

IEEE-CIS FRAUD DETECTION



VESTA HANDLES CARD NOT PRESENT (CNP) TRANSACTIONS IN THE GLOBAL
TELECOM SECTOR AND BEYOND.

DANIEL WALLACE

WHAT'S GOING ON ?

Question: Are there visible patterns in fraudulent transactions ?

- Card Type – Debit or Credit
- Card Network – BIG 4
- Transaction Amount – Purchase amount in USD
- Product CD – Product Code

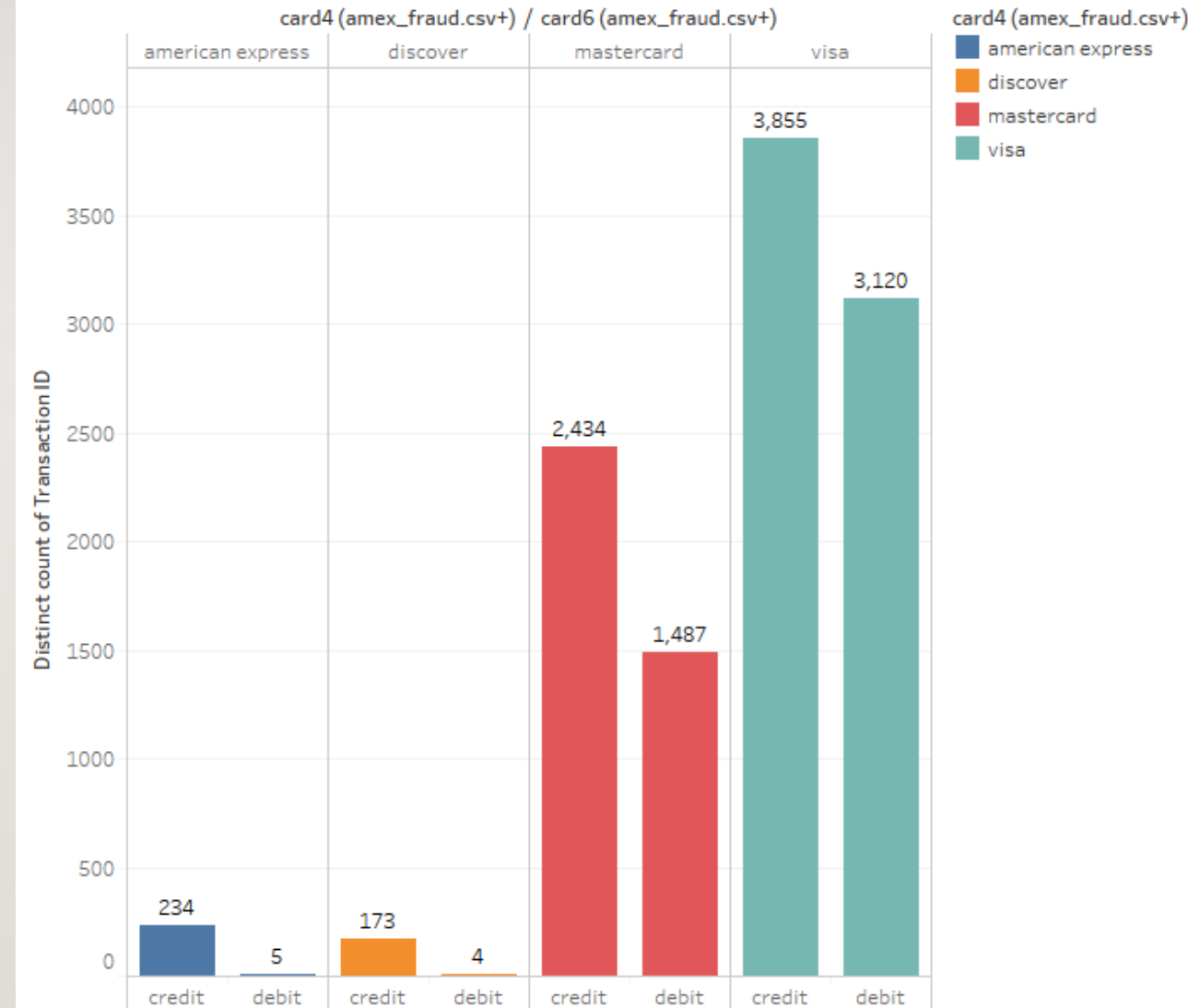
INSIGHT # 1 :

FRADULENT
TRANSACTIONS
OCCURRED MORE ON
CREDIT CARDS.

