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ONLINE TRANSACTIONS AND FRAUD KPI'S

AGENDA

- EXCEL SNIPPET,
- CATEGORIES,
- PROBLEM STATEMENT,
- TECHNOLOGIES AND DEPENDENCIES,
- METRICS,
- REFERENCES.

EXCEL SNIPPET

	A	B	C	D	E	F	G	H	I	J	K	L
1	step	type	amount	nameOrig	oldbalanceOrg	newbalanceOrig	nameDest	oldbalanceDest	newbalanceDest	isFraud	isFlaggedFraud	
2	1	PAYMENT	9839.64	C1231006815	170136	160296.36	M1979787155	0	0	0	0	
3	1	PAYMENT	1864.28	C1666544295	21249	19384.72	M2044282225	0	0	0	0	
4	1	TRANSFER	181	C1305486145	181	0	C553264065	0	0	1	0	
5	1	CASH_OUT	181	C840083671	181	0	C38997010	21182	0	1	0	
6	1	PAYMENT	11668.14	C2048537720	41554	29885.86	M1230701703	0	0	0	0	
7	1	PAYMENT	7817.71	C90045638	53860	46042.29	M573487274	0	0	0	0	
8	1	PAYMENT	7107.77	C154988899	183195	176087.23	M408069119	0	0	0	0	
9	1	PAYMENT	7861.64	C1912850431	176087.23	168225.59	M633326333	0	0	0	0	
10	1	PAYMENT	4024.36	C1265012928	2671	0	M1176932104	0	0	0	0	
11	1	DEBIT	5337.77	C712410124	41720	36382.23	C195600860	41898	40348.79	0	0	
12	1	DEBIT	9644.94	C1900366749	4465	0	C997608398	10845	157982.12	0	0	
13	1	PAYMENT	3099.97	C249177573	20771	17671.03	M2096539129	0	0	0	0	
14	1	PAYMENT	2560.74	C1648232591	5070	2509.26	M972865270	0	0	0	0	
15	1	PAYMENT	11633.76	C1716932897	10127	0	M801569151	0	0	0	0	
16	1	PAYMENT	4098.78	C1026483832	503264	499165.22	M1635378213	0	0	0	0	
17	1	CASH_OUT	229133.94	C905080434	15325	0	C476402209	5083	51513.44	0	0	
18	1	PAYMENT	1563.82	C761750706	450	0	M1731217984	0	0	0	0	
19	1	PAYMENT	1157.86	C1237762639	21156	19998.14	M1877062907	0	0	0	0	
20	1	PAYMENT	671.64	C2033524545	15123	14451.36	M473053293	0	0	0	0	

CATEGORIES

Below are all the columns from the dataset we are using here:

step: represents a unit of time where 1 step equals 1 hour

type: type of online transaction

amount: the amount of the transaction

nameOrig: customer starting the transaction

oldbalanceOrg: balance before the transaction

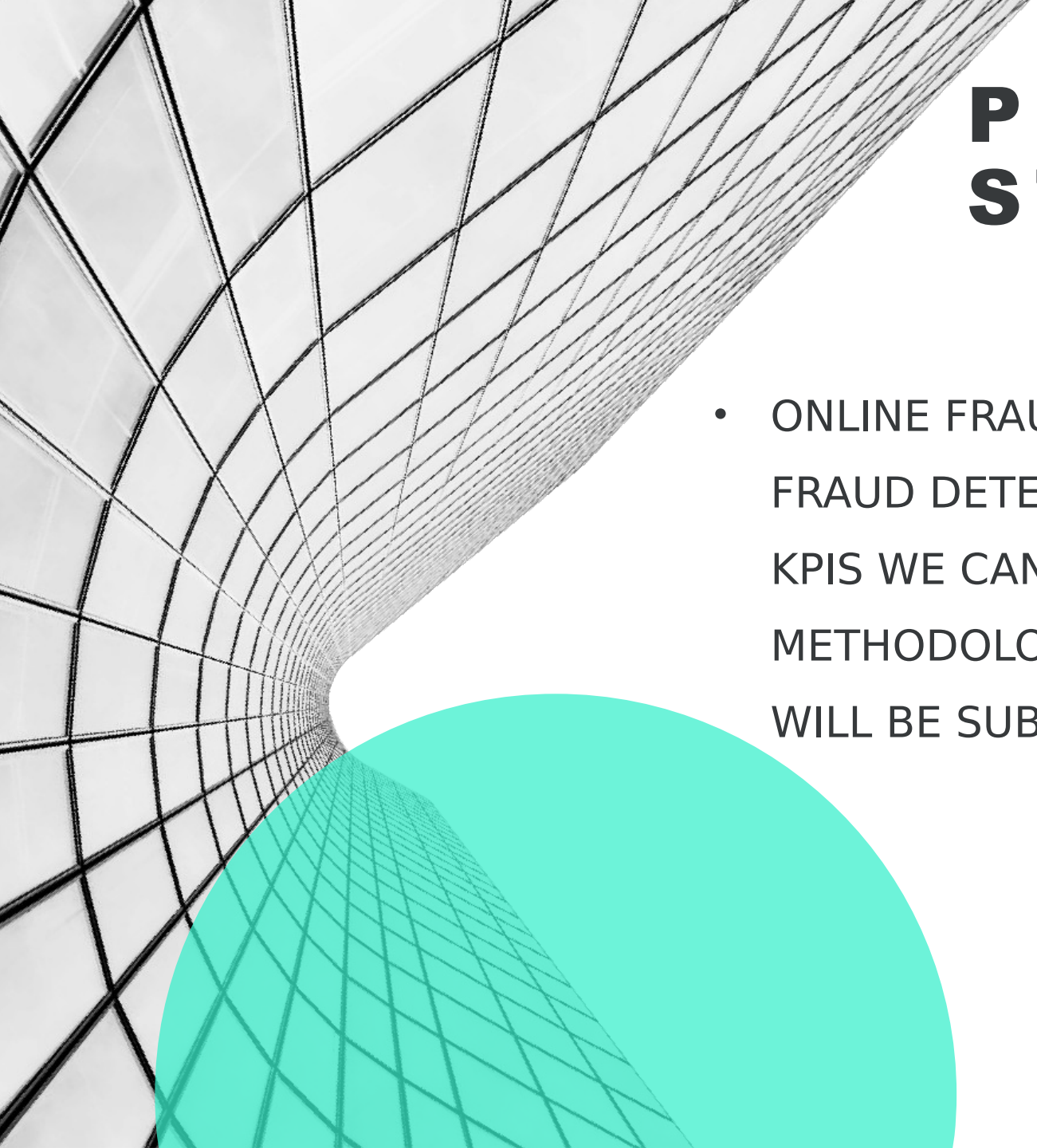
newbalanceOrig: balance after the transaction

