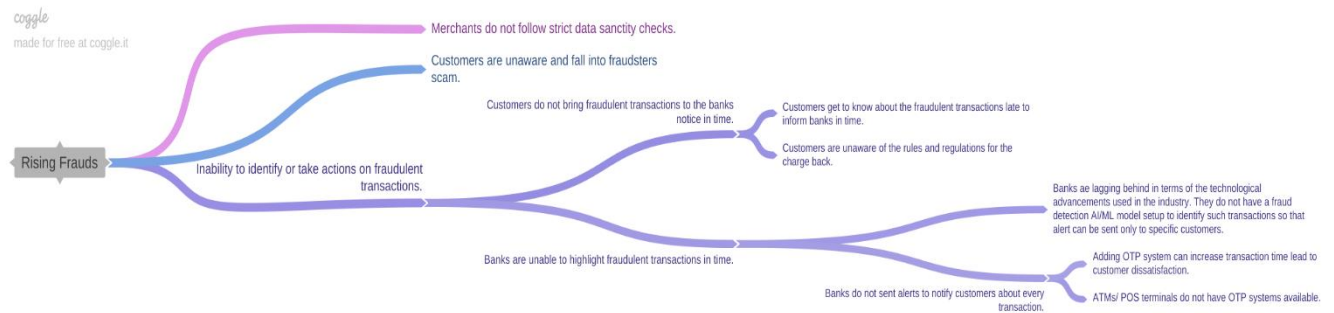


Root Cause Analysis – Credit Card Fraud Detection.



The credit card fraud is a rampant problem which is being faced by every financial institution and customers. The Federal Trade Commission (US) has estimated that around 14 million people become victims of credit card theft each year. Credit card companies lose close to \$65 billion per year to fraud.

Resolving this issue is paramount for financial institutions as this leads to loss of customer trust as well as the loss in profit. The fraudulent transactions occur because fraudsters keep finding out ways to exploit digital/plastic mode of transactions. But since it is the need of the hour we need to cannot do away with digital/plastic transactions. Let's understand the causes of fraudulent transactions:-

Three main areas are

1. Merchants do not follow strict data sanctity checks.
 - This area is out of the banks purview as banks have no authority over the merchants and merchants are more interested in making the sales rather than checking the authenticity of the buyer.
2. Customers are unaware and fall into the fraudster's scam / trap.
 - Customers at times unknowingly give away critical information and this can lead to fraud. Fraudsters at times steal the customers information via phishing attacks or hacking data bases, this can also jeopardise the security and be used for credit card fraud. Banks do conduct routine customer awareness campaigns but banks cannot do much about phishing and data base breaches by the fraudsters.

3. Inability to identify or take action of fraudulent transactions.

- Since this comes under the banks preview, we should explore this further and see if any thing can be done in this vector.

One reason that banks do not get to know about the fraudulent transaction is that customer do not bring it to banks attention in time. Reason for this can be either customer themselves do not get to know of the transaction in time, as they are not actively tracking transactions or are unaware that they should inform the bank immediately. In this scenario banks can not do much about it.

Other reason that banks do not get to know about the fraudulent transaction is that banks are unable to identify and highlight the fraudulent transactions. The reason for that is banks do not send OTP permission alert on every transaction to the customer. This is not possible as of now is because a) POS machine do not have OTP functionality built into them. And b) sending OTP for every transaction will increase the transaction time and customer dissatisfaction.

Banks are lagging behind in technological advancements used in the industry and do not have a robust fraud detection AI /ML model to identify such fraudulent transactions.

One way is to use Machine Learning or AI. Using the past historical data, by identifying the pattern in genuine transactions and fraudulent transactions we can use ML/AI to identify the fraudulent ones and restrict them. From the time of customer applying for credit card, using the credit card, and updating the credentials till the time of closing the credit card customer keeps providing ample of data to the banks. Using these details along with the credit card usage details we can build a robust ML/AI model to identify the fraudulent transactions.