Pointers

- Max fraudulent charges Visa – 6969
- Min fraudulent charges Discover – 177
- 2,080 more fraudulent Credit Card transactions Debit

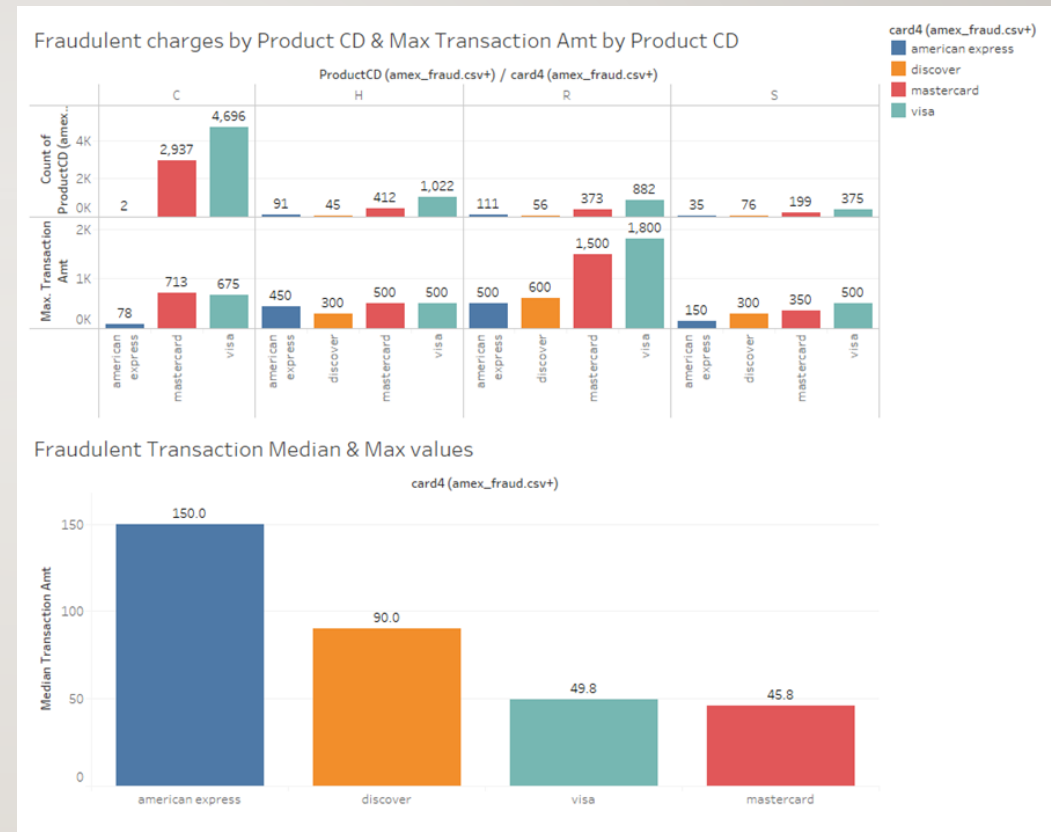
Transaction IDs by network & credit or debit



Distinct count of Transaction ID for each card6 (amex_fraud.csv+) broken down by card4 (amex_fraud.csv+). Color shows details about card4 (amex_fraud.csv+). The marks are labeled by distinct count of Transaction ID.

SHOW ME THE MONEY

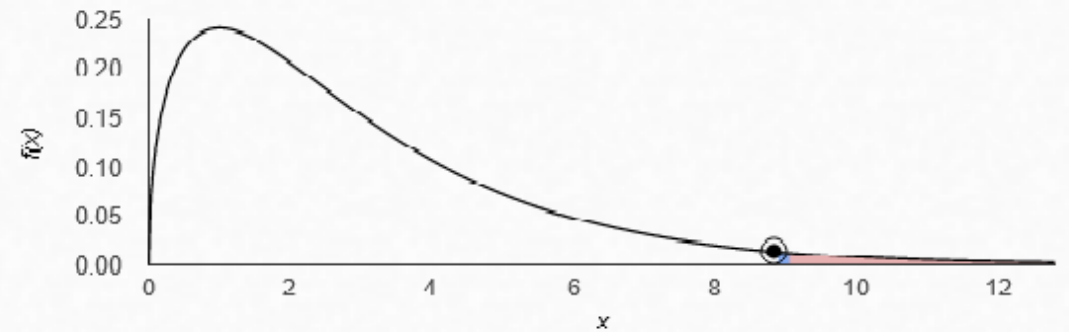
- INSIGHT # 2:
- Most money spent in Product CD "R"
- Pointers
 - 4 Product CD categories.
 - Product CD "C" contains the most fraudulent charges. (7635)
 - Highest Median Value – Amex (150)
 - Lowest Median Value – Mastercard (45.8)



INSIGHT # 3 NO ASSOCIATION BETWEEN CARD NETWORK & FRAUDULENT CHARGES

Pointers

- ❖ Fail to reject our Null Hypothesis
- ❖ Reject Alternate Hypothesis
- ❖ Test Statistic = 364.87



$$\mu = E(X) = 3 \quad \sigma = SD(X) = 2.449 \quad \sigma^2 = Var(X) = 6$$

WHAT HAVE WE LEARNED ?

CONCLUSION

- Fraudulent transactions occurred more on Credit Cards.
- Product CD "R" contained all the max fraudulent transaction amount values.
- No association between Card network & fraudulent charges.

NEXT STEPS

- **MORE COMPLETE DATA !!!!!**
- Machine Learning knowledge
- Time !

THANK YOU !

Feel free to contact me on:

- [Email](#)
- [LinkedIn](#)
- [Github](#)

Thank you for viewing my presentation !