nameDest: recipient of the transaction

oldbalanceDest: initial balance of recipient before the transaction

newbalanceDest: the new balance of recipient after the transaction

isFraud: fraud transaction



PROBLEM STATEMENT

- ONLINE FRAUD IS VERY NORMAL THESE DAYS AND FRAUD DETECTION NEEDS GOOD DATA INSIGHTS USING KPIS WE CAN ACHIEVE THIS AS THERE ARE A LOT OF KPI METHODOLOGIES BEING USED, FURTHER ANALYSIS WILL BE SUBMITTED ACCORDINGLY

TECHNOLOGIES AND DEPENDENCIES

1.Programming languages: using programming languages such as Python or R to write scripts for data preprocessing, data analysis, and modeling.

2.Data analysis and visualization tools: Tableau, or Power BI can help you to analyze and visualize your data.

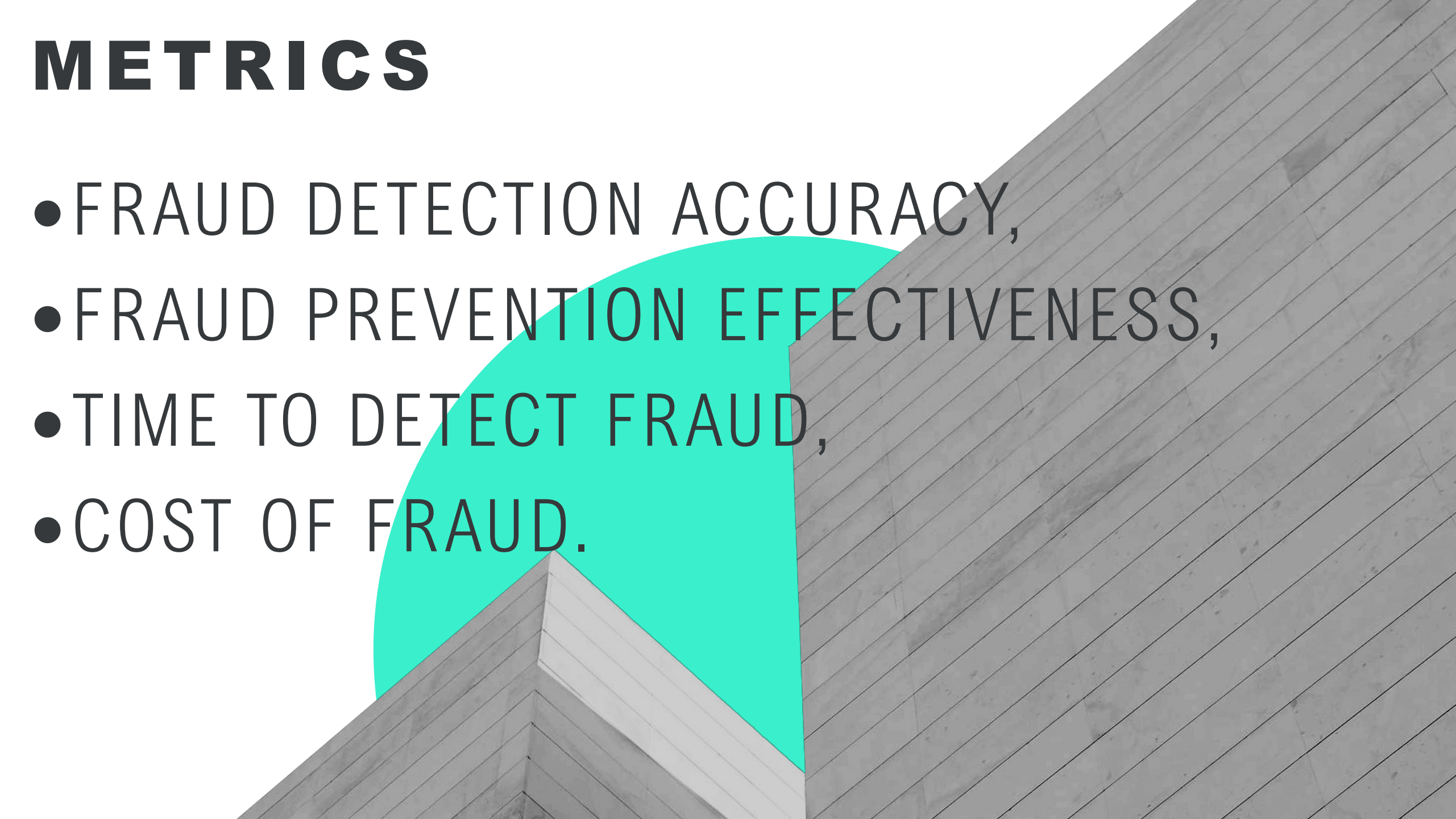
3.Machine learning libraries: Machine learning libraries like scikit-learn or TensorFlow build and train models for fraud detection.

