difficult to visualize with common methods like pie charts or bar charts.
- .**TRANSFER** and **CASH_OUT** transactions exhibit the highest number of fraud cases, while **PAYMENT** transactions show almost no fraudulent activity.

Transaction Amounts in Fraudulent Transactions:

- .Fraudulent transactions tend to involve higher transaction amounts compared to non-fraudulent transactions. This was observed in the box plots or scatter plots showing a higher average for fraud-related cases.