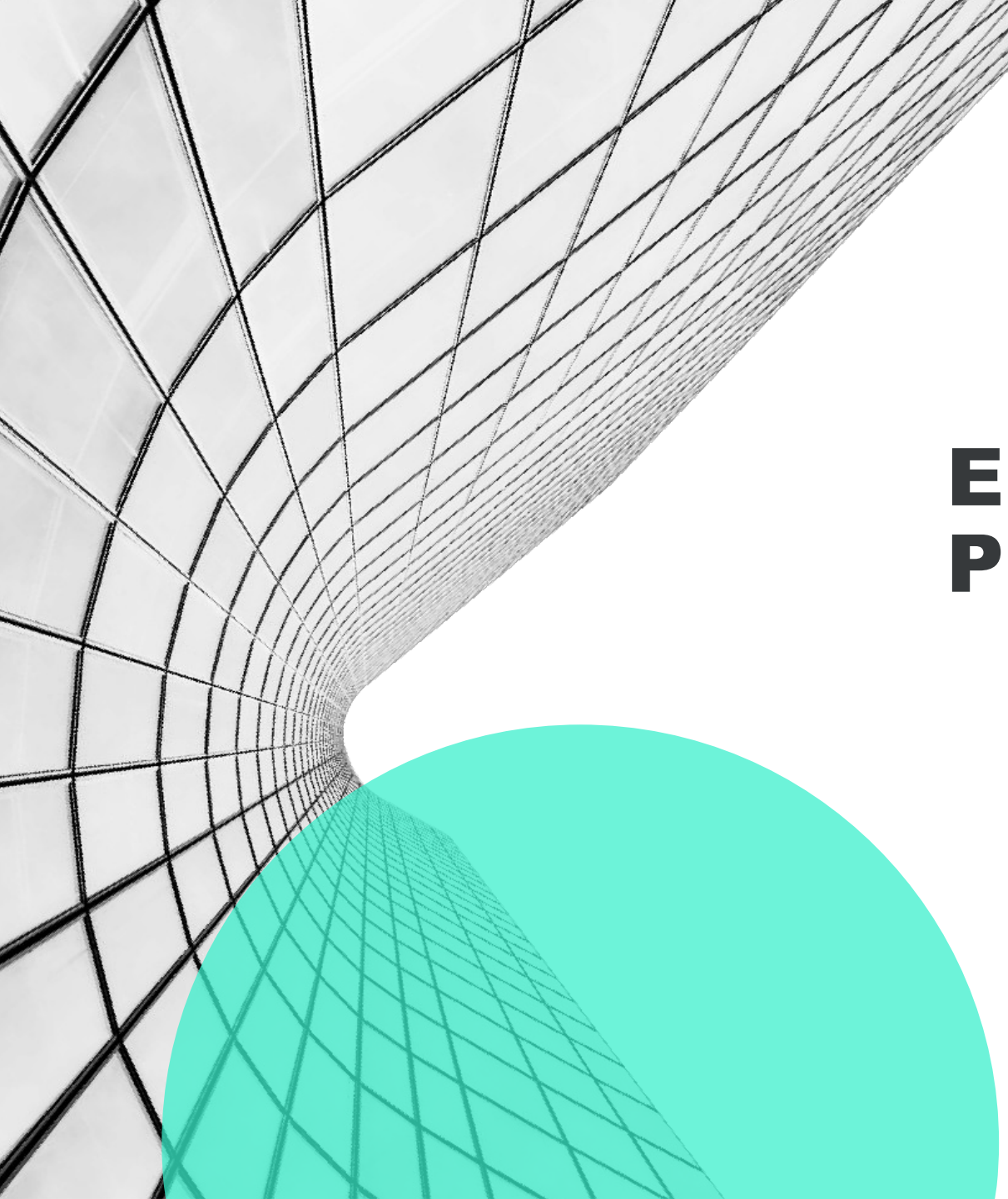
4.Cloud computing platforms: Platforms like Amazon Web Services or Google Cloud Platform can provide you with the computational resources needed to run your analysis and models at scale.

5.Fraud detection and prevention software: There are many commercial fraud detection and prevention software packages available, such as FICO Falcon Fraud

METRICS

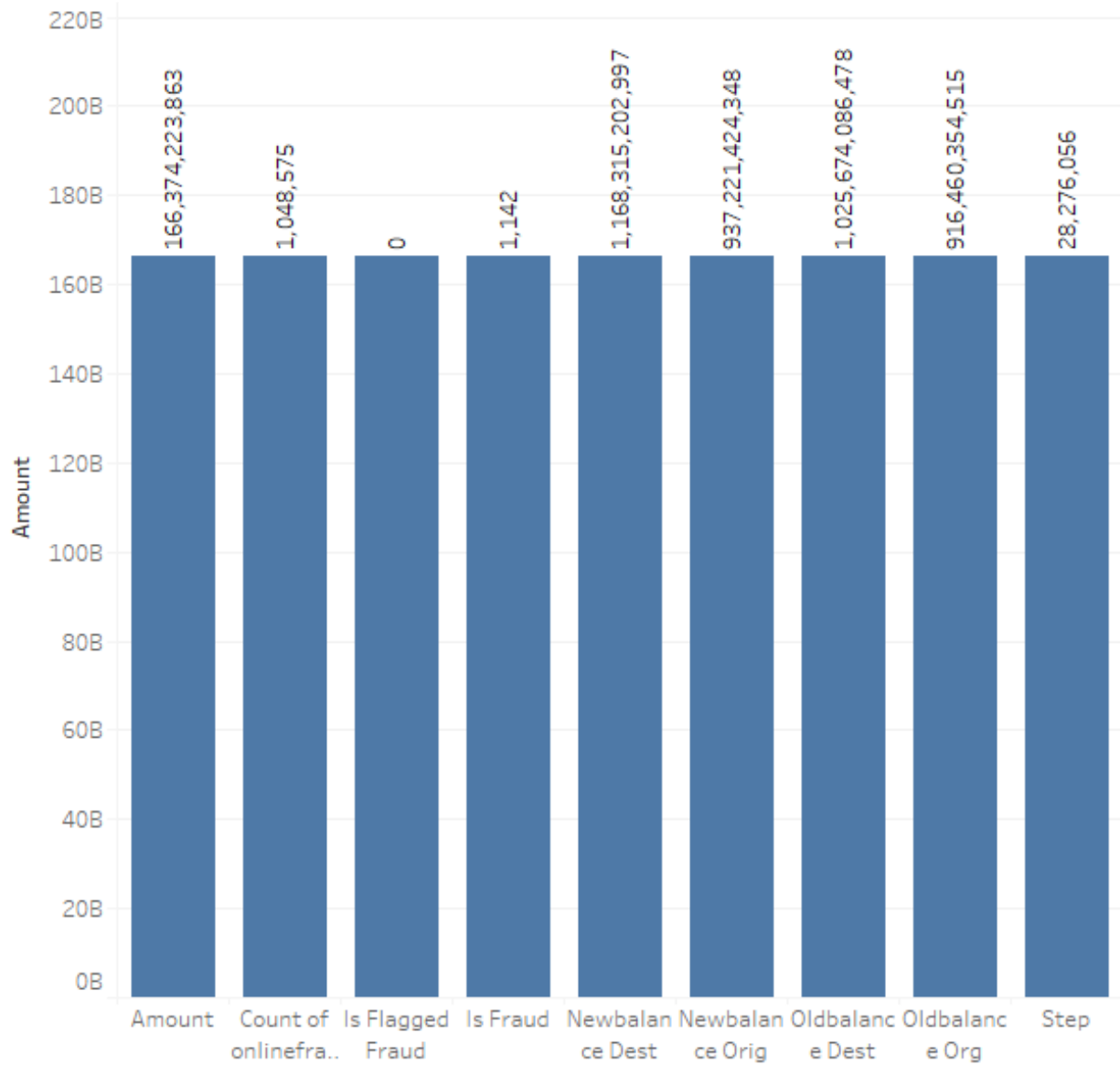
- FRAUD DETECTION ACCURACY,
- FRAUD PREVENTION EFFECTIVENESS,
- TIME TO DETECT FRAUD,
- COST OF FRAUD.





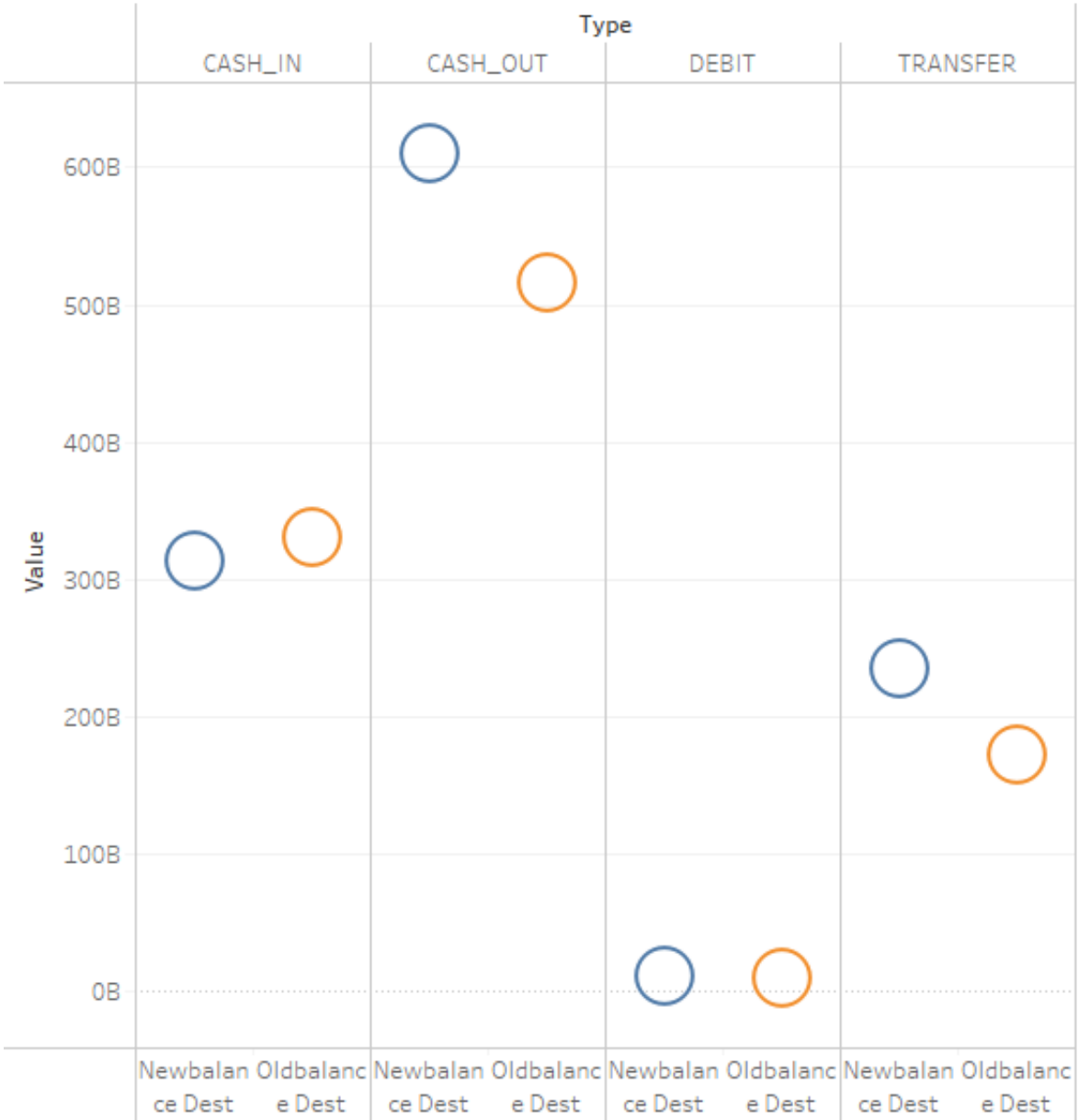
EDA PROCESS

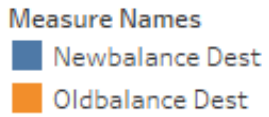
Sheet 1



Amount for each Amount, Is Flagged Fraud, Is Fraud, Newbalance Dest, Newbalance Orig, Oldbalance Dest, Oldbalance Org, Step and count of onlinefraud. The marks are labeled by Amount, Is Flagged Fraud, Is Fraud, Newbalance Dest, Newbalance Orig, Oldbalance Dest, Oldbalance Org, Step and count of onlinefraud.

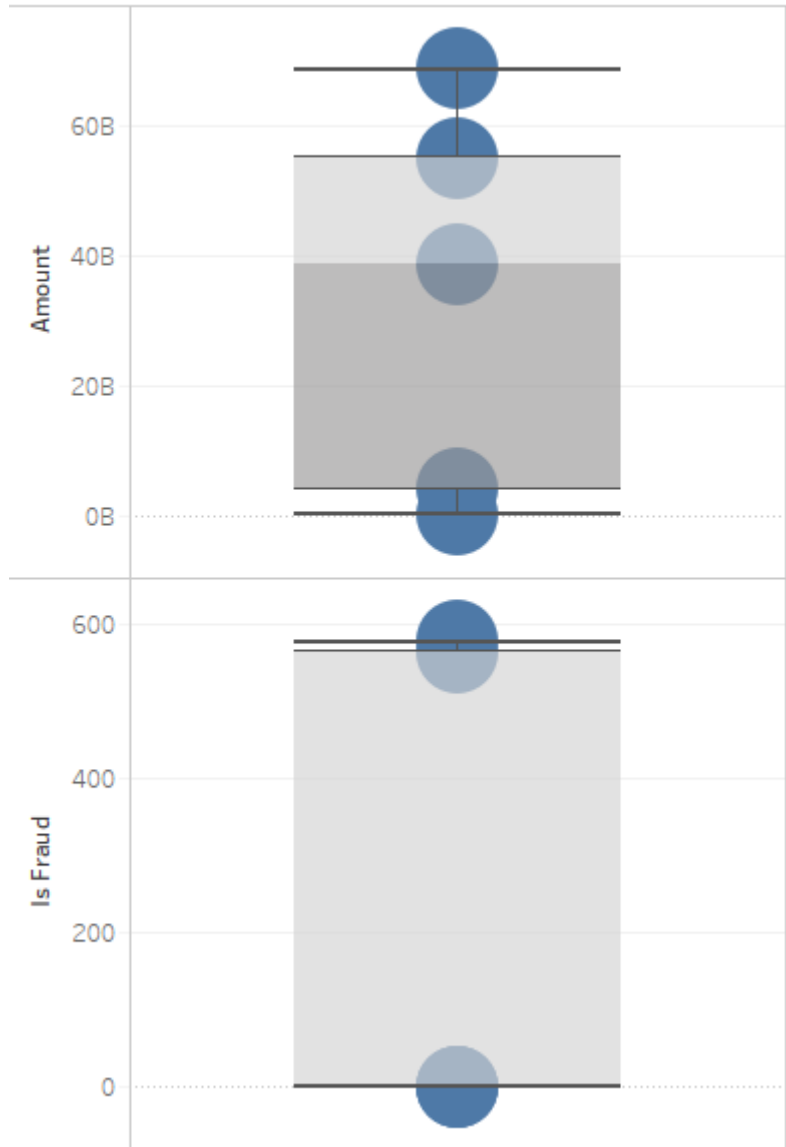
scatter plot





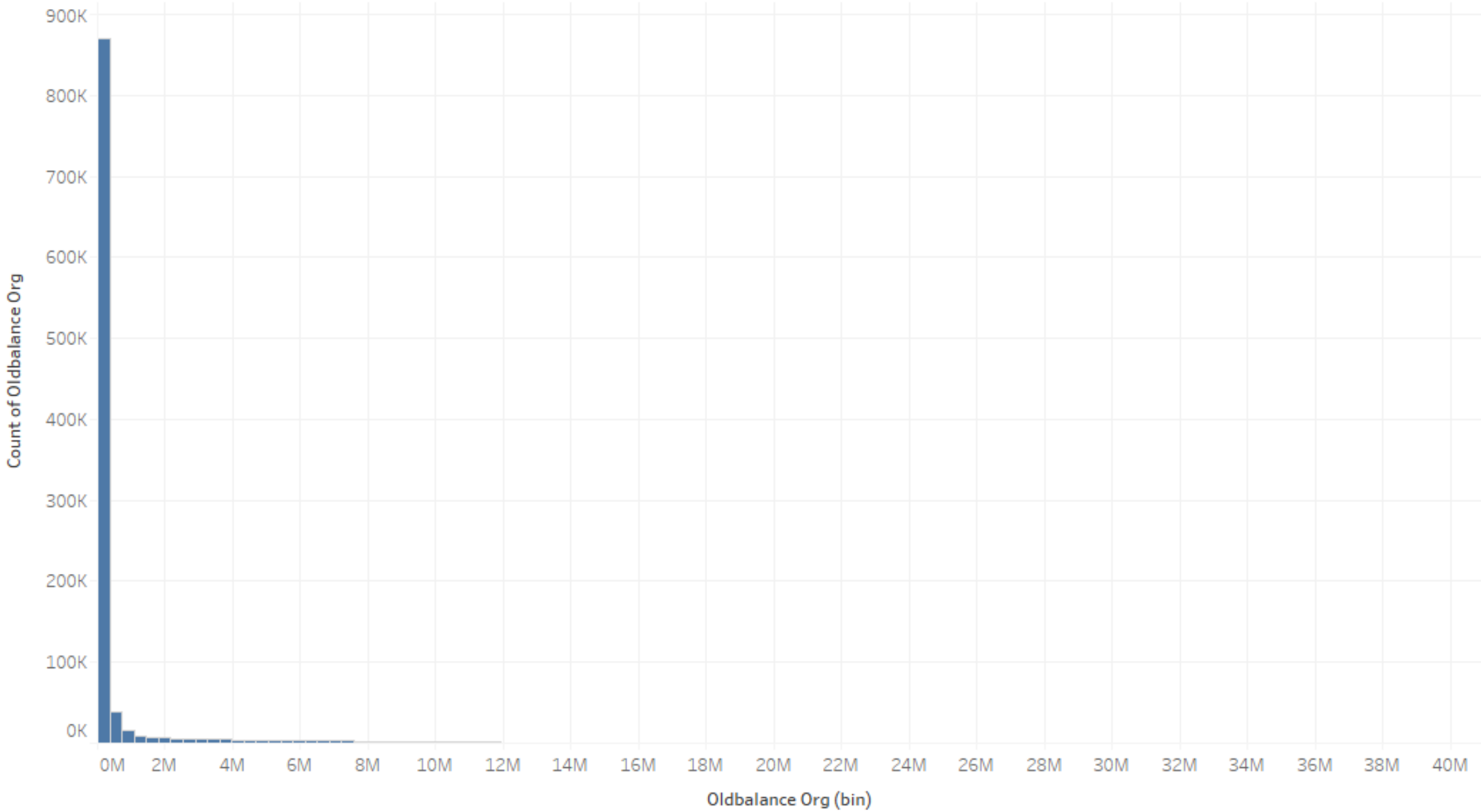
Newbalance Dest and Oldbalance Dest for each Type. Color shows details about Newbalance Dest and Oldbalance Dest. The view is filtered on Type, which keeps CASH_IN, CASH_OUT, DEBIT and TRANSFER.

Box plot-total amount-is fraud



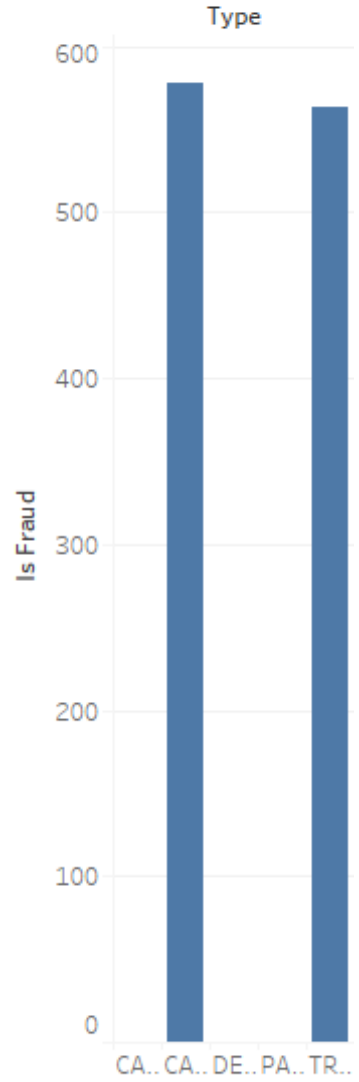
Sum of Amount and sum of Is Fraud. Details are shown for Type.

count of Old balance



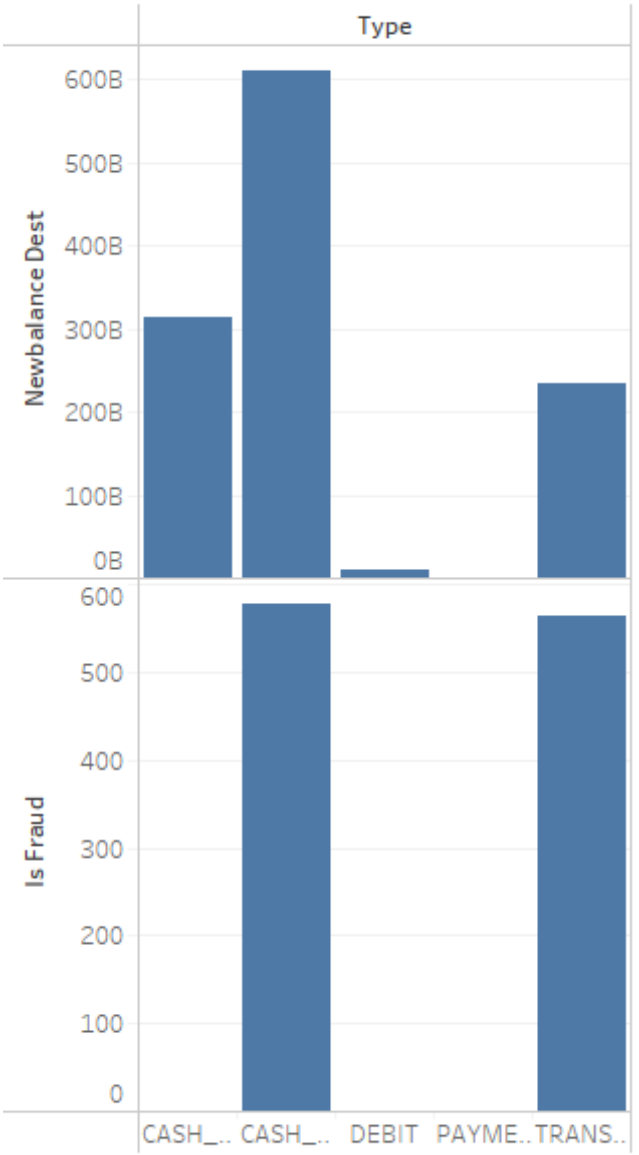
The trend of count of Oldbalance Org for Oldbalance Org (bin).

Type-of-transaction



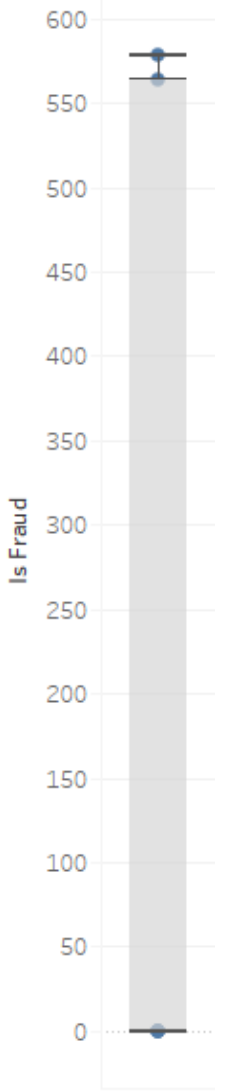
Sum of Is Fraud for each Type.

fraud-newbalanceDest



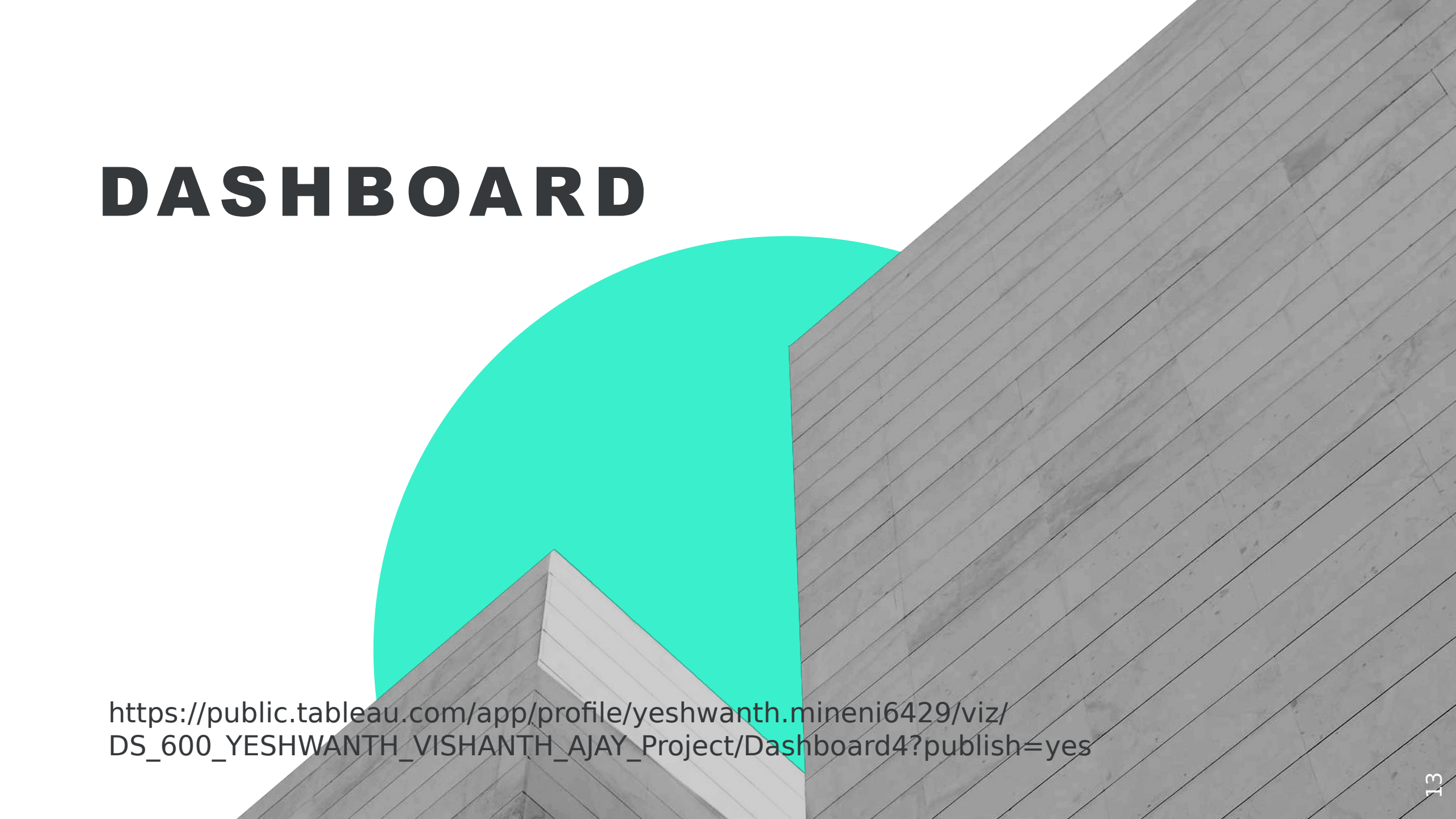
Sum of Newbalance Dest and sum of Is Fraud for each Type.

fraud-box-plot



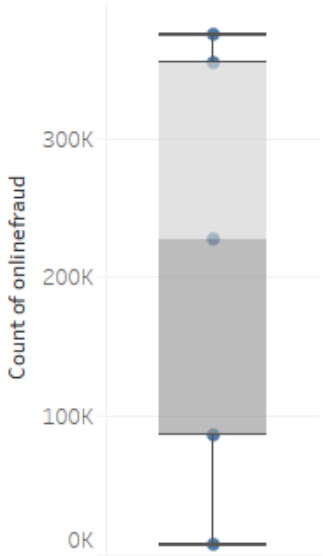
Sum of Is Fraud. Details are shown for Type.

DASHBOARD

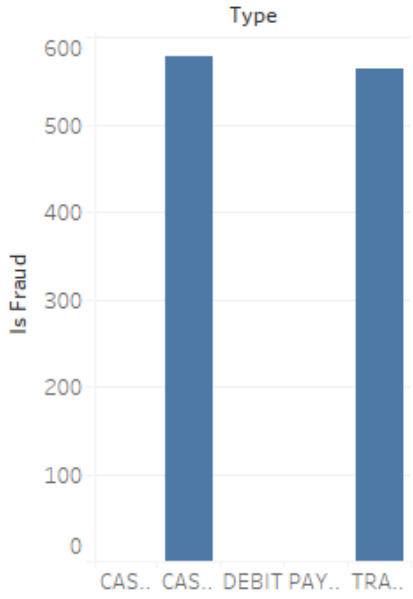


https://public.tableau.com/app/profile/yeshwanth.mineni6429/viz/DS_600_YESHWANTH_VISHANTH_AJAY_Project/Dashboard4?publish=yes

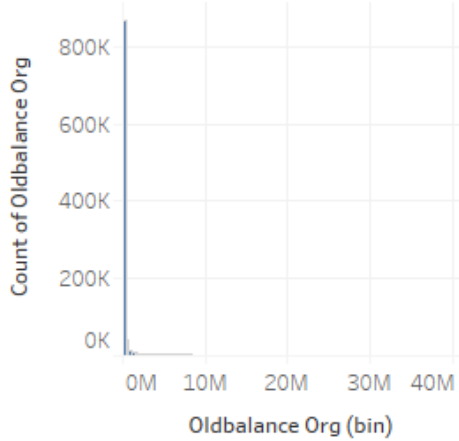
Cumulative-box plot



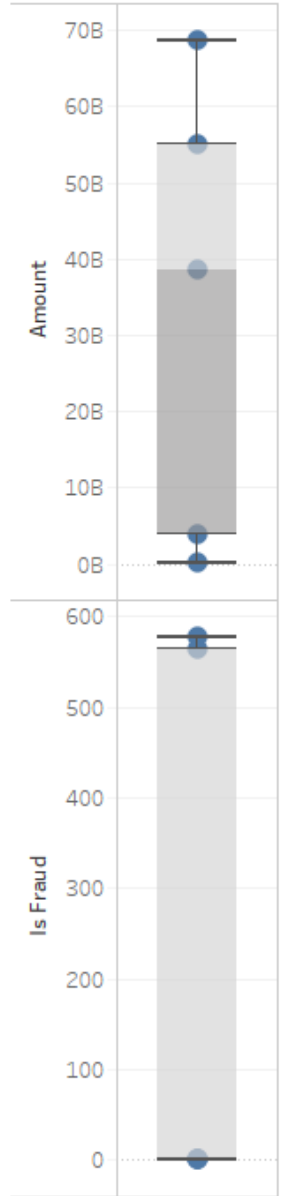
Type-of-transaction



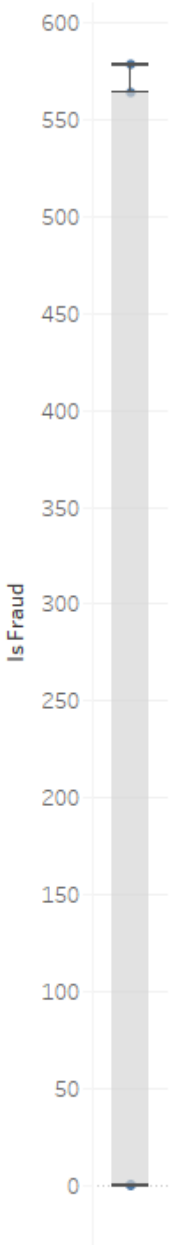
count of Old balance



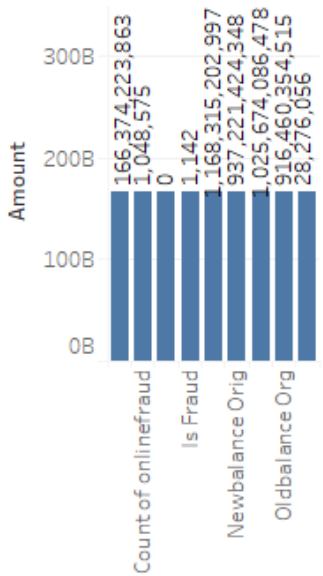
Box plot-total amount-is fraud



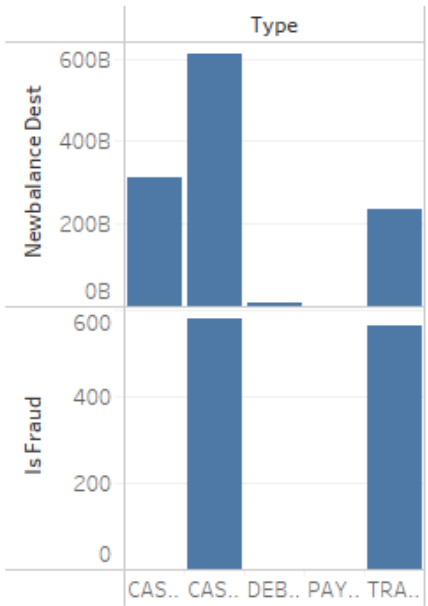
fraud-boxplot



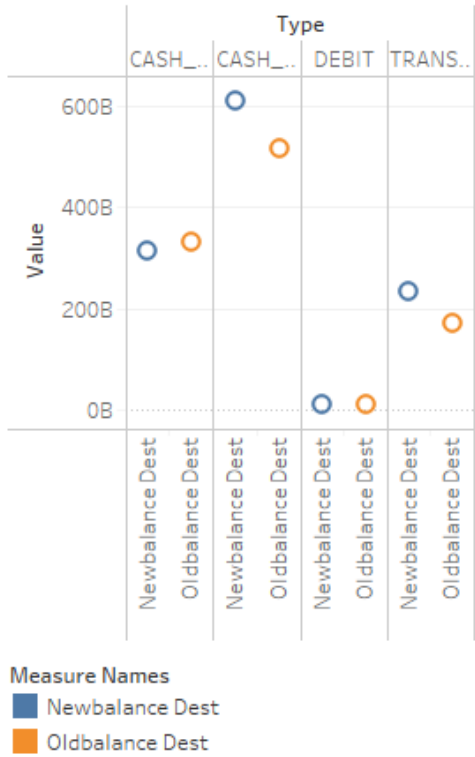
Distribution-count



fraud-newbalanceDest



scatter plot



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https://gocardless.com/en-us/guides/posts/six-fraud-kpi-metrics-you-need-to-be-tracking/

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https://www.fraugster.com/resources/post/kpis-of-fraud-prevention.

THANK YOU